

STEM Academy

Free School 2013 Application form

A 16-19 Free School

Completing your application

Before completing your application, please ensure that you have read the 'How to Apply' guidance carefully (which can be found [here](#)) and can provide all the information and documentation we have asked for – failure to do so may mean that we are unable to consider your application.

The Free School application is made up of nine sections as follows:

- **Section A:** Applicant details and declaration
- **Section B:** Outline of the school
- **Section C:** Education vision
- **Section D:** Education plan
- **Section E:** Evidence of demand and marketing
- **Section F:** Capacity and capability
- **Section G:** Initial costs and financial viability
- **Section H:** Premises
- **Section I:** Due diligence and other checks

In **Sections A-H** we are asking you to tell us about you and the school you want to establish and this template has been designed for this purpose. The boxes provided in each section will expand as you type.

Section G requires you to provide two financial plans. To achieve this you must fill out and submit the templates provided [here](#).

Section I is about your suitability to run a Free School. There is a separate downloadable form for this information. This is available [here](#)

You need to submit all the information requested in order for your application to be assessed.

Sections A-H and the **financial plans** need to be submitted to the Department for Education by the application deadline. You need to submit one copy (of each) by email to: [REDACTED]

If there is any additional information that you wish to submit as part of your application please add it to the annexes section at the end of this template. Please bear in mind that your email must be smaller than 20MB. Please do not include photographs, images and logos in your application.

You also need to submit two hard copies (of **sections A-H** and the **financial plans**) by 'Recorded Signed For' post to:

Free Schools Applications Team
Department for Education
3rd Floor
Sanctuary Buildings
Great Smith Street
London SW1P 3BT

It is essential that the hard copies are identical to the version you email.

Section I must be submitted in hard copy and sent by 'Recorded Signed For' post to:

Due Diligence Team
Department for Education
4th Floor
Sanctuary Buildings
Great Smith Street
London SW1P 3BT

Data Protection

Personal data is collected on this form in order to consider an application to set up a Free School and will not be used for other purposes. For the purposes of the Data Protection Act, the Department for Education is the data controller for this personal information and for ensuring that it is processed in accordance with the terms of the Act. The Department will hold all personal information you supply securely and will only make it available to those who need to see it as part of the Free School application process. All personal information supplied in these forms will only be retained for as long as it is needed for this process.

Application checklist

Checklist: Sections A-H of your application		
	Yes	No
1. You have established a company limited by guarantee	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. You have provided information to cover all of the following areas:		
Section A: Applicant details – including signed declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section B: Outline of the school	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section C: Education vision	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section D: Education plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section E: Evidence of demand and marketing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section F: Capacity and capability	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section G: Initial costs and financial viability	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section H: Premises	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. This information is provided in A4 format using Arial font, minimum 12 font size	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. You have completed two financial plans using the financial template spreadsheet	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Independent schools only: you have provided a link to the most recent inspection report	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Independent schools only: you have provided a copy of the last two years' audited financial statements or equivalent	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. All relevant information relating to Sections A-H of your application has been emailed to mainstream.fsapplications2013@education.gsi.gov.uk between 13 and 24 February 2012	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Two hard copies of the application have been sent by 'Recorded Signed For' post to: Free Schools Applications Team, Department for Education, 3 rd Floor, Sanctuary Buildings, Great Smith Street, London SW1P 3BT, between 13 and 24 February 2012	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Checklist: Section I of your application		
9. A copy of Section A of the form and as many copies of the Due Diligence form as there are members and directors have been sent by 'Recorded Signed For' post to: Due Diligence Team, Department for Education, 4 th Floor, Sanctuary Buildings, Great Smith Street, London SW1P 3BT, between 13 and 24 February 2012	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Section A: Applicant details

Main contact for this application	
1.	Name: [REDACTED]
2.	Address: [REDACTED] London [REDACTED]
3.	Email address: [REDACTED]
4.	Telephone number: [REDACTED]
About your group	
5.	<p>Please state how you would describe your group:</p> <p> <input type="checkbox"/> Parent/community group <input type="checkbox"/> Teacher-led group <input type="checkbox"/> Academy sponsor <input type="checkbox"/> Independent school <input type="checkbox"/> State maintained school <input checked="" type="checkbox"/> Other </p>
6.	<p>If Other, please provide more details: This proposal is being led and submitted by S&DA Limited (5258081). A Company Limited by Guarantee which has been delivering training and education opportunities for post-16 in the community since 2001.</p>
7.	<p>Has your group submitted more than one Free School application in this round?</p> <p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </p>
8.	<p>If Yes, please provide more details:</p> <p>N/A</p>
9.	<p>In addition to any support/advice from the New Schools Network, did you put together this application with support from another company or organisation?</p> <p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No </p>
10.	<p>If Yes, please list the name(s) of the organisation(s) and describe clearly the role they played in developing your application. Please also describe the role (if any) you envisage for them in setting up and/or running the Free School if your application is successful:</p> <p>This proposal is being led and submitted by S&DA Limited (5258081). A Company Limited by Guarantee which has been delivering training and education opportunities for post-16 in the community since 2001.</p> <p>S&DA will be fully involved in supporting the set-up and implementation of STEM Academy including sharing its expertise in key areas such as: HR Practices, Business Planning, Financial Management, Funding</p>

Compliance and all other business critical areas. S&DA also has demonstrable expertise in the STEM (Science, Technology, Engineering and Maths) and has numerous employer and industry links in the sector being a leading provider of Apprenticeships in the Engineering and Technology sector, as will be demonstrated in our Application, S&DA has effectively used its industry links and employer contacts to garner necessary support and backing for STEM Academy, and will continue to use these contacts effectively for the benefit of STEM Academy and its future success which S&DA is fully invested in.

As corporate member of STEM Academy, S&DA aims to remain involved in the running of the school on a steering capacity to ensure STEM Academy remains consistent to its stated vision, ethos, and aims & objectives, as well as providing an additional level of scrutiny to the performance of the Governing Body.

Details of company limited by guarantee

11. Company name: STEM Academy

12. Company address:
STEM Academy
[Redacted]
London - [Redacted]

13. Company registration number: 7952115

14. Does the company run any existing schools, including any Free Schools?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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15. If Yes, please provide details:
N/A

Company members

The members of the company are its legal owners. We require that there are a minimum of three members. The founding members are those that establish the company and sign the memorandum of association that is

submitted (with the company's articles of association) when registering the company with Companies House. Further members may subsequently be appointed.

16.	Please confirm the total number of company members: 5
17.	Please provide the name of each member below (add more rows if necessary):
	1. Name: [REDACTED]
	2. Name: [REDACTED]
	3. Name: [REDACTED]
	4. Name: [REDACTED]
	5. Name: [REDACTED] (corporate member)

Company directors

The company directors are appointed by the members and will eventually form the governing body that will oversee the management of the school. At the point of setting up the company, members are required to appoint at least one director – this may be one of the members. All directors at the point of application must complete a Section I personal information form. All individuals on the governing body must be formally appointed as directors of the company and registered with Companies House.

18.	Where directors have already been appointed please provide the name of each and the positions they will hold (add more rows if necessary):
	1. Name: ██████████ – Company Director, Company Member and Company Secretary
	2. Name: ██████████ – Company Director and Company Member
	3. Name: ██████████ – Company Director, Company Member and Interim Chair of Governors
19.	Please provide the name of the proposed chair of the governing body, if known: Not yet known – subject to vote by Governing Body ██████████ to hold position of ‘Acting Chair’ in the interim.

Related organisations

20.	Through its members, directors or otherwise, does the company limited by guarantee have any formal or informal links (e.g. financial, philosophical or ideological) with any other organisations within the UK or overseas? These may include: other Free School groups; other institutions; charitable bodies; and/or commercial or non-commercial organisations.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
21.	<p>If Yes, please provide the following information about each organisation:</p> <ul style="list-style-type: none"> • their name; • their Companies House and/or Charity Commission number, if appropriate; and • the role that it is envisaged they will play in relation to the Free School. <p>Name: S&DA Limited Companies House number: 5258081 (a Company Limited by Guarantee) Role in Free School: This proposal is being led and submitted by S&DA Limited (5258081). A Company Limited by Guarantee which has been delivering training and education opportunities for post-16 in the</p>	

	<p>community since 2001.</p> <p>S&DA proposes to be fully involved in supporting the set-up and implementation of STEM Academy including sharing its expertise in key areas such as: HR Practices, Business Planning, Financial Management, Funding Compliance and all other business critical areas. S&DA also has demonstrable expertise in the STEM (Science, Technology, Engineering and Maths) and has numerous employer and industry links in the sector being a leading provider of Apprenticeships in the Engineering and Technology sector, as will be demonstrated in our Application, S&DA has effectively used its industry links and employer contacts to garner necessary support and backing for STEM Academy, and will continue to use these contacts effectively for the benefit of STEM Academy and its future success which S&DA is fully invested in.</p> <p>As corporate member of STEM Academy, S&DA aims to remain involved in the running of the school on a steering capacity to ensure STEM Academy remains consistent to its stated vision, ethos, and aims & objectives, as well as providing an additional level of scrutiny to the performance of the Governing Body.</p>	
22.	<p>Please specify any religious organisations or institutions connected to your application (local, national and international). In particular, please describe in specific terms the religious affiliations of your group, including where appropriate any denomination or particular school of thought that influences your group (e.g. Pentecostalism, Deobandism, Reform Judaism, etc).</p> <p>N/A</p>	
Existing providers		
23.	Is your organisation an existing independent school wishing to become a Free School?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
24.	Is your organisation an existing independent school wishing to establish a new and separate Free School?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
25.	Is your organisation an existing state maintained school or Academy wishing to establish a new and separate Free School?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
26.	If Yes to any of the above three questions, please provide your six digit unique reference number here:	N/A
27.	If you are an existing independent or state maintained school or an Academy, please state the age range and current number of pupils on roll and your capacity:	N/A

28.	<p>If you are an existing independent or state maintained school or an Academy, please provide the date of your most recent inspection and a link to the report on the Ofsted or other inspectorate website:</p> <p>N/A</p>
29.	<p>If you are an existing independent or state maintained school or an Academy, please provide a link to your performance data for the last 3 years:</p> <p>N/A</p>
30.	<p>If you are another type of organisation involved in education, eg an Academy sponsor, please describe that organisation. Please ensure you include your company registration number:</p> <p>N/A</p>

**Please tick to confirm that you have included
all the items in the checklist.**



Declaration to be signed by a company member on behalf of the company

I confirm that the information provided in this application is correct to the best of my knowledge. I further confirm that if the application is successful the company will operate a Free School in accordance with the requirements outlined in the 'How to Apply' guidance and the funding agreement with the Secretary of State. I acknowledge that this application may be rejected should any information be deliberately withheld or misrepresented that is later found to be material in considering the application.

Signed:

Position: [REDACTED]

Print name: [REDACTED]
(lead proposer)

Date: 23/02/2012

**NB. This declaration only needs to be signed in the two hard copy
versions of your application. Please use black ink.**

Section B: Outline of the school

1.	Proposed school name:	STEM Academy
2.	Proposed academic year of opening:	September 2013
3.	Specify the proposed age range of the school:	<input type="checkbox"/> 4-11 <input type="checkbox"/> 4-16 <input type="checkbox"/> 4-19 <input type="checkbox"/> 11-16 <input type="checkbox"/> 11-19 <input type="checkbox"/> 14-19 <input checked="" type="checkbox"/> 16-19 <input type="checkbox"/> Other If Other, please specify:
4.	Date proposed school will reach expected capacity in all year groups:	September 2014
5.	Will your proposed school be:	<input type="checkbox"/> Boys only <input type="checkbox"/> Girls only <input checked="" type="checkbox"/> Mixed
6.	Do you intend that your proposed school will be designated as having a religious character? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NB Please refer to the glossary of terms in the 'How to Apply' guidance for more information about religious character/designation.	
7.	If Yes, please specify the faith, denomination, etc of the proposed school:	N/A
8.	Do you intend your proposed school to have a faith ethos (but will not be designated as having a religious character)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

9.	If Yes, please specify the faith, denomination, etc of the proposed school:	N/A
10.	Postcode of the preferred site of the proposed school:	[REDACTED]
11.	Local authority area in which the proposed school would be situated:	London Borough of Hackney
12.	If the preferred site is near to a local authority boundary please specify the names of the neighbouring local authorities:	London Borough of Islington London Borough of Tower Hamlets City of London
13.	This application form is designed to be used for mainstream applications and 16-19 applications (as defined at Annex A of the 'How to Apply' guidance). If the school you are proposing does not really fit the definition of a mainstream or 16-19 school but does not fit the definitions of special or alternative provision schools either, you need to use the template that is the closest fit and explain how your school would differ. If this applies to your application please briefly outline the main differences below. You will also need to address these differences in more detail in the relevant sections of the application.	

Section C: Education vision

C1: Provide a clearly focused, coherent vision that underpins the application with a compelling rationale for establishing the school.

Why we are seeking to establish a Free School.

S&DA Ltd (The Skills & Development Agency) seeks to establish a Free School, "STEM Academy" to maximise the prospects, in the deprived area of **Hackney** and the wider London area, of those pupils who have an aptitude and proclivity for STEM (Science, Technology, Engineering and Mathematics) including those where these aptitudes may be latent or under-developed, or where the opportunities have simply not been available via local provision.

In so doing, S&DA recognise from their own experience, and from the growing educational, political and business demand described below, that STEM related education must be improved; it is the intention that STEM Academy will play its full part in satisfying this demand.

STEM Academy will develop pupils' capabilities to the full, prepare them to enter University via relevant and valuable qualifications, take up employment in STEM and related industries, and also give them opportunities for entrepreneurial activities where this suits their aspirations, personal goals and characteristics. STEM Academy will improve choice and deliver high quality education and skills for 16-19 year olds so that all pupils of the Academy can thrive and prosper in a caring, supportive and structured environment, whatever their background.

In deciding that STEM Academy should be established for 16-19 year olds, S&DA has drawn on the expertise and track record they have gained over many years of providing skills, employment and community development opportunities directly to this age group by way of specialised courses and Apprenticeships (currently over 300) linked to employers and the local community. This included evidenced expertise in supporting NEET young people, and individuals from the most disadvantaged and excluded sections of society.

Arising from the background and experience of S&DA, and the initial aims for STEM Academy, the founding members have created and formally agreed a **Vision Statement** which encapsulates the specific vision and ethos of STEM Academy.

STEM Academy Vision Statement

STEM Academy will specialise in Science, Technology, Engineering and Mathematics (STEM) and is dedicated to bridging the gap between academia, vocational education and the world of work.

STEM Academy believes passionately in equality of opportunity and will strive to create an environment where all individuals feel empowered to succeed and where equal chances are available to young people of all backgrounds.

STEM Academy's vision is to increase its pupils' access to superior higher education and career opportunities through the power of science, engineering, technology and mathematics. We will promote a philosophy of 'Science and Technology for Life' which will run through all aspects of the curriculum and school experience.

STEM Academy will equip pupils with academic and technical transferable skills to prepare them for employment in an increasingly global competitive environment. Pupils will be supported to progress from the Academy into leading UK and International Universities; high quality Advanced/Higher Apprenticeship programmes or directly into enterprise and employment (preferably with graduate or professional training programmes attached).

STEM Academy will benefit the local and wider community by providing access to its premises outside of school hours, welcoming community involvement in the development and running of the school and providing science clubs and activities for local children and youth. STEM Academy will offer specialist science and math provision (and related services) to local schools.

STEM Academy's home outreach programme will support inter-generational social mobility by providing education, skills and employment advice to parents and carers of our pupils and working with other community organisations to broker appropriate services and support for our pupils and their extended families. The Academy will work in partnership with pupils' parents and families to raise the attainment of pupils and raise aspirations and social mobility for all concerned.

The vision that underpins S&DA's process of applying for and wishing to establish STEM Academy, is based not only on internal experience of the need to improve the relation between education and the world of work, particularly in STEM related industries, but to the wealth of external analysis, historical and current, that has examined the threat that poor STEM educational provision represents to the UK economy.

This is particularly so in the global markets we now operate in: at school, British 15-year-olds' maths skills are now more than two whole academic

years behind 15-year-olds in China. In the last decade, we have plummeted down the international league tables from 4th to 16th place in science; and from 8th to 28th in maths¹. While other countries – particularly Asian Nations - have raced ahead we have, in the words of the OECD’s Director of Education, “stagnated.” At undergraduate level, over half of degrees in China, Singapore and Japan are awarded in science and engineering subjects – compared to around a third in the UK, EU and US. At postgraduate level, Asia now awards 1 in 4 of all engineering PHDs – almost as many as the EU and the USA combined.

The UK currently faces critical skills shortages in all STEM industry areas providing unique job and life-long career opportunities for pupils of the STEM Academy. STEM skills can be applied to almost all areas of work and life including careers in medicine, bio-technology, architecture and design, teaching, construction, creative & digital arts, transport & logistics, hospitality, accountancy, business services, sport & leisure, entertainment/gaming and many others.

STEM Academy is thus dedicated not only to bringing forward the next generation of inspired and creative mathematicians, engineers, designers, technologists and scientists at all levels, but will equally enable greater career choice and options for its pupils on leaving the Academy, be this to employment or onward education.

The experience of pupils through the curriculum, enrichment programmes, enterprise hub and STEM Academy’s innovative 'Work Academy' will help all pupils to raise their attainment level, aspiration and employment readiness.

While at STEM Academy, pupils will be given the opportunity to undertake long-term work placement opportunities and internships in relevant industry and occupational areas, work placements will be brokered directly by the Academy with supporting and committed employers.

The case for STEM Academy is clear:

This focus on STEM is more than just academic - it translates into tangible, real-world innovations. Between 1999 and 2009, the number of patent applications by Chinese residents increased by over 1,000%. In the UK, it fell by a quarter. To ensure that the next generation enjoy opportunities to flourish in an economy that is growing, in a nation that is confident and in a society that believes in progress, there is no escaping the centrality of mathematics and science. Our capacity to innovate - vital to our security and resilience - is utterly dependent on education.²

¹ Michael Gove speaks to the Royal Society on maths and science – 29 June 2011

² Michael Gove speaks to the Royal Society on maths and science – 29 June 2011

The Government itself has a STEM agenda, which contains a series of initiatives geared towards creating a strong supply of scientists, engineers and technologists for the future, STEM Academy will be a part of this agenda. The aim of the agenda is to meet the increasing demands of the STEM sector, which is essential for growing the UK economy and remaining competitive internationally.

On the 2nd of November 2011, The House of Lords Science and Technology Sub-Committee launched an inquiry into how the UK will build the educational foundations it needs to face the STEM challenges of the future. The inquiry document states:

“a healthy science base is vital for our economy to enable the UK to do well as a nation, grow its economy and address the grand challenges currently facing us, such as climate change and tackling global pandemics”.

Despite this, it is widely agreed by experts, that the UK does not currently have the strong STEM skills base it needs.

The Higher Education Funding Council for England labels STEM subjects as:

“strategically important and vulnerable”.

It says that interventions such as additional funding are needed to make sure that the right courses are provided. Industry and employers report a critical shortage of graduates in these subjects.

The House of Lords Science and Technology Committee Chairman Lord Willis of Knaresborough recently said:

*“Our nation’s future depends on our building today the right skills to meet the unprecedented challenges facing us. At the heart of that challenge is the need for a well educated, well motivated and inspirational cadre of graduates in the key areas of science, technology, engineering and mathematics (STEM). However, we are receiving very clear warning signals from industry and academia that the supply and quality of STEM graduates needs to be addressed urgently. **If we let our skills base decline it will be extremely difficult to recover in the future.** It is vital therefore that our education institutions, industry and government work together to build the world class STEM skills base that our nation deserves.”*

Part of STEM Academy’s rationale is enabling the need for “STEM” graduates identified by the Committee to enter university having benefitted from a “secondary” curriculum similarly geared to STEM, i.e. what STEM Academy will provide.

In 2008, a survey by the Confederation of British Industry reported that:

- Nine out of ten organisations employ STEM-skilled people. Many employers need highly numerate and analytical STEM-skilled people for financial positions in their organisations;
- Forty percent of employers across all sectors need STEM-skilled people to design and innovate new products and services;
- Nearly a quarter of employers value STEM skills in sales and marketing roles.

However, the same report also tells us that:

- Six out of ten employers are having difficulty recruiting STEM-skilled individuals;
- Larger employers are recruiting internationally STEM-skilled employees with over a third of these employers recruiting from India and a quarter from China.

Industry has not been slow to enter the debate with an overwhelming number of CEOs and MDs critical of STEM education in the UK.

For example, Nick Wilson Managing Director of Hewlett Packard recently stated³

“Education in science, technology, engineering, and mathematics (STEM) is crucial to the development of students and economic opportunities in the UK. As a nation, we struggle to keep our young people interested in science, technology and mathematics and these subjects are absolutely vital for growing innovation and economic opportunities in the UK. When young people finish their GCSEs, nearly half opt out of studying STEM subjects. This is having a dramatic effect in the employment market. There are many social groups underrepresented within higher education and further education either through low aspiration, lack of opportunity or lack of a ‘personal support network’. This is a pool of great potential talent that could be harnessed for regional businesses to drive economic growth”.

This from the leader of the UK and Ireland operations of the world’s largest technology company is telling.

In the BBC’s broadcast of “In Business” on 5 January 2012, Nick Wilson also further stated that Hewlett Packard under his leadership was no longer taking graduates who had not followed a placement degree. This desire from Industry for new technology employees to have a grounding in the real world of work and business is both an indictment of the current education system for STEM but fully supports a principle at the heart of the vision of STEM

³ University Alliance: Empowering the regional economy through technology education September 16, 2011

Academy which will strongly relate STEM Education with work placements, visits to industry, invited speakers from industry to the Academy, and routes to employment for its pupils.

Speaking at the annual MacTaggart lecture in Edinburgh in August 2011, Eric Schmidt, chairman of Google, condemned British education by delivered a devastating critique of the UK's education system saying the country had failed to capitalise on its record of innovation in science and engineering.

His major point was that art and science were separated in the Education System, an historical flaw. STEM Academy recognises this criticism and design will be an integrated part of the Academy's curriculum.

It is demonstrable that Government Select Committees and Reports and leading Industry figures are clear that something needs to be done to improve STEM Education but the educational establishment, whilst ambivalent on Free Schools, also has inspirational and forward looking thinkers who desire change.

In December 2011 STEM Academy representatives were welcomed on a fact-finding visit to Mossbourne Academy (one of the Borough's two 'outstanding' providers), STEM Academy Team members were able to meet staff and discuss the need for more diverse provision in the Borough as well as observe pupils during recreational and study time.

The team were also able to meet with Sir Michael Wilshaw (then Executive Principal of Mossbourne Academy, now Chief of Ofsted). Sir Michael welcomed STEM Academy's proposal and provided the following comments in support of STEM Academy's plans:

"Having met with the principals in S&DA and discussed their plans for the STEM Academy, I agree that there is a place for academies that provide a specialisation in STEM, for 16 to 19 year olds, at a time when we foresee a critical need for a new generation of scientists, technologists and engineers so vital to our economy. I certainly support STEM Academy which will bridge the gap between academic and vocational education and the world of work that is often lacking in our education system. I am pleased to see that their plans include offers to students who have an aptitude and aspiration for STEM who may lack formal qualifications at GCSE A-C as well as students who have the potential to be pre-eminent in their field."

As we show below Jerry Jarvis, MD of Edexcel from 2000 to 2010, has also provided strong support for STEM Academy, its rationale, curriculum and its vision of harmonisation of academic and vocational education with the world of work.

What these findings from a broad spectrum of influential and knowledgeable commentators demonstrate is the critical importance of pupils to receiving

relevant and high quality STEM education in order to help sustain the UK's future economy and enable the UK workforce to compete internationally.

As well as STEM Academy's contribution to delivering world-class STEM skills, the Academy is dedicated to improving the quality of post-16 education and tackling the unacceptable gaps in attainment still prevalent in our society. STEM Academy will focus on helping pupils fulfil their potential and envisage that a significant percentage of the school's pupils will come from the most difficult backgrounds and areas of deprivation.

On the 19th of June 2011, Rt Hon Michael Gove MP, Secretary of State for Education made the following comments:

"The rationing of good schools must end. Our reforms are about creating a generation of world-class schools, free from meddling and prescription, that provide more children with the type of education previously reserved for the rich."

STEM Academy's aspirations for its pupils, enrichment programme and soft skills provision has much in common with the type of educational establishments normally considered as out of reach for the vast majority of Hackney and indeed inner London residents. STEM Academy's provision will offer the best aspects of fee-paying schools (high quality teaching, valued extra-curricular provision, high quality university and career coaching) – for free whilst still offering a high level of value for money to the community and tax payer. STEM Academy will achieve this by ensuring efficient use of the funds and resources made available to them and by implementing a forward-thinking and pro-active business development strategy which will include employer sponsorship, community contributions and development of commercial activities and services in line with the school's ethos, mission and objectives.

Local context

The London Borough of Hackney has, at 10%, the highest rate of young people who are not in education, employment or training (NEET) in London. Only 18% of 18 year olds who attended school in Hackney went on to higher education in 2007/08, 8 per cent below the average rate for London and 3 per cent below the national rate for England. Quality of current sixth form provision in the Borough varies to a great extent with 50% of providers receiving 'satisfactory' or 'inadequate' grades in Ofsted inspections and 20% of providers receiving 'outstanding' grades.

STEM Academy will set itself challenging targets that contribute to the Borough's commitment to meeting and addressing these issues, in particular STEM Academy is committed to:

- improving attainment and narrowing the achievement gap between socio-economic groups;

- reducing the number of young people who are NEET via realistic and meaningful opportunities;
- increasing the numbers of pupils progressing into higher education; and
- driving up standards in post-16 provision both at STEM Academy and within the wider community

National and policy context

STEM Academy will meet the priorities identified in the recently published Government Report: 'Building Engagement, Building Future: Our Strategy to Maximise the Participation of 16-24 year olds in Education, Training and work'. The first priority is that of raising educational attainment in school and beyond to ensure that young people have the skills they need to compete in a global economy. STEM Academy will provide an exciting and positive opportunity for young people to participate in a purposeful and stimulating educational environment which will raise their attainment and skills and prepare them for successful entry into Higher Education and the world of work.

STEM Academy's proposal also responds to the emerging needs of the imminent raising of the school leaving age. In 2013, the year STEM Academy proposes to open, the statutory school participation age will increase from 16 to 17 (and further to 18 in 2015). This will create the need for additional 16-19 places. High quality provision which can capture the interest and meet the varying needs of this age group will be crucial, including provision which is suitable to differing ability levels. As a result of the raising of the participation age, more choices and options will be needed post-16. STEM Academy has positioned itself to meet these needs and will provide a sustainable offer with the flexibility to further grow and develop to continue to meet the needs of 16-19 young people and the wider community.

Key features of STEM Academy (age, curriculum offer and location)

STEM Academy is expected to be based in London Borough of Hackney, in or near the Old Street area of Hackney EC1, East London. Old Street is often referred to as '*Silicon Roundabout*' a reference to its considerable concentration of technology, science and digital media businesses, an ideal area for a school such as STEM Academy to be based. STEM Academy's curriculum offer will improve choice for 16-19 year olds and contribute to raising standards in post-16 provision especially in regards to the provision of Maths and wider STEM subjects. STEM Academy aims to widen access to higher education and employment opportunities for its pupils through the power of Science, Technology, Engineering and Mathematics (STEM).

STEM Academy's vision is to capture the imagination of its pupils and make sure that all leavers have an enhanced knowledge and understanding of STEM principles, have significantly improved STEM skills, and are science and technology literate individuals, who are capable in their use of daily information and communication technology (ICT) and functional in

mathematics. These are all skills that are becoming increasingly relevant and necessary in today's workplace and more generally in daily life.

Pupils will have a choice of up to 12 A level subjects to choose from⁴. Typically they will study four subjects at AS level, and continue with at least three at A2 level. STEM Academy will aim to give pupils a free choice of subjects as much as possible, although pupils will need to ensure that they meet the relevant course entry requirements for each option. All pupils will also be encouraged to study Mathematics, at the very least at AS level; pupils with the ability and necessary commitment will also be able to study Further Mathematics as an extension subject⁵.

STEM Academy will also offer pupils 4 vocational qualification options:

- BTEC Level 3 Extended Diploma in Engineering (equivalent to 3 A levels)
- BTEC Level 3 Extended Diploma in Interactive Media (equivalent to 3 A levels)
- BTEC Level 3 Extended Diploma in Communications Technology (equivalent to 3 A levels)
- BTEC Level 3 Extended Diploma in Music Technology (equivalent to 3 A levels)

In addition, STEM Academy will offer GCSE (FfP – Foundation for Progression) provision for pupils who failed to achieve desired grade(s) in one or more GCSE subject(s). FfP will enable pupils to retake selected GCSEs and go on to study at Advanced Level; it is expected that most FfP pupils will progress on to full Level 3 provision (A Levels or BTEC) within 1 year of FfP study. The aim of the FfP programme is to prepare pupils for progression on to level 3 study, whether a BTEC Diploma or A Levels. The level of study needed will vary between pupils from full GCSE re-takes to subject specific re-takes (e.g. English and Maths). STEM Academy's GCSE offer will be based on the English Baccalaureate curriculum and will aim to ensure all pupils achieve the required A*-C grades in specified core subjects⁶. FfP pupils will also have the option to study additional GCSEs and vocational qualifications (BTEC L2 Awards).

In this STEM Academy takes full account of the Wolf Report on Vocational Education, viz;

“Students who are under 19 and do not have GCSE A-C in English and/or Maths should be required, as part of their programme, to pursue a course which either leads directly to these qualifications, or which provide significant progress towards future GCSE entry and success”*

⁴ Please note a reduced offer of 6 to 8 A-level subjects will be in place in years 1 and 2, with additional subjects being introduced in years 3 and 4.

⁵ University of Warwick and University of Cambridge require Further Mathematics to at least AS level to study for a degree in mathematics; University College London requires an A2 in Further Mathematics for its math courses and is recommended for the Statistics courses; Imperial College requires an A* in A2 Further Mathematics for a number of courses while other top universities either recommend it or promise lower offers in return.

⁶ The English Baccalaureate is made up of English, Mathematics, History or Geography, the Sciences and a Language.

STEM Academy's approach to teaching and learning is based on the Academy's ***ethos and mission***.

STEM Academy's position in regards to the delivery of teaching and learning will be to focus on **9 key PRINCIPLES** of teaching, rather than preferences for specific methods or styles giving teachers the trust and flexibility to do what they do best and enable them to use flexibility, innovation and creativity in the classroom to achieve desired outcomes, whilst always ensuring that they are doing so against a clear set of common principles that support the school's ethos, vision and aims.

STEM ACADEMY 9 KEY PRINCIPLES – TEACHING AND LEARNING
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- 1. Focus on results**
- 2. Master the basics**
- 3. High expectations**
- 4. Personal accountability**
- 5. Mutual respect**
- 6. Tough love**
- 7. All are able to learn, grow and improve**
- 8. 'Technology for Life'**
- 9. All pupils are treated equal, regardless of social standing, religious belief, ethnic origin, ability, need, gender or other personal attribute(s)**

STEM Academy's approach to teaching and learning will inspire pupils to gain and demonstrate key qualities that will serve them for a lifetime: self-motivation, independent learning, goal and target setting, self-awareness, a questioning mind, moral courage, communication and negotiation skills, the importance of deadlines, strong work ethic, accountability and respect.

STEM Academy aims to provide a teaching and learning environment appropriate to the age of its pupils, that is to say, STEM Academy aims to support its pupils in their transition to independence and adulthood and will seek to create and maintain an environment that best supports this by building the confidence of its pupils and encouraging their involvement in curriculum delivery and design and setting appropriate targets and goals for themselves and their peer groups. Equally, STEM Academy will support pupils' self-awareness by involving pupils in the development and revision of School Policies and Practices; welcoming feedback from pupils and implementing changes accordingly; providing pupil opportunities for school and group leadership; nurturing their natural curiosity; and encouraging pupil creativity and innovation.

Specific goals and targets will be mutually agreed with each pupil at the start of each term – these will be realistic, but challenging - ensuring that each pupil continues to develop and expand on their existing knowledge, skills and abilities. Progress will be continuously monitored through one-to-one sessions with their Personal Tutor, regular assessments and a monthly reporting system. STEM Academy's vision is for each pupil's time at the Academy to be

productive and that tangible evidence of their success is evident when they leave STEM Academy.

STEM Academy will provide a welcoming, supportive and structured environment for its staff and students. There will be clear guidelines of conduct based on mutual respect between staff and pupils. We firmly believe that STEM Academy pupils will respond to being treated as young adults and will grow in their levels of maturity and professionalism as a result.

Pupils will benefit from an environment that, whilst maintaining academic rigour and discipline, will offer encouragement and support on many levels (academic, additional learning needs/disabilities, welfare & well-being, personal development, preparation for work etc). This will enable STEM Academy pupils of mixed abilities to excel and achieve their full potential.

- All pupils are welcomed, regardless of social standing, religious belief, ethnic origin, ability, need, gender or other personal attribute(s);
- Support is provided for every pupil to reach their full potential, regardless of social standing, religious belief, ethnic origin, ability, need, gender or other personal attribute(s);

What makes STEM Academy's offer distinctive

There is currently no local education provision which is dedicated to STEM specialist subjects, STEM Academy's specialist focus and curriculum makes it distinctive from other available provision in Hackney and across London. This provides a unique opportunity for pupils from the Borough, and beyond, with a special aptitude or interest in STEM subjects, to focus on their subject strengths in an entirely supportive and focussed environment where their peers, teachers and tutors will share their enthusiasm, dedication and interest in science, technology, engineering and mathematics.

STEM Academy aims to use the power of science, engineering and technology to stimulate its pupils and lead to high achieving outcomes for all. STEM Academy will cater for pupils who aspire to a career in a STEM industry as well as pupils who are just interested in the principles of science, engineering, technology &/or mathematics as a pathway to future development and success.

The transferable skills of science, engineering, technology and mathematics are well known and can be applied to almost all areas of work and life including careers in medicine, teaching, construction, creative & digital arts, transport & logistics, hospitality, accountancy, business services, sport & leisure, entertainment/gaming and many others. The National STEM Centre reports that STEM graduates have the potential to earn amongst the highest salaries of all new recruits and have the greatest potential for job growth in the future. Alongside the need for a skilled STEM workforce, the National STEM Centre also emphasises that it is crucial for all young people, regardless of their future career pathway, to have solid STEM knowledge and skills if they

are to be informed citizens in an increasingly scientific and technological society.

STEM Academy will prepare young people for the world of work whilst also supporting them academically and vocationally to progress from STEM Academy into one of the following key pathways:

- entry to top universities (Britain or International);
- entry to high-quality Advanced or Higher Apprenticeship programmes;
- progression directly into the workplace (preferably with education/training⁷ attached such as KPMG A-Level trainee programme; National Rail traineeship etc⁸)

STEM Academy will have at its heart a strong focus and commitment in preparing its pupils for the world of work; the Academy aims to address the persistent lack of employability skills reported by employers when young people enter the workplace, this will be achieved through STEM Academy's innovative concept of the 'Work Academy'. The Work Academy will offer a rich mix of opportunities to enhance and improve the employment-readiness of STEM Academy's pupils, the Work Academy will operate as a dedicated resource centre and will offer pupils a wide variety of work-related skills and knowledge including:

- Practical office IT Skills (e.g. ECDL)
- Employment readiness skills (communication, attitude, team work, time-keeping, deadlines etc)
- Employability skills (application, CV, interview etc)
- Work placements and industry internships
- Career advice and careers profiling
- Mentoring from STEM Industry professionals
- Master-classes etc...

The Work Academy will also host STEM Academy's Enterprise Hub, where STEM Academy pupils will be encouraged to pursue entrepreneurial ideas and have the opportunity to participate in STEM Academy's Enterprise and Business Development programmes, including developing and running school enterprises.

How STEM Academy's vision and ethos has informed the education plan

STEM Academy's vision and ethos has informed every aspect of the education plan. STEM Academy's education plan underpins every aspect of

⁷ The school leaver Graduate programmes range from full undergraduate provision (with paid employment), like KPMG's 6-yr scheme which involves Birmingham, Durham & Exeter Universities; to Advanced and Higher Apprenticeship schemes such as Network Rail 4-yr Apprenticeship scheme.

⁸ Other employers with school-leaver Graduate programmes include: PwC, BT, Fidelity Investments, Deloitte, M&S, Wesleyan Assurance and British Gas. STEM Academy has started making initial contact with all of the above.

our vision and ethos by providing inclusive and excellent educational provision and skills training which is dedicated to bridging the gap between academia, vocational education and the world of work, and will provide equal chances to young people of all backgrounds.

STEM subjects are integral to the UK's success: the UK is the world's sixth largest manufacturer, engineering turnover is around £800 billion per year, and whilst the UK makes up only 1% of the world's population, it produces 10% of the world's top scientific research. Despite this, it is remarkable to note that even though STEM graduates have the potential to earn amongst the highest salaries of all new recruits, employers are finding it difficult to recruit STEM skilled staff⁹.

Government has long identified STEM education as a major priority at both school and Higher Education level. Within schools and FE colleges STEM subjects are usually taught individually, providing young people with the depth of specialist teaching. However, the view of experts such as the National STEM centre is that the knowledge, experience and skills young people need once they leave school is far more complex – with technology and engineering at the fore drawing on a broad science base and mathematical expertise. One challenge for STEM teaching is to help young people recognise how the science, design & technology, and mathematics that they study at school can lead to rich and varied career pathways. This complexity is a challenge – but also offers an enormous opportunity for STEM Academy to engage young people in these strategically important subjects and provide this necessary link between academia and the world of work.

The specialist curriculum STEM Academy offers will be stimulating, challenging and inspiring for pupils to achieve high outcomes and develop careers in their future chosen fields. It will be delivered by outstanding teachers, dedicated to encouraging all pupils to be confident, hard-working and ambitious, regardless of their background.

The curriculum and education plan focuses on pupils with an interest and aptitude for STEM, including pupils with latent or under-developed STEM career aspirations which have been hindered through lack of opportunity, or the right learning environment.

STEM Academy will have a defined and structured pupil progress monitoring strategy covering the following key items: progress reviews; progress reports; expectations/goal-setting; communication and collaboration arrangements; and identification & implementation of additional support needs. This strategy will help to ensure that pupils are appropriately supported throughout their time at STEM Academy and that all are appropriately stretched and able to excel expectations at all ability levels.

██████████ (██████████), provided the following statement in support of

⁹ National STEM Centre 2011

STEM Academy's vision and ethos:

"The typical route to the World of Work and higher education is by gaining GCSE and A levels. These qualifications, as ex MD of Edexcel, I am the first to applaud. However, I am pleased to see that STEM Academy not only embraces these traditional qualifications but offers specialisation in Science, Technology, Engineering and Mathematics via entry streams that enable students to follow a path in line with their aspirations, inherent capabilities and potential. Via their specialised vocational courses underpinned by Foundation as well as AS/A Level courses, STEM Academy will produce the technical practitioners, and higher level engineers and technologists demanded in our modern economy."

STEM Academy aspirations for the achievement of individual pupils, and the school as a whole, and why these targets are appropriate

STEM Academy has high aspirations and expectations for the school, these aspirations have been translated into **Key Performance Indicators** that cover what success would look like on an individual level (pupil, teacher etc), as well as on a wider organisational (school) level.

The Key Performance Indicators (KPI's) were selected based on their relevance to STEM Academy's vision and ethos and the overall vision and ethos of the Free School initiative.

Selected KPI's will lead to the future success and fulfilment of STEM Academy's vision and purpose by:

- successfully preparing pupils for the world of work;
- improving opportunities for access to Higher Education; and
- ensuring each pupil achieves to the best of their ability

Selected KPI's will have a positive impact on the families of STEM Academy's pupils and the wider community as STEM Academy will help to develop socially responsible and well-rounded young people. They will also have a direct and positive impact on the economy and labour market as STEM Academy will contribute to reducing the present skills shortages of British workers in STEM industries and lowering the UK's, and specifically London's, current soaring rate of youth unemployment¹⁰. The skills that STEM Academy provides will equip our young people to obtain and retain skilled jobs in the UK and abroad.

The KPI's are shown in full in section D4 of the Education Plan and include some of the following key outcomes.

Pupil outcomes:

¹⁰ Currently 21.9% nationally, rising to 24% in London

70% pupils achieving min Grade B in English and Maths (GCSE)
Average point score of 800 per pupil (London average 700, England average 733.1)
Average Level 3 point score per candidate of 230 (current national average 212)
80% of examination grades A*-C
10% of examination grades at A*
Pupils effectively engaged in all aspects of STEM Academy.
30% of pupils achieve AQA Bacc
95% of pupils (who apply) gaining place at a Higher Education institution
50% of pupils gaining a place at a leading university¹¹
All pupils demonstrating positive distance travelled above average expectations.
Min 75% of pupils attain 5 GCSE's A*-C on the Foundation for Progression provision.
100% pupils complete Duke of Edinburgh Award
100% pupils graduate from Work Academy having completed full syllabus
Improved soft skills
95% of pupils progress to positive outcome: University; employment; Advanced Apprenticeship; further training/education.
Pupil families engage in STEM Academy employability and training workshops.
Strategies for supporting pupils at home effectively implemented.
Pupils adhere to STEM Academy's code of conduct (7E).
Pupils move up at least 1-2 points per term on The Ellen Wilkinson Attitude to Learning system – refer to section D6 – Behaviour management
No exclusions or very low rate -0.5%.
Unauthorized absence below 2%.
No persistently absent pupils.
Pupils participate in enrichment activities and regularly participate in extra-curricular activities.

Organisational outcomes:

Demonstrate robust quality management systems and procedures
Grade 1 Ofsted
Effective financial management
Active engagement and links with employers and entrepreneurs
Outstanding leadership and management performance
Outstanding Governance
Outstanding teaching
Outstanding pupil attainment
Outstanding behaviour and attendance
High levels of satisfaction from parents and pupils
Spiritual, moral, social and cultural development of pupils
Provision effectively meets the needs of all pupils
Positive equality indicators
Effective community involvement
Pupils healthy and ethical lifestyles
Behaviour and safety of pupils at the school
Effectiveness of curriculum design and delivery
Pupils progress into positive outcomes:
• University
• Apprenticeships
• Employment
• Enterprise
• Further study

¹¹ Defined as a top 12 university based on Times rankings/Guardian league table

Increase the numbers progressing into higher education

Contribute to the borough's commitment to improving local 16-19 targets and impact positively on improvement and best practice within the Local Authority

Effective pupil assessment and tracking strategy

Demonstrate outstanding overall school effectiveness

STEM Academy's Key Aims and Objectives are summarised as follows:

- Prepare pupils for successful future lives and careers;
- Provide excellence in all aspects of teaching and learning;
- Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils;
- Encourage and facilitate personalised learning and development;
- Improve attainment and aspiration for our pupils and their families;
- Motivate and support pupils to exceed expectations;
- Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils.

The above aims and objectives are consistent with STEM Academy's direction and purpose as set out within our Vision Statement.

Our Vision, Aims and Objectives will be further determined by the defining of STEM Academy's ethos, which can be summarised as follows:

- Promote and implement a focussed culture of equality of opportunity for all;
- Develop and maintain a culture of mutual respect;
- Promote a culture of shared responsibility and personal accountability;
- Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs;
- Practice tough love;
- Promote a culture of accountability and individual goal-setting;
- Promote a culture of 'Science and Technology for Life';
- Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society;
- Welcome parents, carers and extended family to the STEM Academy family, and offer encouragement and support to facilitate their ability to become involved with the learning and development of STEM Academy's pupils;
- Welcome members of the local community **and** encourage active participation in the Academy life and development.

We have chosen these targets as we feel that they fulfil both the ethos of STEM Academy as an organisation and the wider stated aims and objective of the Free Schools initiative. Our overriding motivation for submitting a Free School application is to provide an opportunity for pupils who would not normally have the opportunity (due to personal/social circumstances or lack of provision) to study science, technology and engineering at the highest levels

with direct input from employers and opportunities to experience and be at the heart of cutting-edge developments as they happen and potentially for STEM Academy pupils to even be a part of future innovation and invention.

Monitoring of STEM Academy Key Performance Indicators

A variety of measures will be used to monitor and identify achievement of our aims, for example technology based data collation and internal analysis; analysis of comparative data against benchmarks and national performance statistics; feedback surveys; stakeholder forum/s; external reviews and evaluations; governor reports, etc.

How STEM Academy's ethos will be reflected in its curriculum

STEM Academy's ethos is fully reflected in its curriculum and extra-curricular offer.

STEM Academy's proposed curriculum focuses on subjects and qualifications that are valued and respected by top Universities and employers¹² both in the UK and internationally. The curriculum offer has been informed by the feedback and entrance requirements of leading universities¹³ and research into emerging markets and growth occupational areas, sectors and industries¹⁴. As noted above, The House of Lords Science and Technology Sub-Committee designate STEM skills as 'strategically important' subjects.

The curriculum offer is flexible enough to meet the needs of all STEM Academy pupils and will offer valuable skills and learning opportunities for pupils of all abilities and interests from GCSE provision to technical/vocational Diplomas such as BTEC and more academically focussed options such as A Levels.

STEM Academy's recruitment and employment policies and practices will fully support our stated ethos of providing excellence in all aspects of teaching and

¹² Major STEM sectors and top employers in London (targeted by STEM Academy) include: **Aerospace** – Heathrow Airport, Gatwick Airport, Boeing, Macedonian Airways, Private Jet Charter, BAA; **Railway Engineering** – National Rail, Morson, AGS LTD, London Underground, DLR, Thales, Ganemede Solutions, Giffin Group; **Automotive** – Rolls-Royce; **Biomedical** – The Biomedical Research Education Trust, Henderson Biomedical, AstraZeneca; **Financial & professional** – MatchTech, Royal Bank of Scotland (RBS), Besso, Mackenzie Stuart, Barclays, National Westminster Bank; **Chemicals** – Thames Water, BP, Shell, Premier Oil; **Digital & creative** – BT, Sony Ericsson, TalkTalk; **Food & drink** – The Park Royal Food Innovation Centre (PRFIC), Associated British Foods, Cadbury plc

¹³ Universities that have provided information/data regarding preferred or successful A levels; entry requirements and advice regarding appropriate STEM 16-19 qualification offer are as follows: Anglia Ruskin University; University of Bath; University of Bedfordshire; Birkbeck College; University of Bolton; University of Cambridge; Canterbury Christ Church University; Cardiff University; City University London; University of Cumbria; University of Exeter; Goldsmiths College London; Keele University; Kingston University; University of Lincoln; University of Liverpool; Liverpool John Moores University; University of Sheffield; Sheffield Hallam University; Staffordshire University; Imperial College London; University College London; University of Sussex; University of Warwick; University of Westminster; University of West England; University of Wolverhampton; Anglia Ruskin University.

¹⁴ Reports include: LLUK, *Engineering UK 2008*, Sainsbury reports etc, etc..... Organisations/projects consulted include: STEMNET, National HE STEM Programme, British Science Association, Engineering UK, LSIS STEM Group, Bing Bang, BETT, STEM Directories, Engineering Education Scheme, National STEM Centre, Further Mathematics Support Programme, Science Learning Centres, The Association for Science Education, CLEAPSS, Gatsby Science Education Programme, Fab Lab, SCORE, The Royal Society, The L'Oreal Young Scientist Centre, MIT, Nuffield, Science Enhancement Programme, Institute of Physics, Society of Biology, European Space Education Resource Centre, EM STEM Partnership, EDT, Specialist Schools and Academies Trust.

learning and having high expectations of both Academy staff and pupils. STEM Academy recognises that effective and inspiring teachers are vital to ensuring students' enjoyment of, enthusiasm for, and raising achievement in STEM subjects.

In keeping with our ethos of preparing pupils for successful future lives and careers, the curriculum will extend outside the classroom to enhance and enrich the pupils' learning experience. STEM Academy pupils will experience the world of work, and the Academy will use varied contexts such as external events, exhibitions, experiments, work placements, STEM Ambassadors (via STEM Academy's existing links with STEMNET) and employer representatives to help young people relate their learning with their real-world experience of STEM.

STEM Academy's extra-curricular offer provides opportunities for pupils to explore personal interests and gain complimentary skills such as Modern Languages, office-based IT Skills and employability skills as well as softer skills such as self-awareness, independent learning, a questioning mind, self-motivation, goal and target setting.

Religious beliefs and affiliations

STEM Academy is not designated as having a religious character. STEM Academy will welcome pupils from all religions and non-religious backgrounds. STEM Academy will not particularly promote or endorse any specific religion above another.

Section D: Education plan – part 2

D1: SET OUT A VIABLE CURRICULUM PLAN WITH APPROPRIATE FOCUS ON CORE AREAS OF LEARNING

Overview

STEM Academy proposes to set-up a 16-19 school in London Borough of Hackney and will offer a specialist curriculum focussed on STEM (science, technology, engineering and mathematics) subjects with a broad and enriching extra-curricular and enrichment provision.

STEM Academy will admit **216** pupils in the first year rising to a full capacity of **432** by the second year and then remaining steady at **432** from year 2 onwards. The assumption is that pupil intake will be consistent from year 1 with an available intake of 216 pupils per year.

STEM Academy is offering Foundation provision for pupils that do not have the necessary A levels to successfully apply to STEM Academy for Level 3 courses (whether A level or BTEC). Foundation for Progression (FfP) will offer GCSE's and supporting provision as a basis for progression to AS BTEC in future years.

Foundation for Progression pupils will complete internal applications for acceptance onto AS/BTEC courses if they wish to progress onto Level 3 study following successful completion of FfP provision.

In this Section (D1) we cover a number of key areas briefly summarised below for reader's reference:

1. **What is STEM** – description of STEM (science, technology, engineering and mathematics) and brief overview of the sector as it relates to education and employment
2. **Serving the community** – a brief overview of how STEM Academy will serve its local community, why we feel our proposed curriculum is appropriate and how it will raise outcomes and life opportunities for our pupils
3. **Education Vision** – synopsis of the key links between our Vision and Education Plan
4. **Curriculum development and rationale** - what we will deliver, and why
5. **STEM Academy's Approach to Teaching** – covers key aspects of teaching and learning including: STEM Academy's Teaching and Learning principles, effectiveness in the classroom, Learning Styles, pupil's experience of teaching and learning and an overview of delivery methods for both Academic and Vocational qualifications.

What is STEM¹⁵

STEM is an acronym for science, technology, engineering and mathematics.

Government has long identified **STEM education** as a major priority at both school and HE level. STEM subjects are integral to the UK's success: the UK is the world's sixth largest manufacturer, engineering turnover is around £800 billion per year, and whilst the UK makes up only 1% of the world's population, we produce 10% of the world's top scientific research. Despite this, it is remarkable to note that even though STEM graduates have the potential to earn amongst the highest salaries employers find it difficult to recruit STEM skilled staff.

Alongside our need for a skilled STEM workforce, it is crucial that **all young people**, regardless of their future career pathway, have the STEM knowledge and skills they need to be an informed citizen in an increasingly scientific and technological society.

Serving the community

STEM Academy will be an inclusive 16-19 school that will serve the communities of Hackney, surrounding boroughs (Tower Hamlets, City & Islington, Haringey, Waltham Forest and Newham) and other remaining areas of inner and Greater London¹⁶.

¹⁵ Definitions from the National STEM Centre

¹⁶ As a specialist 16-19 school it is expected that pupils from neighbouring boroughs as well as the wider London catchment area will wish to apply to STEM Academy (**this is also reflected in the evidence of demand which extends to outside of LB Hackney**).

STEM Academy expects to have about:

- 50% of its pupil intake from Hackney
- 30% from surrounding East London boroughs; and
- 20% from the remaining inner and outer London boroughs

These are assumptions and may vary from year to year. If the Academy is oversubscribed priority will firstly go to local Hackney residents.

STEM Academy will work with the local community and in particular local secondary schools that serve the area to ensure access is facilitated for young people who aspire to undertake studies (or specialise) in STEM areas, namely science, technology, engineering and mathematics.

STEM Academy will especially encourage applications from young people with an interest or aptitude for STEM subjects but who may not have achieved the necessary grades for study at Level 3. These pupils will be supported through STEM Academy's innovative Foundation for Progression (FfP) provision which will offer pupils the opportunity to study at Level 2 and gain good GCSE grades enabling them to progress onto full Level 3 study the following year.

In developing this Education Plan, there has been a deliberate effort to break the cycle of underachievement and educational disadvantage by producing a plan that is responsive to the national and international challenges and opportunities that concern Britain's young people and is relevant to the needs of the current and future labour market.

In a speech to the Royal Society on maths and science on the 29 June 2011, Michael Gove stated:

"Our schools system is currently failing to provide anything close to the number of suitably equipped pupils to meet the needs of industry. The Advisory Committee on Mathematics Education (ACME) most recent figures on the take-up of mathematics post-16 is especially worrying. In total, about 85,000 pupils (just 13% of all A-level pupils) were doing A2 or AS maths, with only about 2% taking it to a high level. Yet, at the same time ACME's research shows that about 330,000 16-18 pupils (per year) need to study maths and statistics at a level beyond GCSE (180,000 to a 'physics or engineering' level and another 150,000 to a 'social science' level) to meet emerging needs."

STEM Academy aims to address this need with a STEM-focussed curriculum that places appropriate emphasis on the study and acquisition of math skills as the foundation for successful study of all other STEM-related areas.

STEM Academy firmly believes that its proposed curriculum – as set out below, is appropriate to the need of the community and age group and will help to raise outcomes and life opportunities for pupils; STEM Academy will achieve this by:

- Delivering a curriculum that is firmly based in the needs of industry with

- real careers available now and in the future;
- Delivering qualifications that are valued and respected by employers and universities enabling pupils wide-ranging opportunities for progression (employment, higher education, Advanced Apprenticeships, A-level graduate programmes etc.);
- Delivering and specialising in qualifications (such as maths) that provide strong foundations for future careers and/higher level study (as referred to by **Michael Gove** in above statement);
- Delivering qualifications and provision that meet the interest and aspirations of our pupils motivating them to achieve and excel;
- Delivering a learning experience that enthuses pupils by teachers with a real passion subject and teaching;
- Developing and nurturing the aspirations of our pupils by helping them believe that top careers in STEM are possible and within their reach, for example pupils will be able to map their career pathway from STEM Academy A Levels to Graduate careers in pharmacy or medicine as examples.

Education Vision

STEM Academy's Education Plan has been fully informed by our vision, set out in Section C.

Specifically our Education Plan and related curriculum offer aims to:

- Provide a STEM-focussed curriculum that is appropriate to all learners and has the ability to fulfil their future career and Higher Education aspirations;
- Increase our pupils' access to superior higher education and career opportunities through the power of science, engineering, technology and mathematics;
- Equip pupils with academic and technical transferable skills to prepare them for employment in an increasingly global competitive environment;
- Raise pupils' attainment level, aspiration and employment readiness by offering high quality teaching in relevant subject areas that lead to high level careers;
- Offer additional services and provision that benefit the local and wider community (outreach, after-school provision, school partnerships etc);
- Provide personal, professional and social development that will prepare pupils for the opportunities, responsibilities and experiences of adult life;
- Ensure curriculum is appropriate to the diverse needs and abilities of our pupils;
- Ensure all pupils have the opportunity to make positive progress and achieve;

- Work in partnership with pupils' parents and families to raise the attainment of pupils and raise aspirations and social mobility opportunities for all concerned;

Our Vision for **teaching** at the Academy will be to:

- Enable pupils to acquire new knowledge and make progress according to their ability;
- Motivate pupils to excel and exceed expectations;
- Inspire pupils' natural interests, curiosity and enthusiasm;
- Demonstrate well-planned lessons and effective teaching methods, activities and management of class time;
- Demonstrate exceptional knowledge and understanding of the subject matter being taught;
- Use classroom resources of a high quality, quantity and range;
- Utilise effective strategies for managing behaviour and encourage pupils to act responsibly by encouraging personal responsibility and social awareness.

Curriculum development and rationale - what we will deliver, and why

STEM Academy will provide a curriculum that inspires academic ambition in our pupils and assists them to excel in science, technology, engineering and mathematics as well as preparing them for the world of work and progression into Higher Education, employment, Advanced/Higher Apprenticeships and other positive pathways such as entrepreneurship and humanitarian endeavours.

In developing our curriculum we have tried to ensure that the range of qualifications selected, offer a strong foundation in STEM skills and include complementary areas such as English and Modern Languages that would enable pupils to develop a strong foundation in STEM skills, whilst also keeping their options open for university and future careers.

We are keen that pupils of STEM Academy are not directed into specialising too soon and for this purpose we have picked well-rounded underpinning qualifications that will allow pupils to specialise at university and/or enable entry into a wider number of careers. For example, STEM Academy has selected the BTEC Level 3 extended Diploma in *Engineering* qualification, rather than the BTEC in *Electronic Engineering* as the Engineering Diploma offers a wider knowledge base enabling entry into a number of potential Engineering-related courses and careers including Electrical Engineering, Civil Engineering, Manufacturing Engineering, Building Services Engineering and many more.

The curriculum offer also reflects the ambitions, aspirations, needs and interests of our future pupils; for example, STEM Academy offers GCSE foundation provision for young people interested in and showing an aptitude for STEM subjects who have not achieved the required exam grades to enrol

at A Level. Instead of closing our doors to this group of young people¹⁷, we aim to offer progression provision and enhanced support to ensure they are able to make necessary progress to achieve their goals of progressing onto A Level (or equivalent) study and further onto university or employment as applicable¹⁸.

The subject areas we will be offering have been grouped into five key curriculum areas summarised as follows:

STEM ACADEMY KEY CURRICULUM AREAS

Science Biology Chemistry Physics Human Biology Environmental Science Geology	Science subjects develop learners' knowledge and understanding of materials and forces, developing the skills associated with science as a process of enquiry: for example, observing, forming hypotheses, conducting experiments and recording their findings.
Technology Computing Music Technology Interactive Media Communications Technology (Telecoms)	Technology subjects develop learners' technological skills through the use of information and communication technology (ICT); developing, planning and communicating ideas, working with tools, equipment, materials and components to produce good quality products; evaluating processes and products.
Engineering Design Technology [Engineering Technology] Engineering	Engineering subjects develop learners' understanding of the processes involved in engineering, use of engineering materials, processes and techniques, principles of design, planning and prototyping.
Mathematics Maths and Further Maths	Maths subjects develop learners' numeracy and ability to make calculations, interpret data, undertake statistical analysis, understand and appreciate relationships and patterns in number and space and to develop their capacity to think logically.
Complementary Subjects A Levels: English and Modern Languages GCSE: English, History, Geography, Modern Languages	Complementary subjects are designed to ensure that all pupils have the opportunity to study across a broad core of essential subjects ensuring that doors are not closed off to them in terms of future progression and decisions. According to 'The Russell Group guide on making informed choices for post-16 education' these are the subjects most likely to be required or preferred for entry to degree courses and subjects that will lead to most options at university ¹⁹ .

¹⁷ Information on the DfE website points out that not enough young people secure a basic level of competence in maths. Every year, about half of our pupils leave school without even a 'C' in maths GCSE.

¹⁸ 59 degree course options are listed in "The Russell Group guide on making informed choices for post-16 education". Of the 59, only 5 do not include one of the STEM Academy's subject options as an essential or useful subject for university course entry. The 5 degree courses that do not include one of STEM Academy's curriculum subjects are: Childhood Studies, Classical Studies, Drama, History, Religious Studies/Theology.

¹⁹ These are subjects referred to by "The Russell Group guide on making informed choices for post-16 education" as 'facilitating subjects'.

The subjects identified for GCSE study are the subjects that will enable pupils to gain the English Baccalaureate allowing them the most options for progression post-GCSE.

Qualifications overview

STEM Academy will offer provision at both Full Level 2 and Full Level 3.

At Level 2 we will offer an opportunity for pupils without the necessary GCSE grades (Grades D or lower) to study on our Foundation for Progression programme, which on successful completion will enable them to progress on to Full Level 3 study.

At Level 2 we will offer:

- GCSE provision with selected subjects based on the English Baccalaureate.

At Level 3 we will offer:

- A Level provision in 12 subject areas.
- BTEC Extended Diploma (equivalent to 2 A Levels) in 4 subject areas.

Additionally, at level 3 STEM Academy will also offer:

- AQA Baccalaureate

Level 2 Qualifications

Overview

Pupils wishing to study at STEM Academy, that have not achieved the necessary GCSE grades to enable progression to Full Level 3 study, will be assisted to achieve their GCSE qualifications (grade A*-C) through our Foundation for Progression (FfP) provision²⁰.

FfP will consist of an in-depth, intensive year of study which will offer a full curriculum and learning programme (not just a GCSE re-take service). Pupils will be supported to learn and master the basics at level 2 which will not only improve their grades but equality their capacity and capability to learn at Level 3 and progress onto higher learning or professional career opportunities.

The curriculum subjects for FfP are based on the English Baccalaureate.

Pupils will be assisted to achieve the full English Baccalaureate suite of qualifications or individual GCSE's depending on previous exam grades and initial assessment results. As a minimum all STEM Academy pupils will be expected to achieve a grade A*-C in Maths and English.

On successful completion of the Foundation for Progression programme pupils will be able to progress on to Full Level 3 study.

GCSE Subjects Offered

Mathematics

Chemistry

²⁰ Foundation for Progression (FfP) is STEM Academy's provision for pupils who failed to achieve desired grade(s) in one or more GCSE subject(s). FfP will enable pupils to retake selected GCSEs and progress on to Level 3 study; it is expected that most FfP pupils will progress on to full Level 3 provision (A Levels or equivalent) within 1 year of FfP study.

English	Geography
Physics	History
Biology	Modern Languages ²¹ : French, German

Level 3 Qualifications

Overview

STEM Academy's Level 3 offer will include 12 A level subjects and 5 BTEC Vocational subject options.

STEM Academy will also encourage able and motivated pupils to complete the AQA Bacculaureate option.

AS/A2 Level Subjects

Biology	*Human Biology
Chemistry	*Environmental Science
Physics	*Geology
Design Technology (Engineering Technology)	English Language
Computing	French
Maths/Further Maths	German

BTEC Extended Diploma Subjects

Engineering	*Communications Technology (Telecoms)
Interactive Media	Music Technology
*These subjects available from 2015/16	

AQA Bacculaureate

The AQA Bacculaureate is a new additional qualification that pupils can take alongside their A Levels.

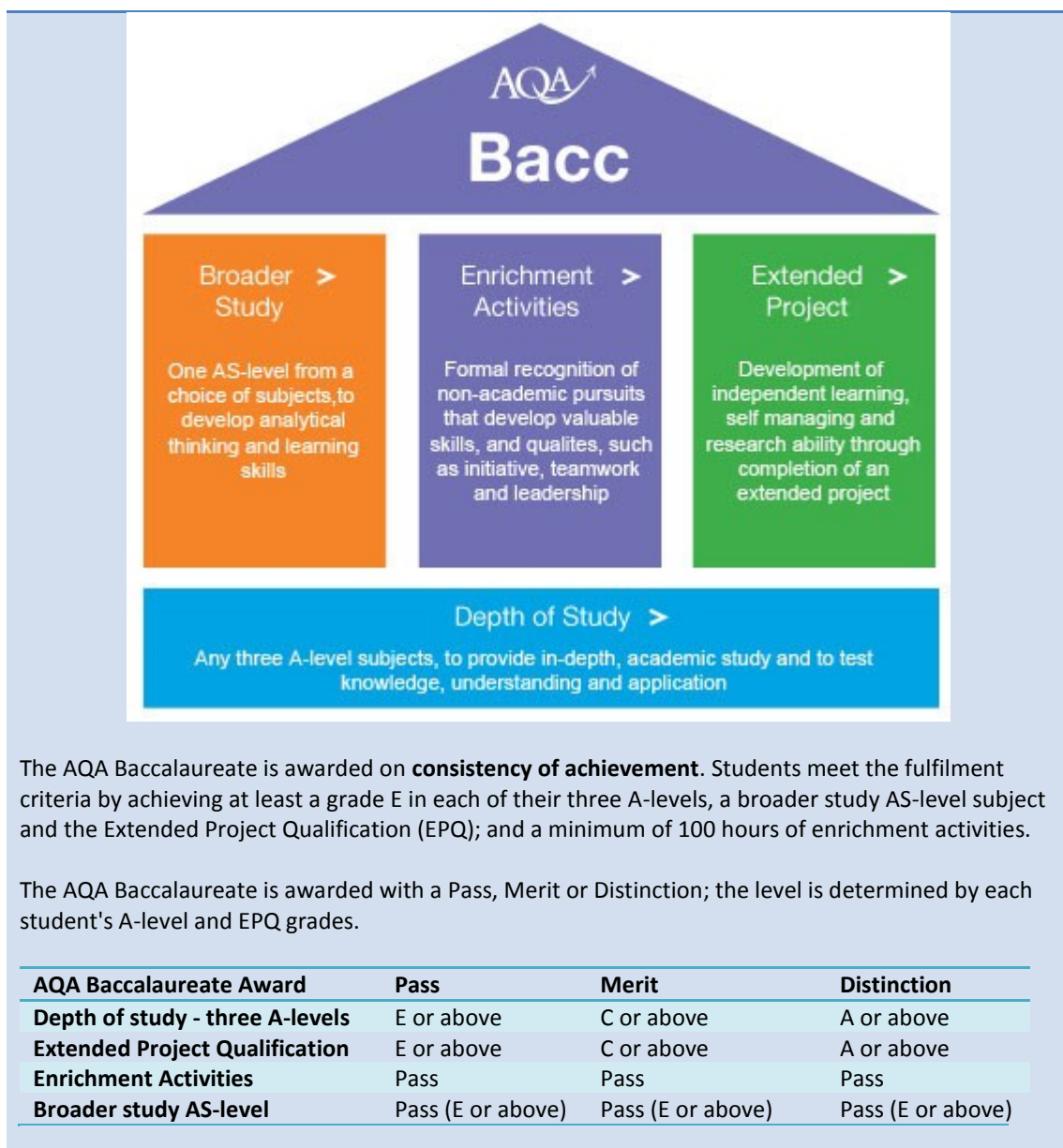
The AQA Bacculaureate is a rigorous academic qualification available to any student studying at least three A-levels. It adds value to students' core A-level subjects through broader study, the Extended Project Qualification and enrichment activities.

The AQA Bacculaureate will provide pupils with:

- a solid academic foundation with the skills that universities have identified as important
- independent learning, community spirit, leadership and work-related skills
- a record of their extra-curricular achievements to include in UCAS personal statements and discuss at interview

A-levels form the foundation of the AQA Bacculaureate, with three more elements providing a broader academic and life-skills education.

²¹ STEM Academy will try to accommodate pupil requests for other Modern or Classical Languages although demand for other languages (other than French and German) would have to be met through external arrangements and subject to available local provision.



BTEC Added Value Option

For pupils taking the BTEC Vocational option, we will also encourage them to study an additional A Level subject where possible as this will enhance their opportunities for entry to university and graduate programmes.

For example, the KPMG A level Graduate Scheme requires a minimum of one A Level for all BTEC/Vocational applicants to its scheme. Equally, a number of Russell Group universities²² state that candidates are unlikely to be able to make a competitive application if they have not studied academic courses to A-Level standard, this view does not apply to all (or even most) universities however, STEM Academy aims to equip its pupils with the best opportunities and options for progression so will encourage all BTEC pupils with the ability and commitment to take up this option.

²² Guardian survey on university entry requirements 1st Feb 2011

STEM Academy will offer all necessary support and advice to enable BTEC pupils to gain an additional A Level and believes that it would add value to pupils' future career and educational prospects, in keeping with STEM Academy's vision, ethos and stated aims & objectives.

A Level Added Value Option

The AQA Baccalaureate is an additional qualification that A level pupils can take alongside their A level studies and will earn them additional UCAS qualifying points for University entry. The additional qualification is also highly valued amongst many leading universities.

We believe the AQA Baccalaureate Award will benefit our pupils as they will be able to demonstrate to employers and universities that they have acquired real life skills in areas such as Work Experience, Project Management and Delivery, Time Management, Research and working to tight deadlines. Pupils can also gain additional UCAS points for the AS General Studies and AS Extended Project which can also be taken as stand-alone qualifications.

AQA Enrichment falls into three core areas;

1. Work related learning, including work experience
2. Community participation, such as voluntary service
3. Personal development, like the Duke of Edinburgh Award Scheme.

STEM Academy offers all three of the above enrichment areas and most of our A Level pupils will find that they will be able to meet AQA enrichment criteria through existing STEM Academy Plus core activities²³ as long as they are able to complete a minimum 100 hours of such activity. They would then only have the Extended Project (EPQ) to complete in order to earn the AQA Baccalaureate.

Essential subjects

Employers and Higher Education institutes require that young people have the necessary skills to prepare them for the challenges of work and study. Therefore all pupils who do not have a GCSE pass at Grade C or above in English Language and/or Maths will be expected to study these alongside the STEM curriculum.

Subject choice and availability

STEM Academy will aim to give pupils a free choice of subjects as much as possible. Pupil choice will be informed by a robust and highly detailed information, advice and guidance service. Informative guides such as '*The Russell Group guide on making informed choices for post-16 education*' will be used to support pupils in making informed and astute choices that will support pupil's interests, aptitudes and career aspirations.

²³STEM Academy Plus is STEM Academy's extra-curricular and enrichment programme provision

A reduced range of subjects will be on offer initially, as the Academy will start with a smaller number of pupils, gradually building up to full capacity by Year 4. Additional subjects will gradually be added with all subjects available by year 3 (2015/16).

Subjects identified for later inclusion include: Human Biology, Environmental Science, Geology and Communications Technology.

The above subjects were selected for later inclusion as they are more specialised than the other subject areas on offer, and will require specialist staffing and resource requirements. Additionally, research shows that these subjects traditionally have a lower take-up rate than other subjects²⁴ and are therefore less likely to restrict pupil choice and demand. In keeping with our financial plan, we aim to offer the highest levels of value for money whilst still offering value, choice and high quality to our pupils; we believe that the above-mentioned strategy of gradual increase in subject options will achieve this balance.

To assist pupil course selection, STEM Academy's prospectus will include detailed information on each course including:

- Course outline
- Assessment/exam method
- Course entry requirements
- Complementary subjects
- Progression options (career and higher education)

See **Course Outline** below for exemplar.

Course outline

Included below are two sample Course Details outlines from our draft STEM Academy prospectus.

The first example demonstrates the A Level Mathematics outline and the second demonstrates an outline for a BTEC qualification, in this case Engineering.

Each course/subject will have a similarly detailed entry in our prospectus and online on the STEM Academy website.

²⁴ A level data obtained from The Joint Council for Qualifications, the overview body which looks after exam results, and publishes complete analysis of exam results break down every year.

Mathematics/Further Maths - A Level

Subject Intro

Mathematics is a valuable A Level qualification which is always in demand in industry and the employment market. Many degrees and careers place great emphasis on mathematical competence. Available options in the A Level syllabus allow you to focus on mathematical skills best suited to your intended degree or career. For example, aspiring Physics students will find Mechanics particularly useful; those intending to study Economics or Psychology should opt to study Statistics; Decision Maths is suited to students of Computing, Economics and Business. Those planning to study Mathematics, Computing or Engineering at university may wish to take Further Mathematics in addition to the standard A Level.

What will I study in Mathematics?

The A Level Mathematics syllabus requires you to study six separate units. These units fall into two broad categories:

- Pure (Core) Maths; and
- Applications

Pure Maths C1, C2, C3, C4 are compulsory units at A Level. They extend the topics you will have covered at GCSE, for example, algebra, geometry and trigonometry. It will also introduce you to new areas such as calculus (differentiation, integration and differential equations) and numerical methods.

Applications can be in Mechanics (M units), Statistics (S units) or Decision Maths (D units). Mechanics involves the study of the motion of particles under the action of forces and may be particularly useful for students studying Physics. Statistics involves the study of patterns in data and may be particularly useful for students studying Business Studies or Economics. Decision Maths involves the study of algorithms and may be particularly useful for students studying Business Studies, Computing or Economics.

AS Outline

AS Units 1, 2 & 3. You will study C1 and C2 plus one application, typically M1 or S1.

A2 Outline

A2 Units 4, 5 & 6. You will study C3 and C4 plus any two applications units.

Further Pure Mathematics A Level, counted as a separate A Level, involves studying another six units: FP1 and, typically, either FP2 or FP3, along with four other units. This may appeal to you if you intend to study Maths, Computing or Engineering at university. There is also an AS in Further Maths including FP1 as a compulsory unit, plus any two units, not including C1 – C4.

How will I be assessed?

Both AS and A2 mathematics are assessed by examination only. All papers are 1 hour 30 minutes in length and carry equal weight. There are 3 exams for AS (one for each unit) and a further 3 for A2.

Do I need to have studied Mathematics before?

The A Level and AS course assumes you have sound prior knowledge acquired during your GCSE course. You are, therefore, expected to have achieved at least a 'B' grade, although under exceptional circumstances we may accept pupils with a 'C' grade.

Personal Attributes

Pupils applying for this course must be able to demonstrate:

- An interest in Maths and enjoy problem solving;
- Ability to work methodically and be persistent when problem solving;
- Ability to understand logical argument and think analytically;
- Ability to work and study independently.

Which subjects complement Mathematics?

Mathematics can be combined with almost any other subjects. Some of the most appropriate combinations may include: Further Mathematics, Physics, Chemistry, Engineering and Computer Science. Mathematics is an essential or highly recommended A Level for a wide range of degree courses. Maths could also be an ideal fourth AS Level.

Progression

Degrees in Maths, Statistics, Physics, Astronomy, Engineering and Computer Science all usually require Maths at A Level. Other subjects, such as Medicine, Architecture, Biology, Chemistry and Social Sciences, have a certain amount of mathematical content and will therefore be much easier for those with an A Level in Maths.

Which careers can Mathematics lead to?

Mathematics A Level is highly regarded by employers as mathematical competence is practically useful, but also indicates a sound ability to think logically and manipulate abstract concepts. Apart from academic research, mathematics is vital in careers such as engineering, computer-related industries, and in the finance industry: banking, trading, finance and insurance.

Engineering – BTEC Level 3 Extended Diploma

Subject Intro

BTEC qualifications are specialist work-related qualifications that provide the knowledge, understanding and skills needed to prepare for employment. As the BTEC Level 3 Extended Diploma carries UCAS points and is equivalent to 3 levels it also provides progression opportunities to Higher Education to study for a degree, HND or Foundation degree within the same or related area of study. The BTEC Level 3 Extended Diploma is also recognised as the Technical Certificate which forms part of the Apprenticeship Framework.

The BTEC Level 3 Extended Diploma is an appropriate qualification for those who want to progress into employment within the Engineering sector and is suitable for those who have decided on a particular specialist area of work. The qualification is designed to give new entrants to the engineering sector the underpinning knowledge and specific skills to meet the needs of modern mechanical engineering industries.

The programme of study offered provides a balance of practical skill development and knowledge and provides a link between theory and practical application.

What will I study on the BTEC Extended Diploma in Engineering?

The BTEC Extended Diploma in Engineering is made up of a number of mandatory and optional units, each unit has a credit value of 10 or 20. The total credits required to achieve the qualification is 180 credits.

The mandatory units have a combined credit value of 70 and provide a solid foundation and broad based introduction to Engineering; they are compulsory units for the Extended Diploma. The remaining 110 credits will be made up from the optional units.

BTEC Extended Diploma Outline

There are six mandatory units:

- Unit 1: Health & Safety in the Engineering Workplace (10 credits)
- Unit 2: Communication for Engineering Technicians (10 credits)
- Unit 3: Engineering Project (20 credits)
- Unit 4: Mathematics for Engineering Technicians (10 credits)
- Unit 5: Mechanical Principles and Applications (10 credits)
- Unit 6: Electrical and Electronic Principles (10 credits)

The optional units offered include Engineering Drawing for Technicians, Engineering Design, Computer Aided Drafting, Electrical Technology, Construction and Application of Digital Systems.

How will I be assessed?

The extended diploma is internally assessed by assignments and externally moderated by Edexcel, the accrediting institution.

Do I need to have studied Engineering before?

A BTEC Level 2 in Engineering or a related vocational area is desirable and although it is not essential to have studied Engineering before, potential applicants should be able to demonstrate a keen interest in the subject and have achieved a minimum 4 GCSEs A*-C including English & Maths.

Personal Attributes

Pupils applying for this course must be able to demonstrate:

- An interest in Engineering and enjoy problem solving;
- Ability to work methodically and be persistent when problem solving;
- Ability to apply practical solutions to problems
- Ability to work and study independently.

Which subjects complement Engineering?

The BTEC Level 3 Extended Diploma in Engineering is a self-contained programme of study and is the equivalent of 3 A levels. However it can be combined with almost any other subjects. Some of the most appropriate combinations may include: Mathematics or Physics

Progression

Progression is either into employment or on to Higher Education. The BTEC Level 3 Extended Diploma in Engineering is accepted by a range of universities for Engineering degrees including Mechanical Engineering, Air Transport Engineering, Civil Engineering and Building Services Engineering. Some Universities may also require an A level in Maths and / or Physics to complement the BTEC.

Which careers can BTEC Engineering lead to?

The BTEC Level 3 Extended Diploma in Engineering is highly regarded by employers within the Engineering sector and can lead directly into employment at Technician level. Engineering due to its practical application offers entry to a broad range of careers which include Mechanical Engineer, Electrical Engineer, Civil Engineer, Air Transport Engineer, Telecommunications.

Extra-curricular provision

One of STEM Academy's key aims is to increase the social, economic and ethnic diversity of young people progressing onto leading universities and into the top professions. STEM Academy recognises that in order to achieve this, we have to focus on the whole person as well as academic performance.

Our strategy at STEM Academy will be to ensure that pupils have access to a well-structured STEM-focussed education that also includes an ambitious extended curriculum programme. This will support our aim of preparing pupils for the best higher education and career opportunities available.

STEM Academy Plus (SA+) will coordinate all of STEM Academy's extra-curricular and enrichment activities. These activities will be grouped into five broad themes which, will help pupils (with support from their Personal Tutors) choose a diverse mix of activities from across the 5 key themes – these are summarised below.

<i>STEM Academy Plus Enrichment and Extra-curricular Themes</i>	
Arts and Culture	Music, drama, fashion, cinema & film, foreign language (conversational), debate society
Sports and Fitness	Team sports, fitness classes, martial arts, Sports Leadership Award
Social History	British citizenship and social history, cultural history, industrial history and its impact on people and the environment
Economic Development	Preparation for work, career advice and counselling, entrepreneurship, financial awareness
Personal Development	Volunteering, Duke of Edinburgh Award, public speaking

Further detail about the extra-curricular and enrichment activities on offer at STEM Academy is covered in Section D2.

Life skills

Pupils at STEM Academy will be taught essential life skills such as leadership, communication, teamwork and time-management skills.

All pupils will attend an initial induction course which will help them to further understand and develop essential life skills; this provision will be reinforced by a range of themed activities and events throughout the academic year, such as opportunities for pupils to stand for election of clubs and societies, create and develop new clubs or activities, organise events and take responsibility for different areas of Academy life. Pupils will also complete the Duke of Edinburgh Award as part the STEM Academy Plus provision.

Pupils will be taught the basics of good leadership skills: leading by example; passion; organisation; delegation; vision; taking ownership and responsibility; effective communication; honesty and courage. Leadership skills will be further developed through action (e.g. leading on a task or project).

Pupils will also gain skills in personal financial awareness and civic

engagement. They will learn the basics of our political system and how the government works; citizenship rights and responsibilities; community engagement and the basics of influencing policy. Financial awareness will be delivered in partnership with NSAFS²⁵ and will prepare pupils for financial independence and equip them with the skills to make informed financial decisions.

STEM Academy will ensure its pupils are able to gain and demonstrate key qualities that will serve them for a lifetime: self-motivation, independent learning, goal and target setting, self-awareness, a questioning mind, moral courage, communication and negotiation skills, the importance of deadlines, strong work ethic, accountability and respect. We will achieve this by linking soft skills development to curriculum and extra-curricular delivery and requiring teachers and facilitators to identify where and how in their delivery they are helping or supporting pupils to gain these skills. Soft skills development will be monitored via regular pupil/tutor progress reviews. These skills will also be developed as a matter of course at STEM Academy as these form key aspects of our Vision and will be reflected in our ethos delivery models; for instance, supporting pupils to become independent learners

Work Academy

The Work Academy is an innovative STEM Academy invention which seeks to proactively prepare young people for the realities of work.

As well as providing employability skills, STEM Academy's vision, is for the Work Academy to be an effective physical space for work-orientated learning and skills.

The Work Academy will occupy a dedicated space set apart from the main Academy with its own 'professional reception' and décor/environment mimicking that of a work place. Pupils will be expected to attend sessions at the Work Academy promptly, sign in/out and wear a badge.

Pupils will need to turn up for their 'shift' on time, and will be expected to contribute to 'real work tasks'. For example a research task may be set with an appropriate deadline and working brief. Alongside broader employability skills, pupils will also be taught essential skills needed in today's labour market, such: interpreting data, following instructions, prioritising work, communication and presentation skills.

The Work Academy will imitate the work environment by giving pupils real work tasks and assignments with enforced deadlines, budgets and specifications. The Work Academy will employ a Project-Based Learning approach to its teaching and learning provision.

Project Based Learning is an instructional approach built upon **authentic learning activities** that engage student interest and motivation. These

²⁵ National Skills Academy for Financial Services

activities are designed to answer a question or solve a problem and generally reflect the types of learning and work people do in the everyday world outside the classroom.

Project Based Learning teaches students 21st century skills as well as content and is generally done by groups of pupils working together toward a common goal. Performance is assessed on an individual basis, and takes into account the quality of the product produced, the depth of content understanding demonstrated, and the contributions made to the ongoing process of project realization.

Project Based Learning allows pupils to reflect upon their own ideas and opinions, exercise voice and choice, and make decisions that affect project outcomes and the learning process in general²⁶.

WORK Academy Specification	
Provision	Overview of key outcomes
Work experience and placements	Rights and responsibilities at work Employability skills (attitude, team-work, communication) Experience of work environment Employer contacts and networking
IT Skills (ECDL)	Office IT Skills
Visits and speeches from business and industry professionals (through Speakers for Schools)	STEMNET Ambassadors Networking skills and opportunities
Attendance at industry exhibitions and events	Networking skills and opportunities
Project-based Learning	Communication and presentation skills, organisation and time management skills, research and inquiry skills, self-assessment and reflection skills, and group participation and leadership skills Enterprise skills
Employment readiness workshops	Employment-readiness skills: interview skills, CV preparation, interview preparation and mock interviews Career coaching and profiling software
Enterprise skills	Leadership skills, self-management and motivation, creativity and innovation, multi-tasking Introduction to legal and financial

At STEM Academy all work experience will be coordinated centrally by the Work Academy to ensure pupils are able to experience relevant and ‘real’ work experience. Work experience placements will be relevant pupil’s studies

²⁶ Definition from PBL – online resource for Project Based Learning

and career aspirations and STEM Academy will work with employers to ensure pupil's are able to contribute to real work tasks and gain exposure to the working environment whilst on work experience and not just 'stuck in a corner' observing or making coffee.

STEM Academy's Business Director will have direct responsibility for building strong relationships with employers and setting up appropriate work experience programmes with a focus on: relevance, quality and value-added.

An innovation of the Work Academy will be to pair pupils with an employer for mid to long term. Instead of pupils undertaking a few weeks of work experience with one or more employers, pupils will be 'twinned' with an employer for the duration of their studies, pupils will undertake longer and more frequent work experience (for example: weekly day release, every week during 2nd term or 2 days a week last month of each term). The aim will be for pupils to gain extended exposure to the working environment and develop real skills that will improve their future employability as well as provide value to the host employer which rarely happens in very brief 1-2 week work placements; pupils will also build beneficial relationships with host employers and staff, which hopefully will reap benefits throughout their future careers.

The evidence and work product from the Project-based Learning element will also be used by pupils undertaking the AQA Baccalaureate towards their Extended Project Qualification (EPQ), thus ensuring all elements of STEM Academy are effectively interconnected.

UCAS Preparation and Career Ladder Programme

At STEM Academy we aim to support the aspirations of all of our pupils. University study will not be the most suitable or desired destination for all of our pupils, but for the ones that do wish to progress to University, we intend to do everything in our power to support them towards achieving this goal.

At STEM Academy we plan to start informing, advising and guiding our pupils through their options during their first term with us. The UCAS and Career Ladder programme will be coordinated by the Personal Tutors and will provide specific advice and support for pupils intending to progress onto university. Pupils will be able to gain help in completing their UCAS Application and advice on best degree choices based on career aspirations and the qualifications currently being studied.

Pupils will also gain advice about other options available such as Advanced/Higher Apprenticeships and the A-level Graduate programme including information about entry criteria and what employers will be looking for. This will also be complemented by the Work Academy provision.

Prep Pro

Prep Pro will be delivered as a series of evening or weekend workshops specifically for pupils aiming to progress to university. Based on the

University undergraduate support programmes²⁷, Prep Pro workshops will build up pupils' awareness of essential academic study skills needed for success at university, these include:

- Independent Learning Skills
- Critical Thinking Skills
- Interpersonal Skills
- Listening Skills
- Oral Skills (including presentation and public speaking)
- Plagiarism, Citation and Referencing Skills
- Grammar Skills
- Numerical and Maths Skills
- Exam Skills

Many of the above skills are already part of STEM Academy's core offer, however Prep Pro will explore these skills from a university perspective so pupils are able to understand the importance of gaining these skills pre-university and also the context of these skills from a Higher Education perspective, this is especially important for pupils aspiring to attend research universities and/or applying for academic degrees.

We also hope to set up collaborative partnerships with one more universities to provide opportunities for our pupils to gain a flavour of undergraduate life at leading UK universities.

The following universities have indicated interest in being involved in the development and delivery of the Prep Pro programme:

- Oxford University
- Cambridge University
- Imperial College London
- The University of York
- Kings College
- University of Hertfordshire
- Brunel University – (this is not confirmed yet)

STEM Academy will also explore opportunities for offering Prep Pro to external pupils and other schools and colleges in the community.

STEM Academy's Approach to Teaching and Learning

Overview

Teaching at STEM Academy will be rigorous and challenging based on the principle that pupils should master the basics – be it subject, lesson or concept – before they are able to move on to the next level.

²⁷ Examples include University of Dundee P@SS Module and The University Manchester Study Skills provision.

STEM Academy classrooms will be neat, clean and modern with minimal distractions to support an effective learning process. Where appropriate, visual displays of the subject material will be displayed around the classroom, this has been shown to improve long-term learning by 90%²⁸.

Teaching and Learning principles

Similar to the KIPP²⁹ approach, STEM Academy's position in regards to the delivery of teaching and learning will be to focus on **9 key PRINCIPLES** of teaching, rather than a having preference for specific methods or styles.

These 9 principles are based on our ethos and form the cornerstone of our Vision. They have been chosen as they will directly and positively impact on our stated aims, objectives and outcomes.

Focussing on **principles of teaching** rather than specific styles or methods of teaching will free up teachers to do what they do best and enable them to use flexibility, innovation and creativity in the classroom to achieve desired outcomes, whilst always ensuring that they are doing so against a clear set of common principles that support the schools ethos, vision and aims.

STEM ACADEMY 9 KEY PRINCIPLES – TEACHING AND LEARNING
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- 1. Focus on results**
- 2. Master the basics**
- 3. High expectations**
- 4. Personal accountability**
- 5. Mutual respect**
- 6. Tough love**
- 7. All are able to learn, grow and improve**
- 8. 'Technology for Life'**
- 9. All pupils are treated equal, regardless of social standing, religious belief, ethnic origin, ability, need, gender or other personal attribute(s)**

Effectiveness in the classroom

STEM Academy will welcome innovation in the classroom and will support a wide range of teaching styles and methods as long as they are appropriate to the subject being taught and in accordance with our key principles for teaching and learning. Our focus will be on the effectiveness of teaching and the resulting outcomes.

At STEM Academy effective teaching will mean that:

- **All** pupils are involved and engaged in each session, are motivated to learn and are able to acquire new knowledge and make progress;
- Teaching methods effectively facilitate multiple learning styles and are appropriate to the subject matter.

²⁸ SCCC (1999) Teaching for Effective Learning

²⁹ Knowledge is Power Programme a tried and proven American Charter School provider.

STEM Academy expects all teachers to demonstrate a high level of understanding and knowledge in the subject matter; have well-planned and thought-out lessons plans and activities; use appropriate resources of a high quality; and utilise effective strategies for managing behaviour inside and outside of the classroom by encouraging personal responsibility and social awareness.

Effective use of technology will make teaching relevant to pupils and will reflect the outside world. Teaching staff will demonstrate good ICT skills and show confidence in the use of technology; ongoing professional development will enable staff to stay up to date with innovations and developments and will enable them to deliver their subjects in varied and interesting ways, and to share with colleagues experiences of different approaches to teaching. There will be an active development group that will meet monthly to source training and resources in computer-based teaching methods and the Academy's intranet and moodle³⁰ will have a rich supply of material as well as links to the internet.

Learning Styles

STEM Academy will support the use of various teaching methods and styles. Teachers have individualistic approaches to teaching and we recognise that teachers tend to be most effective when they teach to their own preferred style, but do so in a way that takes into account and respects the differing learning styles and preferences of pupils.

Through regular and comprehensive CPD opportunities, teaching staff at STEM Academy will be able to stay informed of new and innovative teaching methods and aids they may wish to adopt (in whole or part) in order to enhance teaching and pupils' experience at STEM Academy. As a STEM-specialist school, we expect teachers to make use of wide-ranging current and emerging technology in both the delivery and assessment of teaching and learning. Innovations such as flipped classrooms, games technology and smart phone applications will be used to complement classroom delivery and to add variety and flexibility to the school day.

Rationale for STEM Academy's approach to teaching and learning:

As well as meeting pupils' needs in terms of different learning styles, using innovations and different methods of delivery will prepare pupils for acquiring knowledge and information from different mediums and help them to identify their learning style strengths and develop individual strategies for effective learning when presented with other learning styles and methods. For example, innovations such as flipped classrooms may have greater benefits for pupils that learn and progress well on their own, but will also be beneficial for pupils who are less inclined to learn in that manner as this provision will help them to improve their ability to effectively learn and take in information from different mediums including interactive technology, a method of learning and information-sharing that is on the increase and which they are likely to

³⁰ Online learning portal

face when entering the labour market³¹. A focus on results, outcomes and principles rather than particular teaching styles will ensure that teachers are free to make appropriate decisions within the classroom and deliver to their strengths, but also have a very clear baseline for what their teaching must achieve regardless of style or method used.

Pupil experience of teaching and learning

STEM Academy strongly believes that each pupil should experience the joy of learning and excitement of discovery. As a non-academically selective school, teaching will be differentiated to support all levels of ability and help all pupils to make significant progress; STEM Academy aims to ensure that all pupils can be proud of their achievements during their time with us.

STEM Academy's objective is for teaching and learning to be a memorable and rewarding experience for our pupils. STEM Academy will employ teachers with the ability to motivate and inspire pupils and crucially staff of STEM Academy will show a natural enthusiasm and passion for teaching and STEM subjects. Teachers will demonstrate that learning matters and that education can be exciting, challenging and rewarding.

In the course of a day, each pupil will experience several different approaches to teaching, just as teachers will experience classes of differing ability levels and pupils whose optimal learning-styles vary. STEM Academy welcome's this diversity of approach and ability levels, and believes that it will make for a rich and rewarding experience of education.

Pupils will benefit from teaching which is inspiring, challenging and engaging, while never forgetting that pupils themselves are central to the learning process. STEM Academy's philosophy is that within the classroom, the process of learning starts and ends with the pupils themselves - only **when** they are clear about **why** they want to learn can they successfully master **how** they learn and only then will they be ready to tackle **what** they need to learn. The STEM Academy approach will therefore build qualities of self-motivation, independent learning, goal and target setting, self-awareness of the process of learning and the importance of deadlines and accountability. Pupils will become responsible, increasingly accountable and professional in their approach.

STEM Academy will provide an energetic and challenging environment where pupils are expected to fulfil and usually exceed their own expectations, based on the power and joy of learning. Pupils will experience teaching of a uniformly high quality which equips them with the self-confidence, knowledge and skills to succeed.

STEM Academy will offer an environment focussed on excellence and achievement, the abilities of all pupils will be assessed, monitored and

³¹ In a speech to the Royal Society on maths and science on 29 June 2011, Michael Gove stated: "we need to change curricula, tests and teaching to keep up with technology, and technology itself is changing curricula, tests, and teaching"

provided for. Tutors will show awareness of pupils' needs – building on strengths and addressing weaknesses. The friendly and caring community at STEM Academy is at the heart of the excellent teaching which will allow pupils of mixed ability to achieve to their full potential. We recognise that this potential is different for each pupil and realistic, yet challenging targets will be set accordingly.

Alongside this, STEM Academy seeks to develop pupils' social, cultural and moral awareness, equipping them with transferable skills in preparation for higher education, careers and informed, constructive citizenship.

Our philosophy of teaching is to light a fire within our pupils which they will carry for the rest of their lives.

Delivery of Academic Qualifications: A Levels and GCSE's

Teaching and Learning of A level, GCSE and other academic qualifications will have a strong focus on academic rigour and high standards of work product to ensure pupils are well prepared for entry to higher education &/or professional pathways. There will be a strong focus on pupils acquiring and demonstrating expertise in the core skills that are most needed for success at University and/or in the workplace. These include:

- Reading comprehension
- English Writing
- Research skills
- Critical thinking
- Maths³²
- Functional IT

In addition to the academic rigour, teaching and learning will strongly relate to the world of work with delivery effectively relating learning outcomes to industry requirements and career applications. Teaching and learning will include regular exposure to industry via visits/outings, inclusion of industry professionals in the classroom environment and delivery of master-classes by industry professionals³³.

Pupils will also gain practical skills via regular use of STEM Academy's fully-equipped labs, workshops and studios³⁴ and through participation in STEM Academy's mandatory Work Academy provision.

Rationale for delivery of A Level and GCSE qualifications:

³² A report, *Mathematical Needs*, published on 14 June 2011, by the Advisory Committee on Mathematics Education (ACME), found that **“around 210,000 students out of the 330,000 that are studying courses that require mathematical knowledge beyond GCSE do not have these required skills, causing problems for the students and universities alike”**.

³³ STEM Academy has already approached appropriate employers such as Google, Morson PLC, Double Negative (special effects for TV and film incl. Harry Potter) and TBG Digital amongst others. We have also registered with STEMNET for STEM Ambassadors scheme and also Speakers for Schools).

³⁴ STEM Academy will have a number of multi-purpose labs and workshops including: science lab, graphic design studio, A/V studio, software/games lab, engineering/machinery workshop.

GCSE Ebac

The subjects included in the GCSE English Baccalaureate are designed to ensure that all pupils have the opportunity to study a broad core of subjects, ensuring that doors are not closed off to them in terms of future progression.

For example, for pupils hoping to go to university, 'The Russell Group guide on making informed choices for post-16 education' identifies 'facilitating subjects' at A level. These are subjects most likely to be required or preferred for entry to degree courses and ones that will keep the most options open. The subjects they identify are those included in the English Baccalaureate – **mathematics, English, physics, biology, chemistry, geography, history and languages (classical and modern).**

The English Baccalaureate is intended to give pupils greater opportunity to study in and beyond the vital core of English, mathematics and the sciences. It therefore has a particular focus on key subjects which have been withdrawn from Key Stage 4 by some schools, even where pupils might benefit from them. These include, for example, languages, where research has shown that there are clear advantages in terms of cognitive skills and understanding, and history and geography, all of which are in decline³⁵.

A Levels

GCE A Levels are internationally recognised and remain the most common university entry qualification in the UK both in the state and independent sectors.

Teaching staff will be familiar with the design and requirements of A Levels and numerous support resources are available to support their delivery making it an important value for money consideration.

The most valued consideration, is that as a recognised qualification, we are assured that on completion of A Levels pupils will be able to gain entry to university (subject to grades) and employment.

Delivery of Vocational Qualifications: BTECs

STEM Academy will offer BTEC Level 3 Extended Diplomas (previously BTEC Nationals) to ensure our curriculum is able to meet the abilities and interests of all our pupils. The nature of the BTEC Level 3 Extended Diploma is to offer a more technical and hands-on approach to learning without compromising any essential subject theory. STEM Academy's vision is to ensure that ALL pupils are well prepared for the world of work as well as having the ability to progress on to Higher Education, should they wish to do so. We are therefore committed to ensuring that pupils selecting the BTEC route are equally able to demonstrate a solid foundation in core skills necessary for Higher Learning &/or high-level careers. These include:

- Reading comprehension

³⁵<http://www.education.gov.uk/schools/teachingandlearning/qualifications/englishbac/a0075975/theenglishbaccalaureate>

- English Writing
- Research skills
- Critical thinking
- Maths
- Functional IT

One of STEM Academy's objectives is that no pupil should leave the Academy without having mastered the basics of English and Maths which STEM Academy has defined as a min GCSE grade A-C in English and Maths. This objective will apply to all of our pupils whether they are following the A-level or BTEC pathways. For pupils who have not achieved these grades prior to entry at STEM Academy, they will be supported to achieve these either through our Foundation for Progression provision³⁶ or if appropriate will be supported to study for one or both of these GCSE's alongside their vocational qualification. The approach selected will depend on the needs of the pupils, their existing grades, their level of motivation and the outcome of their initial assessment.

BTEC pupils who have already achieved the A-C grades in English and Maths will be encouraged to study for an additional A-level subject alongside their chosen BTEC course; this will help to keep their options open should they wish to progress on to Higher Education in the future or other options such as A-level Graduate programme.³⁷

Rationale for delivery of BTEC qualifications:

BTECs are work-related qualifications which are suitable for a wide range of students. They are built to accommodate the needs of employers and allow progression to university through the UCAS points system (equivalent to 3 A levels). They provide a practical, real world approach to learning without sacrificing any of the essential subject theory. BTECs are recognised by schools, colleges, universities, employers and professional bodies across the world.

³⁶ STEM Academy's GCSE re-take and GCSE improvement programme

³⁷ Many Universities state a preference that BTEC candidates are able to demonstrate academic ability if they have studied an A-Level alongside their BTEC (see university entry requirements doc). The KPMG A level Graduate Scheme requires a minimum of one additional A Level for BTEC/Vocational applicants to its scheme.

D2: PROVIDE A COHERENT AND FEASIBLE SCHOOL TIMETABLE AND CALENDAR

School day

STEM Academy will be open to pupils from 8am to 6pm on all weekdays Monday to Friday, with late opening (to 8pm) on Wednesday evenings to accommodate club activities.

Compulsory classes will take place between the hours of 8.30am to 5pm, on weekdays Monday to Friday.

STEM Academy will encourage pupils to make good use of any free time between classes to benefit from the Learning Resource Centre, and available Sport and Leisure activities.

Each pupil will have a minimum of 23 hours of set study hours per week, these include teaching, guided study and practical sessions. Pupils will also attend compulsory enrichment provision such as Work Academy.

Pupils will be expected to discuss and agree individual timetables and free period arrangements with their respective tutors and may be required to undertake more than 23 hours of study depending on assessment of progress and independent requirements (e.g. pupils taking Further Maths, AQA Bacc etc).

The extended school provision will be in addition to the 23 compulsory study hours.

Within the timetable the A-level subjects are distributed over four blocks and pupils will choose subjects to occupy each of these. BTEC pupils will have more formalised timetables for the mandatory units (usually morning study) with flexibility being exercised in optional units, where pupils may opt for different unit choices. A small number of periods will be left for private study. The Learning Resource Centre and other rooms will be available where quiet work can be done. In addition, pupils will be encouraged to use free periods for:

1. Working in IT & Maths suites e.g. doing extra work or completing projects;
2. Working in the specialist rooms such as music, graphic design or software/games lab;
3. Working on extra-curricular programmes;
4. Completing Work Academy assignments or projects.

Lesson Periods

The weekly timetable has been divided into periods to maximise the use of resources (i.e. rooms, staffing) and ensure efficiency of guided learning hours.

Each school day is divided up into 10 periods, within one week there are 50 periods.

Each period lasts for 50 minutes and pupils will usually have double periods that last for 1 hour and 40 minutes.

The decision for allocating 50 minutes to each period is based on the following assumptions derived from the recommended guided learning hours (glh) for each qualification:

GCSE – each subject has 120-140 recommended guided learning hours (glh). Each pupil will take 5 GCSE subjects totalling 600-700 glh per annum. To maximise use of resources, and given that the targeted pupil cohort will be retaking GCSEs it is reasonable to assume that the curriculum could be successfully delivered either within 600 glh or in less time. It is also assumed that the GCSE timetable will be delivered over 30 weeks running from September to May:

- 30 weeks @ 5 periods of 50 minutes each = 625 glh

AS Level – each subject has 180 recommended guided learning hours. It is assumed that each pupil will take 4 AS levels in Year 1 totalling 720 glh over 36 weeks. This equates to 20 hours per week. Each AS subject will be allocated 5 hours per week which will be broken up into 6 x 50 minute periods. Each pupil will choose four subjects within a block.

BTEC Extended Diploma in Engineering – the two year programme has 1080 guided learning hours. It is assumed 540 glh will be delivered in year 1 over 36 weeks. This equates to 15 hours per week broken up into 18 x 50 minute periods. It is assumed there will be 30 pupils, 2 classes of 15 pupils. Where possible, BTEC pupils will be encouraged to study for an additional A Level in addition to their BTEC.

Pupils will on average study 2, sometimes 3, subjects a day as most subjects will be delivered as double periods allowing pupils to focus and fully immerse themselves in a specific subject. This strategy will also minimise disruption in terms of pupils moving unnecessarily between classes. It will also allow for better and easier planning of key spaces such as labs and A/V Studio.

Pupil timetable

All pupils will have a personal timetable and it is unlikely that any two will be exactly the same. This is because STEM Academy aims to meet each pupil's individual needs including subject preferences, tutorial needs and appropriate support/provision based on level of ability³⁸. The foundations for each pupil's personal timetable will be based on their subject preferences and then further

³⁸ Math provision to be grouped by ability

refined as appropriate based on their particular learning profile, needs and requirements.

Lunch will be provided between 12 noon to 2pm each day in a self-service canteen to cater for individualised timetables.

We have included some sample timetables to demonstrate the operational implementation of the above statements:

- **Table 1** demonstrates an exemplary pupil timetable for a Monday. Pupil is taking four subjects at AS Level: Maths, Biology, Physics and English Language.
- **Table 2** demonstrates the same pupil on a Wednesday (extended school hours).
- **Table 3** demonstrates a sample daily BTEC timetable.
- **Table 4** demonstrates a sample weekly GCSE timetable.

Table 1 – AS Level Daily Timetable – example 1

	Time	Session	Level	Compulsory (C) or Non-Compulsory (NC)
#	8.00am	BREAKFAST AND STUDY CLUB	Mixed	NC
P1	9.00am	TUTORIAL	AS	C
P2	9.40am	SESSION 1	AS	C
P3	10.30am	SESSION 2	AS	C
P4	11.20am	SESSION 3	AS	C
P5	12.10 noon	LUNCH	Mixed	C
P6	1pm	FREE PERIOD	AS	C
P7	1.50pm	SESSION 4	AS	C
P8	2.40pm	GUIDED STUDY PERIOD	AS	C
EXTENDED SCHOOL	3.30 - 5pm	STEM Academy Plus ENRICHMENT ACTIVITY Modern Language: French or German	Mixed	NC
	5.10pm	KEEP FIT: Mixed Martial Arts	Mixed	NC
	6.00pm	END OF DAY	N/A	N/A

Table 2 – AS Level Daily Timetable – example 2

	Time	Session	Level	Compulsory (C) or Non-Compulsory (NC)
P1	8.00am	BREAKFAST AND STUDY CLUB		NC
P2	9.00am	TUTORIAL	Mixed	C
P3	9.40am	SESSION 1	AS	C
P4	10.30am	SESSION 2	AS	C
P5	11.20am	SESSION 3	AS	C
P6	12.10 noon	LUNCH	Mixed	C
P7	1 – 5pm	WORK ACADEMY Today's theme: Entrepreneurial skills and networking	AS	C
EXTENDED SCHOOL	5.10pm	Prep Pro	Mixed	NC
	6.00pm	Debate Society	Mixed	NC
	7.00pm	Music Club	Mixed	NC

	8.00pm	END OF DAY	N/A	N/A
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Table 3 – BTEC Daily Timetable

	Time	Session	Level	Compulsory (C) or Non-Compulsory (NC)
#	8.00am	BREAKFAST AND STUDY CLUB	Mixed	NC
P1	9.00am	TUTORIAL	BTEC Yr 1	C
P2	9.40am	Unit 1 – Health & Safety in the Engineering Workplace	BTEC Yr 1	C
P3	10.30am	Unit 1 – Health & Safety in the Engineering Workplace	BTEC Yr 1	C
P4	11.20am	Unit 2 – Communication for Engineering Technicians	BTEC Yr 1	C
P5	12.10 noon	LUNCH	Mixed	C
P6	1pm	FREE PERIOD	BTEC Yr 1	C
P7	1.50pm	Unit 17 – Computer Aided Drafting	BTEC Yr 1	C
P8	2.40pm	Unit 17 – Computer Aided Drafting	BTEC Yr 1	C
EXTENDED SCHOOL	3.30 - 5pm	ENRICHMENT ACTIVITY (STEM Academy Plus) Modern Language: French or German	Mixed	NC
	5.10pm	KEEP FIT: Mixed Martial Arts	Mixed	NC
	6.00pm	End of day	N/A	N/A

Table 4 – GCSE weekly timetable

TIME	Monday	Tuesday	Wednesday	Thursday	Friday
8.00am	BREAKFAST AND STUDY CLUB				
8.30am	Tutorial	English (S3)	French (S2)	Tutorial	Study Period
9.20am	Chemistry (S1)	Physics (S1)	Biology (S3)	Physics (S3)	Mathematics (S5)
10.10am	Chemistry (S2)	Physics (S2)	Biology (S4)	Physics (S4)	Mathematics (S6)
11.00am	English (S1)	History (S2)	Study Period	History (S3)	French (S4)
11.50am	English (S2)	French (S1)	Study Period	French (S3)	French (S5)
12.40am	LUNCH				
1.30pm	Biology (S1)	Chemistry (S3)	Mathematics (S2)	English (S4)	Physics (S5)
2.20pm	Biology (S2)	Chemistry (S4)	Mathematics (S3)	English (S5)	Chemistry (S5)
3.10pm	AFTERNOON BREAK				
4.30pm	History (S1)	Mathematics (S1)	Biology (S5)	Mathematics (S4)	Biology (S5)
5.20pm	STEM ACADEMY PLUS – EXTENDED SCHOOL				

Term and holiday dates

School term dates 2013/2014 are 'at a glance' and subject to confirmation. The final dates will be based on the dates agreed by the London Government Association (LGA).

Autumn term 2013

- First day: Tuesday 3 September 2013
- Last day: Friday 20 December 2013
- Half term: Monday 28 October to Friday 1 November 2013

Spring term 2014

- First day: Monday 6 January 2014
- Last day: Thursday 10 April 2014
- Half term: Monday 17 February to Friday 21 February 2014

Summer term 2014

- First day: Monday 28 April 2014
- Last day: Friday 25 July 2014
- Half term Monday 26 May to Friday 30 May 2014

Please note

Easter 2013: Good Friday and Easter Monday fall on the 18th April and 21st April respectively. They form a part of the two week holiday break between the end of the Spring term and the start of the Summer term.

Compulsory and optional activities

All mainstream classes specific to each pupil's chosen courses will be compulsory (unless otherwise agreed and provided e.g. special needs provision on exceptional basis).

Participation in the Work Academy will be compulsory. Pupils will be expected to attend the Work Academy for 4 hours a week. 4-hour blocks of Work Academy provision will be provided on each week day and twice on Wednesdays to ensure each pupil is able to attend as part of their individualised timetable. The Work Academy provision will usually start mid-way of the Autumn term and run through the whole of the Spring term. There will be reduced Work Academy provision in the Summer term in recognition of pupils exams and assessment where attendance is likely to be ad-hoc rather than on the basis of weekly compulsory attendance.

As part of the Work Academy, office ICT skills provision (e.g. ECDL) will be delivered to ensure pupils have basic office skills required to operate in the workplace, ICT Skills training sessions will usually be offered towards the end of term or leading to half-term. As with other Work Academy provision, office

ICT Skills provision will be compulsory.

Guided study will be compulsory and will form part of the pupils Learning Agreement with STEM Academy.

All other enrichment/extra-curricular activities will be optional.

Life at STEM Academy

STEM Academy's philosophy is that it is important to provide our pupils with a good balance between work and leisure.

It is a key part of STEM Academy's vision that our pupils should have the same opportunities to access top universities and successful careers as pupils from fee-paying schools. We recognise, that too often socio-economic and educational disadvantage is also aggravated by a lack of access to enriching and stimulating extra-curricular activities which can disadvantage pupils from state schools when applying for University places against their peers from independent schools. So, alongside our academic curriculum, STEM Academy will offer a rich provision of extra-curricular and leisure activities.

It is this breadth of education and development that will produce the rounded, confident individuals with the ability to succeed, achieve and progress onto positive pathways, whether higher education, employment or Apprenticeships.

STEM Academy Plus (SA+) will be STEM Academy's extended school programme which will coordinate the Academy's enrichment, extra-curricular and leisure activities such as events, outing, clubs, activity programmes and sports.

Enrichment

We believe that enrichment is an important part of our pupils experience at STEM Academy. Some enrichment activities have their own place within the normal timetable (e.g. Work Academy). Amongst the exciting opportunities STEM Academy plans to include are some of the following:

- **Work Academy**
Preparation for working world and awareness of business and enterprise (including Young Enterprise)
- **Prep Pro**
University preparation and awareness sessions
- **Masterclasses**
High profile speakers from industry, society and academia
- **Gifted and talented events**
Dedicated days and events for pupils, parents and community

- **Exhibitions and showcases**
Exhibitions of student work and products
- **Festivals and events**
Attendance and festivals, exhibitions and events
- **Trips abroad**
Foreign travel and fact finding trips

Extra-curricular

On offer will be a range of flexible and evolving provision such as: Duke of Edinburgh Award; Music and Film (use of A/V³⁹ Studio) and toastmaster's international (public speaking). Pupils will have a range of clubs on offer that they will be encouraged to join (further details below) as well as a range of sports activities and tournaments.

Activity programme

STEM Academy's Activity Programme will be based around excursions and outings that augment and expand subject tuition, raising pupils' cultural and scientific awareness as well as enhancing their knowledge and understanding of their city and country. Typical destinations for these outings might include: Royal Greenwich Observatory, at longitude zero degrees, the National History Museum, the Science Museum, National STEM Centre, European Space Education Resource Centre, the National Gallery, the Museum of London, Horniman Museum and Gardens, the Tate Modern, the Imperial War Museum, the Tower of London, London Transport Museum and The Globe Theatre amongst others.

Pupils will also benefit from S&DA's existing industry links to enable visits to BBC and ITV Film Studios, Film sets, Pinewood Studios and Special Effects companies such as Double Negative.

STEM Academy's partnership with London Metropolitan University will enable our pupils to access and visit London Met's £30 million science centre, which is one of the largest teaching labs in Europe. A key feature of the science centre is the Met's SuperLab, which gives students a cutting edge experience of learning science. Other features are a simulated Bloomberg trading floor, interpreting suites, multi-media studios and a flight simulator.

Stem Academy will also have more leisurely excursions, such as ten-pin bowling, ice-skating, Madame Tussauds or go-karting.

Clubs and Societies

STEM Academy will facilitate a number of clubs each year with themes varying according to demand. The initial clubs we expect to offer include:

³⁹ Audio Visual Studio

music club; debate society; dance and drama; chess club; cinema and theatre; book club; inventor's club; fashion and design; gaming club etc.

Subject to demand and funding/resources STEM Academy will try to meet demand from pupils for additional/alternative clubs and societies.

Events

STEM Academy will host a number of events for pupils each year including: Charity Events; Christmas Party; Summer Ball; Award Ceremony; Exhibitions; Cultural events; Parent day etc

Volunteering and fund-raising

STEM Academy will promote and coordinate pupil volunteering and fundraising activities, both independently by pupils and in partnership with local organisations and initiatives. These voluntary activities will form an integral part of the extra-curricular timetable of many STEM Academy pupils.

Sports and fitness

The Academy will coordinate a number of sporting teams and activities including a STEM Academy football team (in partnership with Street League Charity). There is the possibility of arranging other team sports to be according to demand and availability, especially in the future years when the Academy reaches capacity.

STEM Academy will also offer fitness classes (e.g. Martial Arts) at the Academy or partner premises.

Speakers for Schools

STEM Academy has registered interest in the Speakers for Schools programme. Speakers for schools, offers enthusiastic, knowledgeable, and authoritative speakers to schools that are leaders in their fields of expertise. The service is free to non-fee paying schools.

Robert Peston, founder and funder of Speakers for Schools commented:

"If the UK is to compete with the emerging economies then we need to get smarter and, I'm afraid work harder. We're trying to encourage kids to make more of themselves, because only if they're prepared to do that will they have the kind of lifestyle they want."

These aims are in line with the aims and objectives of STEM Academy.

Pupil organisation

STEM Academy will implement a pupil organisation system which is consistent with our ethos and contributes to our stated aims and objectives.

House system and Personal Tutors

Pupils will be organised into mixed-age, mixed-ability and mixed-course **house groups**.

Personal Tutors will be assigned to each house and will support a maximum of 20 pupils at one time. All pupils will benefit from a single named **Personal Tutor** for the **duration** of their time at STEM Academy.

Houses will be named for historical figures in the areas of science, technology, engineering and mathematics, such as:

Marie Curie (Science)
Berners-Lee (Technology)
Brunel (Engineering)
Turing (Mathematics)

Pupils will be able to earn a variety of prizes and privileges for their house group against a wide range of activities and indicators including fundraising, work experience feedback/ratings, extra-curricular activities, attendance, punctuality etc.

Each house will be led by a Head of House (Senior Personal Tutor) with core responsibility supporting house group Personal Tutors, creating a well-managed environment, leading on behaviour management and addressing major or serious areas of concern referred to them by Personal Tutors.

The Personal Tutor will be the first reference point for all pupils and they will meet at a designated time every week. Alongside this, ad-hoc meetings can be arranged as and when the need arises.

At a more general level, the Personal Tutor will act as a mentor to help, guide and support each and every one of their allocated pupils. Personal Tutors will also support the management of pupil behaviour, punctuality and respect for the learning environment. Personal Tutors will also play a key role in identifying potential pupil needs such as SEN, disability support needs, social/economical needs, and Gifted & Talented pupils.

The personal tutoring system is at the very heart of what we aim to do at STEM Academy and will play a fundamental role in contributing to the thriving and successful Academy that we aim to be.

The chief aim of our tutorial support programme is to develop and build collaborative relationships between pupils and staff with a view to supporting academic excellence, pupil wellbeing and successful outcomes for pupils. These aims embody the STEM Academy ethos.

Rationale for proposed pupil organisation

Within STEM Academy we aim to celebrate equality and diversity and firmly believe that organising pupils in groups of mixed ability supports our vision of a school that promotes equality of opportunity. We recognise that some young people may not have realised their full potential or capability and we are

committed to ensuring all pupils have opportunity to develop their understanding of subjects both through careful and structured teaching and also through collaborative learning through peer groups and observing positive role models. Through mixed ability grouping we aim to stimulate peer learning and create a learning environment in which individuals are valued and differences respected.

Class sizes
16-18 pupils

Rationale for proposed class sizes

The average class size within STEM Academy will be approximately 16-18 pupils. This size group delivers the most efficient use of resources in terms of direct teaching costs and outputs including learner completion and achievement⁴⁰. We also acknowledge that young people benefit from the social aspect of learning and a feeling of belonging to a group. We believe that maintaining an average class size of 16-18 pupils offers an optimum number to stimulate pupil interaction and also allows the teacher to provide a focused and personalised learning environment.

⁴⁰ National Audit Office (March 2011) 'Getting value for money from the education of 16-18 year olds'

D3: SET OUT A CLEAR STRATEGY FOR ENSURING THAT THE NEEDS OF PUPILS WITH DIFFERING ABILITIES ARE MET

Policy Statement

STEM Academy is positive about diversity and actively seeks to support the varied and wide-ranging needs and abilities of its pupils, these are likely to include:

- Gifted and talented pupils;
- Pupils with Special Educational Needs and/or disabilities;
- Pupils from deprived backgrounds (many of whom are likely to have had entitlements to Free School Meals [FSM]);
- Pupils who are learning English as an additional language;
- Pupils who are (or have previously been) in care; and/or
- Pupils with social, emotional and behavioural difficulties.

In order to ensure STEM Academy is able to appropriately support the differing needs and abilities of its pupils, the Academy will implement the following actions in assessing and addressing needs for all pupils:

- Questionnaire and interview **pre-entry** for early identification of: Special Educational Needs and/or disabilities, barriers to learning &/or additional social needs, English language needs, any behavioural &/or emotional concerns, gifted and talented or potentially gifted and talented pupils;
- Comprehensive initial assessment **on entry** to help identify: additional learning needs, barriers to participation/progression, language needs, areas of interest and gifted/talented;
- Regular **ongoing** assessments via: weekly tutorial sessions with Personal Tutors, formal assessments/progress reviews to be conducted every 6 weeks by subject teachers with comprehensive reports provided to each Personal Tutors, collaborative performance reviews that involve pupils in assessing their own progress, agreeing appropriate targets, and what they need to do to progress;
- Systematic use of the intelligence from assessments and reviews to inform individual support services, tutorial sessions, lesson planning, schemes of work, class structure/seating arrangements, and teaching & learning styles;

- Clear staff and governor accountability for the progress and achievement of groups of pupils.

Policy Strategy

Overview

STEM Academy believes that each pupil is unique and that every one of them should be empowered to achieve to their full potential. For effective teaching and learning to take place, STEM Academy recognises that an effective strategy for meeting the needs of pupils with differing abilities is critical.

We will therefore support pupils by using a variety of support and assessment opportunities with a view to effectively **identifying** differing needs and abilities and **implementing** measures to provide appropriate support to meet those needs and abilities.

Local overview

STEM Academy is committed to meeting the needs of its pupils and the wider community. In order to prepare a relevant and effective strategy, STEM Academy has undertaken comprehensive research of the local pupil population and presenting needs.

Table 1 summarises some of our key findings in relation to the eight Hackney Sixth Form providers with available data⁴¹ and provides an overall comparison of the Local Authority data in comparison to national average.

Table 1

URN	SCHOOL	SEN School Action	SEN Statement	SEN School Action Plus	English not 1 st Language	% Pupils eligible for Free School Meals
100277	Haggerston School	28.2	1.3	12.8	60.8	43.8
100278	Clapton Girls' Technology College	18.6	1.8	5.7	70.6	52.4
100279	Stoke Newington School and Sixth Form	19	3.2	6.3	29.1	26.4
131062	The Petchey Academy	16.2	4.7	9.2	31.7	42
131609	The Bridge Academy	15.6	5.6	9.4	48.3	48.6
134693	Mossbourne Community Academy	9.6	4.6	7.9	33.2	35.9
135835	The City Academy, Hackney	24.9	4.9	3.6	36.2	47.3
136137	Skidders' Academy	18	1.3	2.9	49.7	44
LOCAL AUTHORITY AVERAGE⁴²		12.8	2.3	8.7	55.7	38.8
NATIONAL AVERAGE⁴³		11.3	1.39	6.6	16.8	19.2

The above data (table 1) demonstrates that pupils in Hackney have higher levels of additional educational needs and social disadvantage across nearly all key indicators when compared against national averages⁴⁴. For example,

⁴¹ No data was available for Brooke Sixth Form or Hackney Community College.

⁴² Based on all schools (Hackney)

⁴³ Based on all schools nationally

⁴⁴ All data from DfE Performance Table statistics

the average⁴⁵ across England for pupils with English as an additional language is 16.8% compared to Hackney's average of 55.7%. Pupils qualifying or having previously qualified for Free School meals in Hackney stands at 38.8 compared to the national average of 19.2%

The different levels of Special Education Needs range from 1-2% above national averages against all SEN criteria: School Action, School Action Plus, and SEN Statement.

The above evidence will be monitored and updated annually and will inform STEM Academy provision and planning by ensuring we put appropriate resources in place to support key areas identified as high levels of need such as: additional language support (formal and informal); additional learning support (ALS); and social/economical support.

Implementation

STEM Academy's strategy for meeting the needs of pupils with differing abilities is based on the following key steps:

1. Initial identification of individual pupil needs
2. Detailed assessment of identified needs
3. Develop a plan with specific targets/actions to address/support identified need
4. Implement plan and identify accountable staff/leadership
5. Check progress and impact of intervention
6. Adjust intervention
7. Check results

▪ Identification and Assessment Planning

Pupils' needs will be identified through a variety of individual or combined methods including: admission/application information, initial assessment on entry, ongoing assessment (further details below), teacher and/or personal tutor identification, parent identification.

The identification of need will lead to a full and formal assessment to determine type and level of need, this may include referrals to internal specialist support (e.g. **Learning Support Coordinator**) but may also include referrals to external specialist support for more specialised or severe support needs.

Results of the assessment/s undertaken will lead to the development of an Action Plan to address identified need/s and agree specific targets for progression.

▪ Agreed actions to address/support need

Once a need has been identified and assessed a dedicated Action Plan with **specific** and **measurable** targets will be developed.

⁴⁵ All averages based on secondary schools and sixth forms. Primary schools excluded from data set.

Action Plans will include details of named staff responsible for supporting pupil and a named accountable manager for monitoring and management of outcomes.

The Action Plans will also include details of any external support arrangements including statutory support services and community service providers.

The plan will be reviewed for impact with further actions/amendments agreed as needed.

- **Staff/leadership accountability**

A named Governor and member of the Executive will accept overall responsibility for this policy and its effective implementation.

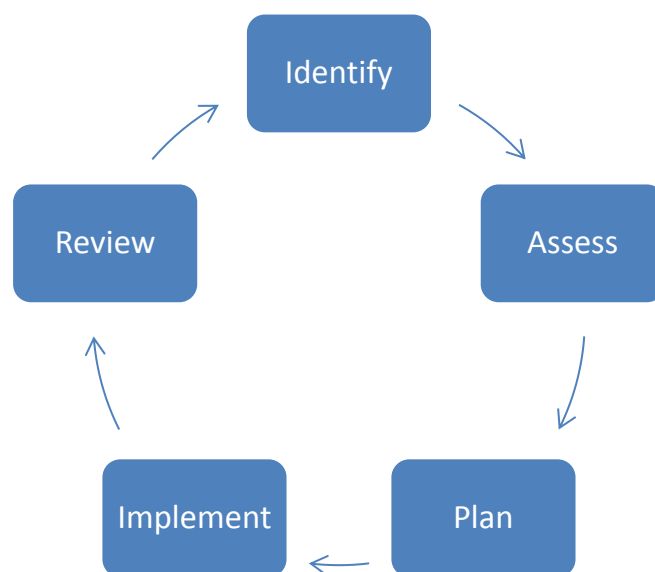
One or more named member/s of staff (usually Personal Tutor and/or one or more teachers) will accept responsibility for the delivery of each indicator on the pupil's Action Plan, and will report to Senior Managers, colleagues, learner and parents regarding the pupil's progress.

- **Target Setting and reviewing progress**

Target setting fits into the annual cycle of STEM Academy's review, planning and action strategy. Progress will be formally reviewed every 6-weeks and informally reviewed on an ongoing basis. Pupils will be fully involved in the process of target-setting and reviewing their progress.

Targets will be set that are appropriate to each pupil's levels of ability. Targets will be realistic and achievable, yet stretching to ensure pupils are challenged in their learning and development.

STEM Academy - Pupil support cycle



Gifted and talented

Some children and young people excel in particular areas, learn faster than others or have high potential but are underachieving. This is often referred to as 'gifted and talented'⁴⁶ and might include children and young people who are: more able and talented, academically more able, able or gifted.

'Gifted and talented' describes children and young people with an ability to develop to a level significantly ahead of their year group (or with the potential to develop those abilities):

- 'gifted' learners are those who have abilities in one or more academic subjects, like maths and English;
- 'talented' learners are those who have practical skills in areas like sport, music, design or creative and performing arts

Skills like leadership, decision-making and organisation are also taken into account when identifying and providing for gifted and talented pupils.

STEM Academy will identify gifted and talented pupils based on a wide-range of evidence including test results, quality of work, views of teachers, parents and pupils and other assessment methods as previously covered above. Following identification, STEM Academy will maintain an official register of its gifted and talented pupils and will seek to put in place an appropriate plan of action to ensure its 'gifted and talented' pupils are appropriately stretched and supported to achieve most positive outcomes, for example this could include: pupils being supported to achieve the AQA Baccalaureate; pupils being supported to undertake extra projects; pupils supported to achieve above expected level; or pupils being encouraged to undertake some leadership responsibilities.

Barriers to learning

STEM Academy is aware and experienced in the barriers to learning and progression that some pupils may have, for example these could include: difficulties at home; young people in care (or having recently left care); all forms of disability; bullying or abuse; behavioural, social, personal difficulties; substance abuse or misuse; low self-esteem or lack of confidence; young people at risk of offending; and economic or social disadvantage such as unemployment or homelessness amongst others.

STEM Academy will have appropriate support structures in place to support these pupils and will work in partnership with statutory services and community providers such as Serious About Youth, Kids Company and Catch 22 to more fully support the needs of our pupils and ensure that our pupils are able to gain access to specialist services.

⁴⁶ Source: DirectGov

English as an additional/second language

STEM Academy welcomes pupils of all backgrounds and would view applications from pupils with English as a second or additional language positively. In order to cope with the high academic and social demands of STEM Academy, we may recommend that some pupils, whose first language is not English, receive individual tuition in English as a second language to ensure that these pupils are able to get the most out of their time at STEM Academy.

Wherever possible we will seek to support pupils to continue to develop their multi-language skills and where available we will support STEM Academy pupils to undertake studies and qualifications in their first language.

SEN and Disabilities

STEM Academy has a Disability Equality Policy in place that ensures there is equality of opportunity and access for pupils of all abilities (physical &/or academic).

STEM Academy does not discriminate based on disability, race, social standing, religion or other personal or social attribute. STEM Academy welcomes all young people who can make the most of the opportunities that we offer and can flourish in the supportive environment of STEM Academy.

Teachers/tutors will arrange for pupils with identified or potential learning difficulties to be referred to a specialist for comprehensive assessment so appropriate support can be provided. Pupils will be involved in entire process of potential identification of need through to assessment and action planning, as a 16-19 school pupil involvement and empowerment is a key aspect of our Vision as one of STEM Academy's key aims is to support pupils into young adulthood and independent decision-making.

Each pupil will have a Personal Tutor (PT) responsible for the welfare and overall well-being of each pupil. Personal Tutors will be experienced in identifying the signs and characteristics of pupils with additional learning &/or support needs.

Where the PT identifies that the pupil may have a special educational need such as dyslexia they will refer the case to the Academy's Learning Support Coordinator, who will advise the PT and pupil on a plan of action to assist and support the pupil. This may include perhaps additional lessons on a one-to-one basis with a particular tutor, or support in obtaining an educational psychologist's report to ascertain the level of disability. This report would also be used at the public examination entry process to apply for extended time in examinations or in severe cases to be allowed the use of a laptop computer rather than write the examination script.

Some pupils may benefit from a modified curriculum, although it is anticipated

that almost all pupils accepted into the Academy will be supported in accessing the full range of subjects.

Individual support will be offered in specific subjects where the pupil is unable to access the curriculum in the expected way: for example recorded materials can be replaced by a live speaker for hearing-impaired pupils. The Learning Support Coordinator will offer support and continued assessment of need/intervention for any pupil experiencing difficulties in their studies due to a learning or physical disability/difficulty. This may take the form of help with study skills (e.g. organisation, note-making, revision techniques, essay-writing) or more general academic counselling.

Every young person with Special Education Needs will be entitled to individual consideration and STEM Academy will implement all legislative and available provision to support pupils with additional needs, for example during assessments or exams, pupils with additional needs may be entitled to additional time or have access to specialist equipment.

The type of support available will vary, so all learners will be individually and personally supported by their identified tutor and a Learning Support Coordinator to ensure they receive support appropriate to their individual needs and requirements.

STEM Academy's Learning Support Department will be staffed by fully qualified specialists who are able to support each learner. The team will be experienced in working with pupils with a range of learning difficulties/disabilities (special educational needs) including dyslexia, dyspraxia, ADHD and Asperger's Syndrome.

Pupils who have an Educational Psychologist's or Statement of Special Need or medical evidence attesting to their need for special arrangements will be allowed concessions in their exams/assessments. Such concessions would include:

- extra time
- use of a computer
- separate accommodation with a dedicated invigilator
- rest breaks

The role of Learning Support Coordinator (SENCO)

The Learning Support Coordinator (SENCO) will be part of the Senior Leadership Team and will be responsible for the coordination and oversight of STEM Academy's policies and practices for pupils with additional support needs. It will be part of the LSC's responsibilities to ensure that resources and support are allocated and maintained to all those individual pupils who may need additional provision.

Specific responsibilities will include:

- Line Management of Learning Support Assistant, Welfare Officer and coordination of the effective deployment of Teaching Assistants (Line Managed by Heads of Department);

- Ensuring all pupils, including those with special or additional needs receive their full educational entitlement and have access to the full curriculum;
- Managing support initiatives and interventions and development/coordination of alternative teaching strategies and individual programmes where necessary;
- Advising STEM Academy policy and strategy from a pupil needs point of view;
- Supporting staff in their understanding and effective response to additional support needs;
- Preparation, delivery and assessment of staff training and development pertaining to SEN/Additional Support Needs;
- Strategic overview of SEN/Additional Support Needs and Inclusion throughout the school including planning, policy writing, advising and supporting other staff;
- Preparing and managing statutory assessment paperwork;
- Organisation and oversight of pupil monthly, quarterly and annual reports (as appropriate);
- Meeting with parents, carers and statutory agencies (as applicable);
- Management and coordination of referrals to external partnership agencies and monitoring of outcomes/implementation of recommended actions;
- Some teaching responsibilities –small groups or one to one (when needed);
- Leading on effective collation and analysis of data including effective interpretation of pupil progress/performance data.

Risk Assessments – SEN and Disabilities

STEM Academy will support all pupils to access the curriculum as fully as possible. STEM Academy takes its Health and Safety responsibilities seriously and will implement appropriate strategies and procedures to assess potential risks pertaining to pupils with disabilities or additional learning needs. Our strategy for assessing risk will be based on supporting all pupils to access all aspects of life at STEM Academy, with a view that such access is experienced safely, thereby ensuring there is an effective balance between safety and entitlement issues. STEM Academy acknowledges that each pupil with SEN and/or a disability is unique and so any assessment of risk must be undertaken in that light without any stereo-typing of the particular disability. The process of risk assessment will focus on identifying ways in which pupils can be included in all aspects of STEM Academy life and will identify the necessary support and adjustments that can be provided in order to ensure that the pupils' rights of: choice, access and inclusion can be safely exercised. STEM Academy embraces its responsibility in making reasonable adjustments and removing barriers to enable disabled/SEN pupils to access all aspects of Academy life and feel welcomed, valued and included whilst undertaking study at STEM Academy.

Personal Tutors

Personal Tutors will act as mentors to help, guide and support each and every

one of STEM Academy's pupils; they will be responsible for the welfare and overall well-being of each pupil. The Personal Tutor will be the first point of reference for all pupils.

Personal Tutors and pupils will meet at a designated time each week. In addition, Personal Tutors may meet pupils for additional sessions and/or make themselves available on an ad-hoc basis (for example in the morning or after class) as and when the need arises. Personal Tutors will be experienced in identifying the signs and characteristics of gifted and talented pupils as well as those with additional learning &/or support needs.

Personal Tutors will be able to view the whole picture of a pupil's life and progress at the Academy through direct contact, feedback and internal monthly reports from the pupil's subject teachers/tutors.

Personal Tutors and pupils will meet every 6 weeks for a formal review meeting, as well as academic progress it will also be an opportunity to discuss and review every aspect of the pupil's life at STEM Academy including: participation in extra-curricular activities, pupil safety and well-being, enjoyment of learning, health and safety or equality concerns, work experience, review of career aim and objectives etc. During each review period (6-week intervals) areas of weakness may be identified and this will be addressed and discussed further with the pupil. Pupils will be fully involved in agreeing appropriate actions and targets for themselves.

The role of the Personal Tutor (PT) will include:

- Liaison with parents;
- Monitoring pupil's academic performance, attendance, punctuality and discipline, and taking corrective action if and when appropriate;
- Giving advice about sustaining and improving academic performance;
- Addressing any academic problems pupils may have;
- Undertake 6-week reviews and discuss findings from progress reports with individual pupils;
- Distribute and discuss monthly pupil reports and ensure accurate information is received on time from each subject teacher or tutor;
- Managing the UCAS process, assisting with UCAS application and provision of a UCAS reference;
- Assist pupils in planning exam revision and managing coursework submissions; amongst other roles and duties.

The weekly Personal Tutor sessions are designed to:

- Address any academic or pastoral issues affecting the pupil;
- Address all issues relating to academic progress;
- Support pupils in developing structured study skills relating to time management, learning styles, attitudes and motivation, exam preparation and strategy, revision planning etc and to track pupil progress and improvements in these areas;
- Implement the UCAS and Career Ladder Programme for Level 3 pupils – including support with completing UCAS applications, considering and researching career options;

- Ensure pupils are using their Student Handbook correctly, including keeping a record of their grades, exams and assessment results.

Learning Styles

Subject tutors and teachers will consider a range of learning styles and needs when planning and delivering lessons. Tutors and teachers will also work with pupils in gaining an understanding of different learning styles and help pupils gain strategies in learning and acquiring information when presented in different styles which may not be their preferred learning styles or strength.

Use of ICT and other technologies

As referred to in section D1, effective use of technology and ICT will be apparent at STEM Academy with diverse learning options on offer including: webinars, simulations, educational video games, smart-phone applications and many more.

ICT will be used effectively to support the needs of all pupils and will add flexibility to STEM Academy's offer in terms of delivery styles and type. ICT will also benefit learners of differing abilities as the use of ICT programmes, technology and learning websites/software allow for wide-ranging differentiation and can support teachers and tutors in providing individualised and detailed support and assignments based on the specific needs and capabilities of individual pupils. STEM Academy's 'virtual learning environment' will further be used to break down classroom barriers as pupils will be able access their work, assignments and progress records at any time.

As a specialist STEM school one of STEM Academy's 9 Key Principles is to promote 'Technology for Life'. This refers to the use of technology in all aspects of life and work and will be evident at STEM Academy by the use of technology as a teaching tool as well as being a key subject study area; technology will also be explored as a tool for personal advancement and improvement such as: career development and research, community development, social and professional networking etc.


STEM Academy will pilot a number of 'Technology for Life' projects including the development of online and interactive teaching resources, webinars, videos, and podcasts using the best available technology in innovative ways. The use of technology, the web and computing power have not only revolutionised the amount and quality of data available, but have made analysis simpler and faster. Our philosophy will be to explore how to use these tools with our pupils and mutually share and exchange ideas for the use of technology and technological advances, developments and innovations as they emerge. As well as raising pupil interests, we believe pupil skills in this area will improve. Creativity and technological skills are increasingly sought by employers across all sectors - academia, government, charities and business – this will also help fill that gap.

Technology will also be used in very effective ways to support pupils with both learning and physical difficulties/disabilities. STEM Academy will make use of specialist software and hardware to facilitate access and inclusiveness to learning.

Some of the potential software identified that may be of benefit to STEM Academy pupils with special or additional needs includes:

- Inclusive Technology Software
- Access Software
- Switch Accessible Software
- Communication Software
- Dyslexia Software
- Visual Impairment Software

Some of the potential hardware identified includes:

- Interactive Touch Screens and Computers
 - Tobii
 - Alternative Keyboards
 - Mouse Alternatives
 - Switches and Switch Mountings
 - Switch Interface boxes
 - Communicators and Controllers
 - Notetakers and Literacy Aids
 - Sensory Products
 - Visual Impairment Devices
 - Ergonomics
- 

D4: TELL US HOW YOUR DEFINITIONS AND MEASURES OF SUCCESS WILL DELIVER YOUR ASPIRATIONS FOR ACHIEVEMENT

STEM Academy has high aspirations and expectations for the school, these aspirations have been translated into Key Performance Indicators that cover what success would look like on an individual level (pupils, teachers/staff), as well as on a wider organisational (school) level.

The Key Performance Indicators (KPI's) were selected based on their relevance to STEM Academy's vision and ethos and the overall vision and ethos of the Free School initiative. Selected KPI's will lead to the future success and fulfilment of STEM Academy's vision and purpose by:

- Successfully preparing pupils for the world of work;
- Improving opportunities for access to Higher Education; and
- Ensuring each pupil achieves to the best of their ability.

Selected KPI's will also ensure STEM Academy is able to effect positive change and impact positively on the families of STEM Academy's pupils and the wider community as successful delivery of our chosen KPI's will help to develop socially responsible and well-rounded young people.

Our KPI's will also have a direct and positive impact on the economy and wider labour market, as STEM Academy will contribute to reducing the present skills shortages of British workers in STEM industries and lowering the UK's, and specifically London's, current soaring rate of youth unemployment⁴⁷. The skills that STEM Academy provides will equip our young people to obtain and retain skilled jobs in the UK and internationally.

STEM Academy Key Performance Indicators - PUPILS			
KPI	What would success look like	How will we monitor and how often	How does this KPI contribute to STEM Academy's Vision, Aims & Objectives, and Ethos
Improved outcomes for pupils who previously struggled at school	70% pupils achieving min Grade B in English and Maths (GCSE)	Grades on entry against exam grades on completion. Progress to target monitored on monthly basis through tutor reports – moderated by Heads of Department. Final monitoring on receipt of exam results (annual basis). Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.	Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Promote a culture of shared responsibility and personal accountability; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Practice tough love; Promote and implement a focussed culture of equality of opportunity for all; Promote a culture of accountability and individual goal-

⁴⁷ Currently 21.9% nationally, rising to 24% in London

			setting.
High pupil outcomes	Average point score of 800 per pupil (London average 700, England average 733.1). Average Level 3 point score per candidate of 230 (current national average 212)	Progress to target monitored on monthly basis through tutor reports – moderated by Heads of Department. Final monitoring on receipt of exam results (annual basis). Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.	Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Promote and implement a focussed culture of equality of opportunity for all; Promote a culture of accountability and individual goal-setting
High expectations for pupils	80% of examination grades A*-C	Progress to target monitored on monthly basis through tutor reports – moderated by Heads of Department. Final monitoring on receipt of exam results (annual basis). Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis. Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.	Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote a culture of shared responsibility and personal accountability; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Promote a culture of accountability and individual goal-setting.
Nurture gifted and talented pupils	10% of examination grades at A* Pupils effectively engaged in all aspects of STEM Academy. 30% of pupils achieve AQA Bacc	Progress to target monitored on monthly basis through tutor reports – moderated by Heads of Department. Final monitoring on receipt of exam results (annual basis). 35% or higher take up of AQA Bacc with min 30% successfully achieving. Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.	Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Encourage and facilitate personalised learning and development; Motivate and support pupils to exceed expectations; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Promote and implement a focussed culture of equality of opportunity for all.

Effective careers guidance and UCAS support strategies	<p>95% of pupils (who apply) gaining place at a Higher Education institution</p>	<p>Monthly progress monitoring of UCAS application process through tutor reports – moderated by Heads of Department. Pupil tracking of University acceptance and entry. Final annual of pupil progression/destination outcomes at each of calendar year (may be updated in March for January intakes or late pupil responses). Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Promote a culture of accountability and individual goal-setting.</p>
Nurture gifted and talented pupils Effective careers guidance and UCAS support strategies	<p>50% of pupils gaining a place at a leading university⁴⁸</p>	<p>Monthly progress monitoring of UCAS application process through tutor reports – moderated by Heads of Department. Pupil tracking of University acceptance and entry. Final annual of pupil progression/destination outcomes at each of calendar year (may be updated in March for January intakes or late pupil responses). Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Promote and implement a focussed culture of equality of opportunity for all.</p>
All pupils are supported to achieve to the best of their ability	<p>All pupils demonstrating positive distance travelled above average expectations.</p> <p>Min 75% of pupils attain 5 GCSE's A*-C on the Foundation for Progression provision.</p>	<p>Benchmarked against initial assessment. Progress to target monitored on monthly basis through tutor reports – moderated by Heads of Department. Final monitoring on receipt of exam results (annual basis). Quarterly review by Principal. Final report signed by Principal and</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our</p>

⁴⁸ Defined as a top 12 university based on Times rankings/Guardian league table

		presented to Governing Body on an annual basis.	<p>pupils;</p> <p>Promote a culture of shared responsibility and personal accountability;</p> <p>Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs;</p> <p>Practice tough love;</p> <p>Promote and implement a focussed culture of equality of opportunity for all;</p> <p>Promote a culture of accountability and individual goal-setting.</p>
Pupil enrichment is well coordinated and highly promoted to pupils	<p>100% pupils complete Duke of Edinburgh Award</p> <p>100% pupils graduate from Work Academy having completed full syllabus</p>	<p>Pupil participation, involvement and progress monitored on monthly basis through tutor reports – moderated by Heads of Department. Final annual report to be provided by each Personal Tutor on completion of Academic Year. Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.</p>	<p>Prepare pupils for successful future lives and careers;</p> <p>Encourage and facilitate personalised learning and development;</p> <p>Promote a culture of ‘Science and Technology for Life’;</p> <p>Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society;</p> <p>Welcome parents, carers and extended family to the STEM Academy family, and offer encouragement and support to facilitate their ability to become involved with the learning and development of STEM Academy’s pupils.</p>
Improved personal/ community social mobility Positive progression outcomes	<p>Improved soft skills</p> <p>95% of pupils progress to positive outcome:</p> <p>University;</p> <p>employment;</p> <p>Advanced Apprenticeship;</p> <p>further training/education.</p> <p>Pupil families engage in STEM Academy employability and training workshops. Strategies for supporting pupils at home effectively implemented.</p>	<p>Benchmarked against initial assessment on entry.</p> <p>Monthly progress monitoring of UCAS application process through tutor reports – moderated by Heads of Department. Pupil tracking of University acceptance and entry. Final annual report prepared of pupil progression/destination outcomes at each of calendar year (may be updated in March for January intakes or late pupil responses). Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.</p>	<p>Prepare pupils for successful future lives and careers;</p> <p>Improve attainment and aspiration for our pupils and their families;</p> <p>Motivate and support pupils to exceed expectations;</p> <p>Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils;</p> <p>Promote a culture of shared responsibility and personal accountability;</p> <p>Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs;</p> <p>Promote and implement a focussed culture of equality of opportunity for all;</p> <p>Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society.</p>
Pupils demonstrate positive behaviour	<p>Pupils adhere to STEM Academy’s code of conduct (7E).</p> <p>Pupils move up at least 1-2 points per term on The Ellen</p>	<p>Behaviour formally monitored through Personal Tutor reports on a monthly basis, moderated by Heads of Department and reviewed by Deputy Principal on a</p>	<p>Prepare pupils for successful future lives and careers;</p> <p>Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils;</p> <p>Develop and maintain a culture of mutual respect;</p> <p>Promote a culture of shared responsibility and personal accountability;</p>

	Wilkinson Attitude to Learning system – refer to section D6 – Behaviour management No exclusions or very low rate -0.5%.	monthly basis. Final annual pupil behavior report with full statistical evidence at the end of each academic year. Final report signed by Principal and presented to Governing Body on an annual basis. Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.	Practice tough love; Promote and implement a focussed culture of equality of opportunity for all; Promote a culture of accountability and individual goal-setting.
Pupil attendance and participation is high	Unauthorized absence below 2%. No persistently absent pupils. Pupils participate in enrichment activities and regularly participate in extra-curricular activities.	Organisation-wide daily monitoring with weekly reports. Monthly review and action by Principal. Personal Tutor/Learning Support intervention as needed. Final report at end of each academic year signed by Principal and presented to Governing Body on an annual basis.	Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Develop and maintain a culture of mutual respect; Promote a culture of shared responsibility and personal accountability; Practice tough love; Promote and implement a focussed culture of equality of opportunity for all; Promote a culture of accountability and individual goal-setting.

STEM Academy Key Performance Indicators - ORGANISATIONAL

KPI	What would success look like	How will we monitor and how often	How does this KPI contribute to STEM Academy's Vision (also reference 9 Key Principles)
Demonstrate robust quality management systems and procedures	Achievement of externally awarded Quality standards and Kite Marks: IIP, ISO 9001, STEM Assured, MATRIX, Business Ready, Healthy School and other appropriate quality standards and kite marks.	Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data. A Quality Implementation Plan will be in place with timescales for achievement of each standard and named responsible staff for taking each standard forward. Progress to plan will be reviewed monthly at Senior Management Team (SMT) meetings and quarterly at	Endorsement by external accreditation and kite marks will inform all policy and practices. This will ensure that services provided to pupils, staff and stakeholders are of high standard, reflect current industry standards and best practice. Examples include; careers education guidance; skills requirements of the STEM industry; community engagement; internal systems & processes and staff involvement.

		<p>Governor Meetings. Formal report and updates to Implementation Plan will be done on an annual basis with report to members at AGM.</p>	
<p>Grade 1 Ofsted</p>	<p>Positive first visit (i.e. likely to meet the independent school standards once it is open).</p> <p>Achievement of Grade 1 within 3 years of opening.</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>STEM Academy will regularly review its performance against the Common Inspection Framework and will review Inspection Reports for feedback and identification of Best Practice. We will join a peer review group and submit ourselves to annual mock inspections and Self Assessment reviews. We will discuss Ofsted as a standard agenda item at monthly SMT meetings and at quarterly Governor meetings to ensure we are well prepared and effectively delivering against all CIF indicators. A formal progress report will be provided to members annually at AGM.</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Develop and maintain a culture of mutual respect; Promote a culture of shared responsibility and personal accountability; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Practice tough love; Promote a culture of accountability and individual goal-setting; Promote a culture of 'Science and Technology for Life'; Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society; Welcome parents, carers and extended family to the STEM Academy family, and offer encouragement and support to facilitate their ability to become involved with the learning and development of STEM Academy's pupils;</p>

			Welcome members of the local community and encourage active participation in the Academy life and development.
Effective financial management	<p>Qualified and experienced staff in place with demonstrable financial, budgetary and business expertise; effectively operate within available grant income; secure additional sponsorship income for added-value services (e.g. Work Academy); demonstrable effective use of resources; full implementation of VfM policy; effective and compliant procurement policy and processes; ability to demonstrate robust measures for budgetary and cost control; clean financial audit by external financial auditors</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>STEM Academy will apply robust and comprehensive finance policies and procedures, these will cover areas such as: Value for Money, procurement, payment levels and authorization, fraud and irregularities and all other aspects of Finance. Monthly Finance meetings will be held to review budgets, cashflow, purchasing and address any potential concerns. Finance will be monitored and scrutinized by Governors and STEM Academy will be externally audited on an annual basis. Its books will also be available to the DfE and STEM Academy will submit all proper financial reports and returns to the DfE/YPLA as requested. Formal finance report and signed accounts will be provided to members annually at AGM.</p> <p>Financial, accounting and procurement data will be kept up to date and available for internal spot audit reviews.</p>	Effective financial management will ensure STEM Academy is able to achieve its vision and stated aims & objectives.
Active engagement and links with employers and entrepreneurs	<p>STEM Academy actively engages local and industry employers to positively contribute to the success and ethos of STEM Academy. Pupils are able to gain exposure to industry and make valuable contacts and links for future career.</p> <p>40 employers will be engaged during a 2 year period.</p> <p>20 employers will be actively involved during a 12 month period.</p> <p>100% of pupils will have had exposure to industry on leaving</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Employer engagement targets will be agreed annually at the start of each new academic year, targets will be specific and measurable with numbers of employers to engage with and specific outcomes from such engagements (e.g. work experience opportunity, mentoring, school speaker/master-class, sponsorship, donation of expertise or resources etc).</p>	<p>Prepare pupils for successful future lives and careers;</p> <p>Promote and implement a focussed culture of equality of opportunity for all;</p> <p>Promote a culture of shared responsibility and personal accountability;</p> <p>Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society;</p> <p>Welcome parents, carers and extended family to the STEM Academy family, and offer encouragement and support to facilitate their ability to become involved with the learning and</p>

	<p>the Academy, to include: work experience; mentoring; attending events with key note speakers; making visits</p>	<p>Progress to target will be reviewed monthly at SMT and report provided to Governors in advance of each quarterly meeting. Formal report will be provided to members annually in advance of AGM.</p>	<p>development of STEM Academy's pupils; Welcome members of the local community and encourage active participation in the Academy life and development.</p>
<p>Outstanding leadership and management performance</p>	<p>Grade 1 Leadership in Ofsted. Grade 1 assessment from internal mock inspections. Effective leadership assessment on annual Governor report to members. Positive staff feedback and surveys. Positive parent and pupil feedback and surveys. Positive feedback regarding Leadership & Management from community partners and stakeholders. Positive assessment/feedback from DfE/YPLA. Clear lines of accountability from Principal through to Senior Management Team, teaching/support staff and on to pupils themselves. Effective and successful school. Outstanding Ofsted report. 100% staff members of the SMT will undertake 30 hours of relevant CPD activities per year, which will be logged and inform appraisal processes</p> <p>99% of stakeholders will indicate 'Customer Satisfaction'</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Specific Leadership & Management targets will be agreed by members and Governors at the start of each academic year. Progress to target will be reviewed monthly at SMT and report provided to Governors in advance of each quarterly meeting. Formal report will be provided to members annually in advance of AGM</p>	<p>Promote a culture of shared responsibility and personal accountability; Promote a culture of accountability and individual goal-setting; Enable successful achievement of STEM Academy's Vision, Aims and Objectives.</p>
<p>Outstanding Governance</p>	<p>Engaged group of Governors who demonstrate real commitment to STEM Academy through regular attendance at meetings, involvement in community events and special school days and events, timely response to communications, timely completion of set tasks/assignments. Governors demonstrate effective strategy, direction and leadership qualities. Governors scrutinize school performance and seek answers/change where needed. Governors effectively support school management team and other staff in running effective and successful school. Governors demonstrate knowledge and awareness of current and emerging policy and</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Governor performance will be discussed quarterly at Governor meetings. Governors will provide formal reports to members annually in advance of AGM. Members will formally assess Governor performance on annual basis and will intervene at short notice in the event of any major concerns.</p>	<p>Promote a culture of shared responsibility and personal accountability; Promote a culture of accountability and individual goal-setting; Enable successful achievement of STEM Academy's Vision, Aims and Objectives.</p>

	<p>best practice. Outstanding Ofsted report. A full complement of Governors will be maintained, and an arising Governor vacancy will be filled within a maximum period of 3 months.</p> <p>Governors will undertake relevant CPD regularly and maintain their knowledge and awareness of current and emerging policy and best practice.</p>		
Outstanding teaching	<p>Grade 1 Ofsted Positive pupil feedback Observations of learning to be outstanding with remaining good; none should be satisfactory or inadequate. Staff show strong commitment to the organization and its ethos. Staff are accountable and manage their workloads, lessons and pupils effectively. Effective CPD process and procedures will be in place to support staff. Achievement of IIP. Achieve Grade 1 for Teaching & Learning at first inspection and maintain a Grade 1 at subsequent inspections thereafter Observation by Peers will be carried out quarterly. Observation by Heads of Department will be carried out on a bi-annual cycle 100% of teaching staff will undertake 30 hours of relevant activities per year, which will be logged and inform appraisal processes. 99% of pupils will indicate 'Customer Satisfaction'</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Staff performance will be evaluated through annual appraisals, regular observations of learning and SMT reports. We will also implement a system of regular learning walks and informal pupil feedback about individual sessions and overall learning experience. A robust performance management structure will be in place with all staff aware of key areas for improvement and what is needed to improve and maintain improved performance. Annual appraisals will be linked to CPD planning and will inform future organizational development and progress.</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Develop and maintain a culture of mutual respect; Promote a culture of shared responsibility and personal accountability; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Promote a culture of accountability and individual goal-setting; Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society.</p>
Outstanding pupil	<p>Achieve Grade 1 for Achievement of Pupils at first</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings.</p>	<p>Prepare pupils for successful future lives and careers;</p>

attainment	<p>inspection and maintain a Grade 1 at subsequent inspections thereafter Top 5% of 6th Forms/similar schools nationally. Pupils participate in ‘booster’ provision e.g. AQA Baccalaureate.</p>	<p>Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Progress to target monitored on monthly basis through tutor reports – moderated by Heads of Department. Final monitoring on receipt of exam results (annual basis). Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.</p>	<p>Provide excellence in all aspects of teaching and learning; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all.</p>
Outstanding behaviour and attendance	<p>Judged grade 1 by Ofsted Attendance and unauthorized absence are rated in the top 5%, nationally. Unauthorized absence below 2%.</p> <p>No persistently absent pupils. Low number of exclusions -0.5% (aim for no exclusions).</p> <p>A fair and robust Behaviour Policy in place, whose principles are set out by The Governing Body and developed by the Head Teacher</p>	<p>Quarterly monitoring of KPI’s at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Pupil attendance will be carefully monitored by teachers and support staff to ensure that early intervention takes place. Actions will be agreed to ensure relevant support is put in place to prevent pupils from falling behind or becoming disengaged. Attendance will be discussed in Monthly Heads of Department meetings as a standing agenda item. Special meetings will be called to review attendance which falls below an agreed percentage.</p> <p>Achieve Grade 1 for Attendance and Behaviour at first inspection and maintain a Grade 1 at subsequent inspections thereafter.</p>	<p>Prepare pupils for successful future lives and careers; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Develop and maintain a culture of mutual respect; Promote a culture of shared responsibility and personal accountability; Practice tough love; Promote a culture of accountability and individual goal-setting.</p>
High levels of satisfaction from parents and pupils	<p>Positive feedback from pupils and parents demonstrating min 90% overall satisfaction with school experience and provision. Positive indicators on other key criteria such as: pupil safety; enjoyment of learning; school management; information, advice and guidance; preparation for future/progression etc.</p>	<p>Quarterly monitoring of KPI’s at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Twice annual formal surveys Ongoing informal feedback All forms of feedback encouraged 3 C’s i.e. comments, compliments posters prominently displayed. Suggestion box with prizes for most innovative ideas etc</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all;</p>

		<p>Quarterly group meeting to monitor satisfaction and suggestions (chaired by Deputy Principal). Compiled annual report presented to Governing Body on annual basis</p>	<p>Develop and maintain a culture of mutual respect; Welcome parents, carers and extended family to the STEM Academy family, and offer encouragement and support to facilitate their ability to become involved with the learning and development of STEM Academy's pupils; Welcome members of the local community and encourage active participation in the Academy life and development.</p>
<p>Spiritual, moral, social and cultural development of pupils</p>	<p>Pupils demonstrate emotional resilience and intelligence. Pupils are able to control their anger and frustrations and demonstrate restraint and control in stressful situations. Pupils demonstrate empathy and tolerance. Pupils do not tolerate bullying or abusive behaviour towards other pupils. Pupils demonstrate knowledge and interest in social history and other cultures and backgrounds. All pupils complete Duke of Edinburgh Award.</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Pupil spiritual, moral, social and cultural development is assessed on monthly basis through reports from Personal Tutors – moderated by Heads of Department. Final annual report for each pupil to be provided by Personal Tutor on completion of Academic Year. Quarterly review by Principal. Final report signed by Principal and presented to Governing Body on an annual basis.</p>	<p>Prepare pupils for successful future lives and careers; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Promote and implement a focussed culture of equality of opportunity for all; Develop and maintain a culture of mutual respect; Promote a culture of shared responsibility and personal accountability; Promote a culture of accountability and individual goal-setting; Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society.</p>
<p>Provision effectively meets the needs of all pupils</p>	<p>Pupils previously on FSM achieve as well as their peers. Pupils with additional needs are able to access all aspects of the curriculum with adjustments made for individual needs/H&S as needed. Pupils progress into desired positive outcomes.</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Monthly monitoring/update report undertaken by Learning Support Coordinator (SENCO) with actions for improvement recommended and implemented. Report moderated and signed off by Principal/Deputy Principal and presented to Governing Body on quarterly basis. Annual summative report presented to Governing Body at the end of each Academic year.</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a</p>

			focussed culture of equality of opportunity for all.
Positive equality indicators	Increase female and under-represented minority group participation in STEM. Pupils from disadvantaged backgrounds (FSM/wards of multiple deprivation) achieve as well as their peers. Narrow the achievement gap between socio-economic groups.	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Achieve this by raising awareness, mentoring programme, outreach activities etc</p> <p>Monitored quarterly using national/regional/local statistics as benchmark. Annual summative report to Chair of Governors. Action to be undertaken agreed.</p>	Promote and implement a focussed culture of equality of opportunity for all
Effective community involvement	Resources and premises are used effectively to benefit the wider community. Effective engagement and involvement of local community (e.g. churches, community/resident groups etc). STEM Academy is well known and thought of within the community. Able to demonstrate strong partnerships with other educational establishments and universities. Pupils are active citizens and make a difference in their community. Parents and families are actively engaged in the school and feel welcomed and involved.	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Feedback from community through events and open days. Surveys and informal feedback. Analysis of website traffic and public engagement with STEM Academy (e.g. public requests for information, visit requests from other schools/community organizations). Annual summative report to Governing Body.</p>	Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Welcome parents, carers and extended family to the STEM Academy family, and offer encouragement and support to facilitate their ability to become involved with the learning and development of STEM Academy's pupils; Welcome members of the local community and encourage active participation in the Academy life and development.
Pupils healthy and ethical lifestyles	Grade 1 Ofsted Healthy school initiative/healthy meals provided. Health advice and support provided to all pupils. Pupils make healthy life choices. Pupil participation in sports/health & fitness provision. Qualify for Fairtrade award. Pupils participate in ethical debates and discussions. Pupils support each other in achieving healthy lifestyles. Life skills, nutrition advice and awareness are effectively provided at STEM Academy.	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.</p> <p>Quarterly analysis of feedback re: food and leisure options/participation.</p> <p>External reports and analysis of STEM Academy provision.</p> <p>Annual summative report provided to Governing Body.</p>	Prepare pupils for successful future lives and careers; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Improve attainment and aspiration for our pupils and their families; Promote and implement a focussed culture of equality of opportunity for all; Motivate and support pupils to exceed expectations.

	Pupils are active citizens and make a difference in their community.		
Behaviour and safety of pupils at the school	Ofsted Grade 1. Behaviour is effectively managed and monitored. Pupils are well behaved and motivated to learn and achieve. Bullying is not tolerated and focus is on prevention. Pupils feel safe and supported. Pupils are involved and consulted on behaviour and safety management.	Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data. Formal monthly report from Deputy Principal. Quarterly summative report from Principal to Governing Body. Annual summative report with Quality Improvement Targets signed off by Governing Body.	Prepare pupils for successful future lives and careers; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Promote and implement a focussed culture of equality of opportunity for all; Develop and maintain a culture of mutual respect; Promote a culture of shared responsibility and personal accountability; Practice tough love; Promote a culture of accountability and individual goal-setting; Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society.
Effectiveness of curriculum design and delivery	Curriculum meets the needs of all STEM Academy pupils. Academy delivers Qualifications that employers and universities respect and value. Pupils understand the curriculum, course options and progression options resulting from their course choices.	Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data. Monitoring of pupil satisfaction surveys. Monthly report from Personal Tutors as to progress of pupils and appropriateness of selected course choices. Quarterly summative report from Principal to Governing Body. Annual summative report with Quality Improvement Targets signed off by Governing Body.	Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Promote and implement a focussed culture of equality of opportunity for all.
Pupils progress into positive outcomes: • University • Apprenticeships • Employment • Enterprise • Further study	Min 95% positive progression outcome. 95% of all pupils wishing to progress to university are able to do so. Pupils access excellent Careers Advice and Guidance to support progression choices and opportunities. Pupils fully participate in available progression support provision including: Work Academy, Prep Pro, UCAS Prep and Career Ladder.	Quarterly monitoring of KPI progress to target (based on monthly Tutor reports – moderated by Heads of Department) at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data. Effective tracking of pupil progression and destinations. Annual report at the end of each calendar year with details of pupil progression and destinations. Final	Prepare pupils for successful future lives and careers; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society.

		report to be formally agreed and signed off by Principal and then formally agreed and signed off by Governing Body who should satisfy themselves as to the accuracy and robustness of supporting data and evidence.	
Increase the numbers progressing into higher education	Contribute to increasing the numbers currently progressing into higher education in London Borough of Hackney (18% in 07/08).	Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data. Benchmarking against local and regional data. Effective tracking of pupil progression and destinations. Annual report at the end of each calendar year with details of pupil progression and destinations. Final report to be formally agreed and signed off by Principal and then formally agreed and signed off by Governing Body who should satisfy themselves as to the accuracy and robustness of supporting data and evidence.	Prepare pupils for successful future lives and careers; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all.
Contribute to the borough's commitment to improving local 16-19 targets and impact positively on improvement and best practice within the Local Authority	Driving up standards in post-16 provision. Contribute to improving attainment and narrowing the achievement gap between socio-economic groups. Contribute to reducing the number of young people who are NEET. Contribute to increasing the numbers of pupils progressing into higher education. Contribute to driving up standards in post-16 provision both at STEM Academy and within the wider borough.	Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data. Benchmarking against local and regional data. Effective tracking of pupil progression and destinations. Annual report at the end of each calendar year with details of pupil progression and destinations. Final report to be formally agreed and signed off by Principal and then formally agreed and signed off by Governing Body who should satisfy themselves as to the accuracy and robustness of supporting data and evidence.	Prepare pupils for successful future lives and careers; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Welcome members of the local community and encourage active participation in the Academy life and development.
Effective pupil assessment and tracking strategy	Efficient use of assessment and tracking tools.	Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data.	Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils;

			<p>Promote and implement a focussed culture of equality of opportunity for all; Promote a culture of accountability and individual goal-setting.</p>
<p>Demonstrate outstanding overall school effectiveness</p>	<p>Grade 1 Ofsted Pupil voice Parent surveys Staff surveys Pupil attendance Pupil behaviour School performance tables Pupils are happy at school Outstanding reputation in the community</p>	<p>Quarterly monitoring of KPI's at Senior Leadership Meetings. Standard Agenda items at Annual AGM. Standard agenda item at Team Meetings. Effective collation and analysis of relevant data. Quarterly summative report from Principal to Governing Body. Annual summative report with Quality Improvement Targets signed off by Governing Body who should satisfy themselves as to the accuracy and robustness of supporting data and evidence.</p>	<p>Prepare pupils for successful future lives and careers; Provide excellence in all aspects of teaching and learning; Provide a secure and supportive environment where teaching and learning is valued by both teachers and pupils; Encourage and facilitate personalised learning and development; Improve attainment and aspiration for our pupils and their families; Motivate and support pupils to exceed expectations; Offer support to family and friends of our pupils and collaborate with them to ensure best outcomes for our pupils; Promote and implement a focussed culture of equality of opportunity for all; Develop and maintain a culture of mutual respect; Promote a culture of shared responsibility and personal accountability; Promote a culture of achievement and improvement for pupils of all abilities from gifted and talented pupils to those with additional support needs; Practice tough love; Promote a culture of accountability and individual goal-setting; Promote a culture of 'Science and Technology for Life'; Provide the opportunities, knowledge and experience for pupils to become active citizens and positive members of society; Welcome parents, carers and extended family to the STEM Academy family, and offer encouragement and support to facilitate their ability to become involved with the learning and development of STEM Academy's</p>

pupils;
Welcome members of the local community **and** encourage active participation in the Academy life and development.

Rationale for KPI targets

We have chosen these targets as we feel that they fulfil both the ethos of STEM Academy as an organisation and the wider stated aims and objective of the Free Schools initiative. Our overriding motivation for submitting a Free School application is to provide an opportunity for pupils who would not normally have the opportunity (due to personal/social circumstances or lack of provision) to study science, technology and engineering at the highest levels with direct input from employers and opportunities to experience and be at the heart of cutting-edge developments as they happen and potentially for STEM Academy pupils to even be a part of future innovation and invention.

Successful delivery of above-mentioned KPI's will ensure the school performs above national average and produces pupils who are able to excel in the workplace and ready for the challenges that employment presents.

Pupils will leave the school with qualifications **and** skills that universities and employers value and respect and that are appropriate for current and emerging UK and international labour market needs.

Successful delivery of above KPI's will also ensure that STEM Academy pupils are well-balanced and have high levels of satisfaction for their learning and experience at the Academy, as well as high levels of attainment and renewed sense of confidence and ambition.

Achievement of the above KPI's will ensure STEM Academy is an outstanding school impacting positively on every aspect of the Academy's operations, including

- Recruitment of high quality staff
- Effective marketing of Academy and attracting pupils
- Good PR and relations within the community
- High levels of satisfaction across all groups: staff, pupils, parents/families, community, Governing Body etc.

Monitoring of STEM Academy Key Performance Indicators

A variety of measures will be used to monitor and identify achievement of our targets, these will include: meticulous use of data and management information; internal assessment and analysis; analysis of comparative data against benchmarks and national performance statistics; analysis of feedback surveys; stakeholder forums; external reviews and evaluations; governor report; external awards and certification etc.

Analysis of data and information will lead to improved organisational development plans and will continuously inform our future progress and planning.

Pupil achievement and assessment data will be used to inform future support for that pupil but will also help to improve provision and support to the wider pupil cohort.

Information and data from staff appraisals will inform the Staff Development and CPD planning process and raise awareness of any wider areas of concerns amongst teaching and/or support staff.

STEM Academy will use an annual performance report and review cycle to ensure all aspects of our Quality Implementation Plan are thoroughly reviewed and assessed on annual basis (see sample Annual Monitoring Cycle below).

Sample Annual Monitoring Cycle	
September	Record baseline date and prior attainment for all pupils Preparation of accounts – previous year
October	Complete Self-Assessment Report for previous year and agree Improvement Plan for year ahead Mid-October undertake pupil 6-week reviews Review budget
November	Start of regular observation of learning cycle Accounts audited
December	Mid-December undertake pupil 6-week reviews End of first term assessment
January	Review of available local and national data (e.g. league tables), benchmarking exercise and identification of best practice Review budget
February	Mid-February undertake pupil 6-week reviews
March	Comprehensive review of financial policies and procedures
April	Mid-April undertake pupil 6-week reviews Review budget
May	Annual review cycle: Governance and Leadership
June	Mid-June undertake pupil 6-week reviews Review budget
July	Review of organisational quality policies and procedures
August	Review year – operational effectiveness, pupil organisation, preliminary statistics etc Plan for year ahead – enrolment and new intake Agree budget for year ahead

We will link every aspect of our assessment and tracking system to organisation-wide performance management systems including:

- Annual Self-assessment and Quality Improvement Plan
- Appraisals
- Pay reviews
- Progression and advancement policy/implementation
- CPD strategies

Accountability

There will be clear levels of accountability for the outcomes and measures of success described above.

The Principal will have overall accountability for the success and effective achievement of stated outcomes. Specific responsibilities for quality, pupil performance and satisfaction will be delegated to the Deputy Principal with specific performance outcomes being agreed with each of School, who will in turn agree key performance indicators with each teacher in their Line Management group. Teachers will agree key outcomes and strategies with pupils and will be responsible for supporting pupils in achieving these outcomes and monitoring progress along the way.

There will also be robust strategies in place to deal with under-performance and staff whose performance and/or behaviour fall below acceptable standards. STEM Academy's priority will be to its pupils and under-performance or 'coasting' by staff will not be tolerated. Staff will firstly be offered support, guidance and where applicable training/mentoring or coaching to address performance needs however, sanctions and disciplinary procedures will also be used where necessary although STEM Academy hopes that this will be the exception and never the norm.

Pupil assessment and tracking systems

Overview

Effective pupil assessment and tracking lies at the heart of STEM Academy's strategy of improving pupil engagement and attainment; it will provide a comprehensible framework within which educational targets and objectives may be clearly set out and pupils' progress tracked and monitored.

STEM Academy's definition of effective pupil assessment and tracking can be summarised as follows:

- Assessment and tracking process is fair, consistent and unbiased;
- Assessment and tracking process is used to plan improvement for individual pupils, pupil groups or whole school;
- Assessment and tracking process involves and is understood by parents and pupils and has the support of all involved: staff, parents and pupils;
- Assessment and tracking process empowers pupils to take control of their learning and seek to improve their own performance.

The STEM Academy pupil assessment and tracking process will be assessed against the above principles on a regular basis to ensure the process remains effective and consistent with stated aims and objectives.

STEM Academy's assessment procedures will be free from bias, stereotyping and generalisation in respect of gender, class, race and disability.

The table below demonstrates the key elements of STEM Academy's assessment and tracking strategy.

STEM Academy Assessment and Tracking Strategy – Key Principles	
1	Provide systematic and systemic approach to assessment and tracking of pupil progress that secures improved or consistent attainment.
2	Ensure the process of data gathering and analysis is robust and accurate.
3	Ensure the process of data gathering and analysis diligently informs target-setting, reviews of teaching and the use of intervention.
4	Ensure tracking processes are integrated with everyday teaching and learning and assessments are used to provide feedback to pupils on their performance and progress towards their curricular targets.
5	Ensure robustness and accuracy of day-to-day and periodic teacher assessment which contributes to regular tracking of pupils' progress and attainment.
6	Ensure that detailed analysis of assessment results, tracking data and course criteria information are used to set curricular targets and feedback to pupils, parents and Personal Tutors on pupils' performance and progress towards their grade targets.
7	Ensure pupils (and where appropriate parents) are involved in assessment strategy and process and are given the opportunity to feedback and analyse results.
8	Ensure assessment and tracking data is accessible to teachers, parents and pupils (e.g. online access), comprehensible and supported by all.
9	Ensure STEM Academy assessment and tracking strategy is supported by all involved (teachers, parents, pupils).
10	Ensure STEM Academy invests sufficient resources in assessment and tracking to sustain the use of robust and effective tracking strategies to improve pupils' standards and results.
11	Undertake Equal Opportunity Impact analysis to ensure assessment and tracking tools/processes takes into account the varying needs and abilities of STEM Academy's pupils, are free of bias and do not disadvantage or discriminate against any group of pupils or individuals.

Strategy

STEM Academy's strategy for pupil assessment and tracking will require consistency of process and procedure across the whole Academy. There will be consistency of approach in all aspects of assessment, results and moderation processes and procedures; this will in turn lead to clarity of outcomes and results and will facilitate the process of accurate tracking.

STEM Academy teachers will be fastidious in their use of data as a tool to drive up standards and inform future planning and direction. Regular testing and assessment will guide teachers in stretching pupils with the ability to

perform better and in taking action to support those at risk of underachieving.

The aims of STEM Academy's assessment and tracking process and systems include:

- Monitor progress and support learning;
- Encourage and motivate pupils by highlighting strengths and areas of improvement;
- Recognise the achievements of pupils;
- Inform effective curriculum planning, schemes of work and lesson planning;
- Guide future planning, teaching and curriculum development;
- Improve achievement by enabling personalised support;
- Draw attention to areas of improvements;
- Stretch pupils and encourage to improve individual performance;
- Actively involve pupils in their own learning;
- Set targets for future learning;
- Focus teachers on those areas of learning where groups and individual learners need specific help;
- Provide information to ensure continuity between subjects/teachers;
- Highlight potential Additional Learning Needs or Special Learning Needs;
- Reveal potential gifted and talented pupils
- Inform parents and the wider community of pupil achievement.

Effective tracking will ensure that pupil progress is accurate, accessible and easily understood. It will enable teachers and tutors to efficiently and precisely target their efforts where most needed and where impact will be the greatest.

Key stages of assessment at STEM Academy

- **Pre-entry (application and admission)**
All pupils will be required to submit an application form and attend a pre-entry interview during which time the interviewer will enter into discussions to glean information on whether the pupil has any disabilities, barriers or special needs.

The application form will provide details of prior attainment and initial information as to the pupil's ability level and areas of interest/talent. As part of the admission process pupils will also complete a self-assessment questionnaire covering a range of key assessment areas including: learning styles; disability declaration; additional needs/requirements. We are currently consulting on the use of additional learner profiling software.

- **On-entry (enrolment)**
Pupils will undertake comprehensive assessment on entry. This assessment will provide important information regarding the pupil's current ability on entry and will assist in early identification of potential unidentified additional learning needs/difficulties &/or disabilities.

- **Ongoing**
Ongoing assessments will take the form of both formal and informal assessment methods, these will include: diagnostic assessment tests, teacher assessments, mock exams. Regular ongoing assessments will also be conducted via weekly tutorial sessions with Personal Tutors and supported by formal 6-week reviews.
- **On exit**
Exit assessments will take the form of final end of year assessments; these will be made up of: external/formal assessments such as exams; summary assessment of pupil combined results/progress; Personal Tutor end of year report and personal recommendation/reference.

Types of Assessment

- **Formative Assessment**
This is the ongoing assessment that will be carried out by teachers both formally and informally within the classroom and by Personal Tutors in weekly tutorial sessions. The results of the formative assessments will have a direct impact on the teaching materials and strategies employed by subject teachers and tutors following assessment. Results and observations will be kept in teacher's own record books and shared with the Personal Tutors as part of the monthly report and 6-week review process.
- **Summative Assessment**
These will occur at defined periods of the academic year depending on subject and course level of pupil. Summative tests will help teachers and Personal Tutors set appropriate targets for their pupils, anticipate likely grade outcomes and work with pupils to exceed expectations.
- **Diagnostic Assessment**
All assessment types will provide some diagnostic evidence, however certain assessment tools will be used to provide specific detailed diagnostic data for the purposes of pre-entry and on entry assessments as well as ongoing assessments as and when needed.

Assessment and tracking tools

A wide range of assessment methods and tools will be used to enable achievement of the above strategy, these include:

- Previous grades/qualifications
- Formal assessment testing
- Structured interview and review meetings
- Individual and group feedback in lessons
- Questioning
- Observation
- Tutor sessions
- Peer and self assessment

- Feedback through marking
- Teacher assessments
- End of unit tests
- End of year exams
- Practice exams
- Teacher's plans
- Teacher's notes e.g. Significant outcomes

In addition to formal set assessments, ongoing assessment will be incorporated systematically into tutorial and teaching strategies in order to diagnose any concerns and chart progress effectively.

STEM Academy is also investigating the use of appropriate online or electronic assessment and tracking tools that are able to meet our assessment and tracking requirements and principles.

Ideally, we will be seeking to acquire or develop a system which is internet based and accessible anywhere with an internet connection: home, school or out and about; the system would need to be flexible and have the ability to enable tracking and achievement of any set criteria as needed (e.g. academic; extra-curricular; spiritual, moral, social and cultural targets); the system would necessarily support benchmarking exercises and have the ability to import external data such as local and national performance data.

The system would have different levels of access suitable for each audience and would be accessible at these differing levels to teachers, pupils and school leaders.



D5: DESCRIBE YOUR ADMISSIONS POLICY, CONFIRMING COMMITMENT TO FAIR AND TRANSPARENT ADMISSIONS PRACTICES

Overview

STEM Academy's aspiration is to engage pupils that would benefit from the education that STEM Academy has to offer; have an interest and aptitude for STEM subjects; a commitment to learning and personal development; and a real determination to work hard and succeed.

STEM Academy's admissions policy will be fair and transparent; it will be set out in writing, in advance of each application phase and will include a detailed strategy for prioritising places if the Academy is oversubscribed.

Our admissions strategy aims to offer opportunities for pupils of all backgrounds and all levels of ability whilst prioritising, in the event of over-subscription, pupils from the local community where we will be based and pupils that have had to overcome deprivation and/or disadvantage.

STEM Academy Admissions Policy

Policy outline

STEM Academy may on occasion seek to amend its policy in response to identified local needs and/or changes in Government policy (e.g. the raising of attainment age). In the event of a proposed change to its admissions policy, STEM Academy will undertake the following steps:

- Public consultation period to allow for feedback and objections to proposed changes;
- Consult DfE/YPLA as to the appropriateness of anticipated change;
- Consult Local Authority and other local stakeholders regarding proposed changes.

Once any proposed changes are agreed and sanctioned by DfE/YPLA STEM Academy notify all stakeholders in writing with appropriate advance notification and relevant copies of amended policy. Relevant stakeholders would include: local authorities, partnering schools, applicants on the waiting list, potential applicants/parents, community partners etc.

Any amendments to the admissions policy will be notified prominently on the STEM Academy website and all print materials (e.g. prospectus/leaflets) amended accordingly. In all cases appropriate advance notice will be given (usually a full academic year in advance, where possible).

Entry criteria

- Age
16 - 19

Applicants under 16 or over 19 cannot be considered.

- **Catchment Area**

Greater London (priority will be given to local residents in the event of over-subscription. For full details see over-subscription policy).

Number of places

The school will have an intake of 216 pupils per year.

Statement of Special Education Needs

Pupils with Statements of Special Education Needs that select STEM Academy as their preferred choice will be admitted, even if admission of such pupils takes us over our Planned Admissions Numbers.

Admissions criteria

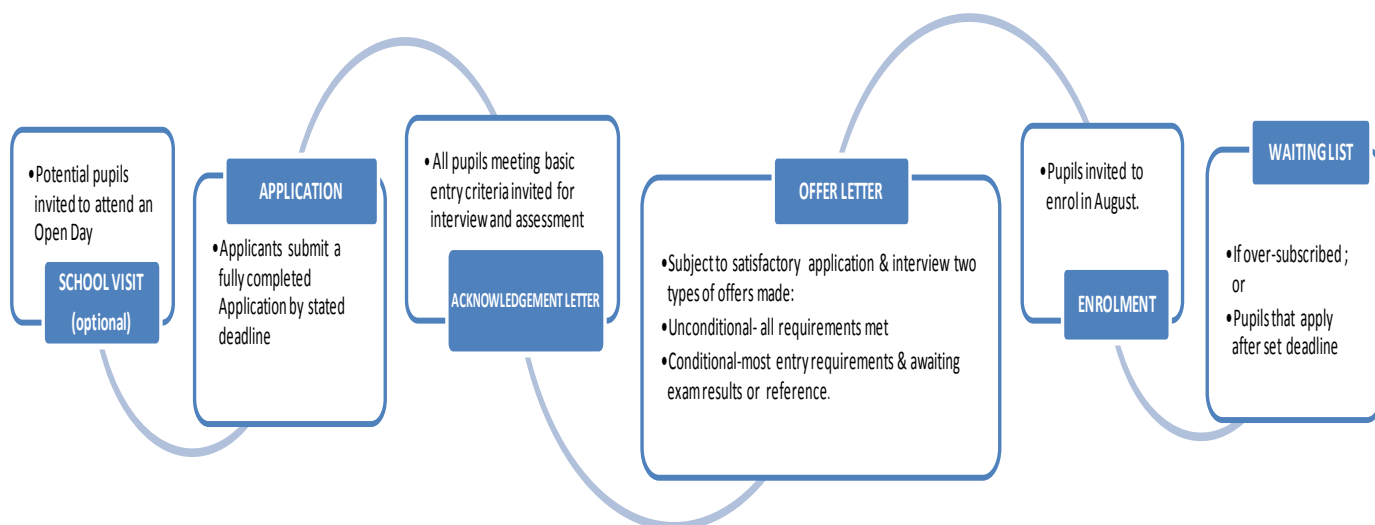
STEM Academy is a specialist science, technology, engineering and maths school. We welcome all pupils with a demonstrable interest and commitment to any/all of the above areas and are committed to supporting pupils of varying abilities to achieve to their full potential. We are not an academically selective institution.

Admissions criteria to STEM Academy will be based on individual course criteria, a general guide is provided below (further specific criteria may apply to individual courses, for example specific grade requirements in English &/or Maths).

QUALIFICATIONS	ENTRY CRITERIA	OTHER SUBJECT SPECIFIC REQUIREMENTS
A Level study	4-5 GCSEs Grades A*-C	Example: A Level Maths Minimum English requirement: C Minimum Maths requirement: B
BTEC (L3 Extended Diploma)	4 GCSEs Grades A*-C OR Distinction from a Level 2 course OR Merit from a vocational Level 2 course (with excellent reference of academic potential)	Example: BTEC L3 Extended Diploma in Music Technology Minimum English requirement: C Minimum Maths requirement: N/A
Foundation for Progression (GCSE)	2 or more GCSEs at Grade D or higher (or equivalent) OR Appropriate assessment demonstrating ability to study at Level 2	Example: GCSE Maths Pupil would normally have studied GCSE Maths previously and would like to improve their grade and subject understanding.

Admissions Process

The chart below demonstrates STEM Academy's admissions process.



Oversubscription

If there are more eligible applications received than places available at STEM Academy, then places will be allocated in accordance with the following criteria:

1. Pupils having completed the Foundation for Progression year and submitted an eligible application;
2. Pupils who present from the local community (judged firstly by residence in Hackney Local Authority and second by proximity to Academy);
3. Pupils who were most recently entitled to free school meals.

Where more than one pupil meets the exact same over-subscription criteria the following process will be used for selection of pupil:

- Lottery draw

Once all places have been allocated, prospective pupils will be advised to:

- Join the Waiting List

STEM Academy may also refer unsuccessful applicants to other schools/institutions within the community and/or other opportunities such as Apprenticeships.

General

The Admissions Policy is subject to annual review.

STEM Academy governors' will establish arrangements for admissions appeals. These will be published in writing in advance.

Waiting List


If any vacancies arise within the same year, first priority will be given to those

on the waiting list managed by STEM Academy in order of application.

Where more than one applicant submitted an application at the same time the following process will be used for selection:

1. Pupils who present from the local community
2. Pupils who were most recently entitled to free school meals
3. Pupils who may not have the required GCSE passes, but who make a commitment to achieving them forthwith

Where more than one pupil meets the exact same selection criteria the following process will be used for selection of pupil from Waiting List:

- Pupil presenting greatest multiple disadvantage (area, socio-economic status etc)
 - Lottery draw
- 

D6: DESCRIBE HOW YOUR APPROACH TO BEHAVIOUR MANAGEMENT, PUPIL WELLBEING AND ATTENDANCE WILL IMPROVE PUPIL OUTCOMES

Behaviour and Attendance

Statement of purpose

STEM Academy will have in place a comprehensive Behaviour Policy which will aim for clarity and avoid ambiguous statements.

Good behaviour is crucial to the effective running of STEM Academy and successful delivery of STEM Academy's Vision.

Bad behaviour can present a danger to other staff/pupils and causes distractions and disturbances to the learning environment, affecting other pupils and staff. It is imperative that the Academy is able to maintain good behaviour and, that pupils are effectively supported to understand that there will be sanctions for inappropriate behaviour, whilst positive behaviour will be rewarded through additional responsibilities and flexibilities including privileges for use of MAC Room, A/V⁴⁹ studio and other leisure benefits.

At 16-19 our pupils will be at a key stage of independent decision-making and STEM Academy will be sensitive to the need of supporting pupils in finding their individuality, whilst still demonstrating respect for Academy rules and the learning environment.

Good attendance will be important at STEM Academy as we aim to achieve high levels of pupil outcomes, which will be severely threatened if pupils are not regularly attending and/or effectively engaging with the Academy.

Code of Conduct

In addition STEM Academy's 'Professional Educational Behaviour' policy, each pupil at STEM Academy will be expected to abide by our **7 Essential rules (7E)**:

STEM ACADEMY CODE OF CONDUCT – 7E

1. Arrive on time, prepared to learn
2. Attend all planned lessons and engagements with proper notification in the event of sickness or accident
3. Follow directions and instructions
4. Listen to the person who is supposed to be talking
5. Respect yourself, equipment, the environment and each other
6. Keep yourself safe and have regard for other's safety
7. Bullying, harassment and discrimination is NEVER tolerated and NEVER justified

Attendance

Pupils will be expected to attend the Academy every school day.

⁴⁹ Audio Visual Studio

A pupil should only be absent if the reason is 'unavoidable'. Every half day absence from the Academy will be recorded as either authorised or unauthorised absence; hence information about the cause of each absence will always be required.

Authorised absences will either be due to: (1) pre-arranged and endorsed 'leave of absence' (e.g. university/college open days); or (2) illness, family bereavement or other unavoidable cause.

Unauthorised absences are those which the Academy does not consider reasonable or unavoidable and for which no 'leave' has been given.

Lateness

Arriving more than 30 minutes late for the day's first session without good reason will count as an unauthorised absence.

Pupils must be punctual in attendance at lessons, Personal Tutor meetings, Exam Practice Periods (EPPs), Supervised Independent Study (SIS) and mock exams, and must meet all homework, assignment and coursework deadlines.

Failure to attend EPPs or mock exams at the appropriate time will result in pupils having to come to attend the Academy on **Saturday morning** to complete the missing test or exam, this may also apply to other late or missed sessions.

Illness or other legitimate absence

If pupils are ill and unable to attend the Academy, they (or a representative) should contact the Academy before 9.00am on the first morning of absence, giving an indication of the possible duration of the absence.

Holidays

Please note that we ask pupils **not** to make holiday arrangements during term time. Holiday leave in term time will not be granted except in truly exceptional circumstances.

Dress code

STEM Academy is intent on affording its pupils a level of flexibility and independence appropriate to their transition from childhood into young adulthood. With this in mind, STEM Academy will not be implementing a compulsory uniform policy.

STEM Academy's dress code will be based on **professional** dress codes which we believe is in line with our stated ethos of effectively preparing young people for work; helping our pupils think and act independently; and treating our pupils with respect.

Professional Dress Code

v

Smart/casual trousers or skirt of a length/design acceptable in a professional

	business/office environment.
✓	Smart business shoes.
✓	Hair styles must be neat and should not prevent pupils from participating effectively and safely in school activities.
✓	Jewellery and make up (including nails) may be worn but should be minimal and discreet.
STEM ACADEMY DRESS CODE	
✗	No tracksuits, sportswear or leisure clothes Monday – Friday (flexibilities may be agreed for weekend events/attendance).
✗	No extreme fashion.
✗	No offensive fashion (e.g. racist insignia or symbols).
✗	The dying, high or low lighting of hair in natural colours is acceptable – other colours are not permitted.
✗	Fine or opaque (navy/black/flesh-coloured) tights may be worn – no fishnets or patterns.
✗	No body piercings (other than one single earring per ear lobe) should be worn whilst at the Academy.

The above dress code applies (as applicable) to both male and female pupils of STEM Academy.

STEM Academy retains the right to act as the final authority in the interpretation of the dress code. If unsure, parents and pupils are advised to contact the Student Office for clarification.

Rights and Responsibilities: Pupils, Parents, Academy

STEM ACADEMY PUPILS	
Rights	Responsibilities
<ul style="list-style-type: none"> • To be taught in an environment that is safe, conducive to learning and free from disruption. • To exercise rights and responsibilities fitting of a young person making their transition to adulthood. • To expect appropriate action from Academy staff to tackle any incidents of bullying, violence, discrimination or harassment. • To be treated with respect free from discrimination or stereotyping. • To contribute to discussions on the Academy's behaviour policy. • To have a voice in the running and organisation of Academy life. • To participate fully without prejudice or discrimination to all STEM Academy activities and services on offer. • To be taught by motivated, highly effective, qualified and capable teaching staff. • To be listened to when complaining about the way the Academy has handled an issue and to receive a fair and prompt response. • To receive support and advice when faced with a learning, physical or personal 	<ul style="list-style-type: none"> • To follow reasonable instructions by Academy staff, obey rules and accept sanctions in an appropriate way. • To act as positive ambassadors for the Academy when off the premises. • Not to bring inappropriate or unlawful items to the Academy. • To show respect to Academy staff, fellow pupils, the property and the Academy environment. • Never to denigrate, harm or bully other pupils or staff. • To cooperate with and abide by any arrangements put in place to support their behaviour such as Pastoral Support Programmes.

<p>difficulty.</p> <ul style="list-style-type: none"> • To receive high quality, relevant and accurate Information, Advice and Guidance. • To be kept up to date on any significant changes likely to affect STEM Academy pupil/s. • To appeal to the principal, governors, and beyond that to the Secretary of State, if they believe that the Academy has exercised its disciplinary authority unreasonably. 	
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STEM ACADEMY PARENTS/CARERS	
Rights	Responsibilities
<ul style="list-style-type: none"> • To contribute to discussions on the development and application of the Academy's behaviour policy. • To expect their son/daughter to be safe, secure and respected in the Academy. • To be treated with respect free from discrimination or stereotyping. • To appeal to the principal, governors, and beyond that to the Secretary of State, if they believe that the Academy has exercised its disciplinary authority unreasonably. • To be listened to when complaining about the way the Academy has handled an issue and to receive a fair and prompt response. • To be kept informed of progress 	<ul style="list-style-type: none"> • To respect the Academy's behaviour policy and the disciplinary authority of staff. • To help ensure that their son/daughter follows reasonable instructions by staff and adheres to the Academy rules. • To ensure Academy staff are aware of any SEN-related or other personal factors which may result in their child displaying behaviours outside the norm. • To be prepared to work with the Academy to support their pupil's positive behaviour, regular attendance and punctuality.

STEM ACADEMY	
Rights	Responsibilities
<ul style="list-style-type: none"> • To abide by STEM Academy policies and procedures – including rules and disciplinary measures. • To expect pupils to attend regularly, be punctual and appropriately attired. • To expect pupils to respect the rights of other pupils, staff and visitors to the Academy. • To operate a zero tolerance policy to abusive or violent behaviour by pupils or parents. • To operate a zero tolerance policy to racial abuse or discrimination. • To operate a zero tolerance policy to all other forms of violence, harassment or abuse. • To expect pupil and parents to respect the environment and not wilfully damage or vandalise any STEM Academy property or resources. • To expect pupils and parents to ask permission before borrowing or external use of any STEM Academy equipment or resources (including Intellectual Property). 	<ul style="list-style-type: none"> • To ensure the whole Academy community is consulted about the principles of the Academy's behaviour policy. • To establish and communicate clear parameters and measures for ensuring good order, respect and discipline. • To ensure that staff are clear about the extent of their disciplinary authority and receive necessary professional development on behaviour strategies. • To support, praise and as appropriate reward pupils' positive behaviour. • To apply sanctions fairly, proportionately and reasonably – taking account of SEN, disability and the needs of vulnerable young people and offering support as appropriate. • To ensure pupil safety and well being including preventing bullying and dealing effectively with reports and complaints about bullying, harassment, abuse and/or discrimination. • To ensure that staff model good behaviour

- and never denigrate pupils or colleagues.
- To promote positive behaviour through active development of pupils' social, emotional and behavioural skills.

Sanctions and misbehaviour

STEM Academy's focus will be to support positive behaviour by working with pupils to gain a deeper awareness and understanding of positive behaviour leading to positive outcomes.

We therefore expect that relatively few of our pupils will need to face formal disciplinary or sanctions for their behaviour. This approach has worked effectively for S&DA⁵⁰ in working with young people of the same age and STEM Academy will seek to build on this experience and best practice. A number of tools and approaches will be used to reinforce positive behaviour choices, these include:

- Learning Agreement – setting out key rights and responsibilities of Pupil and STEM Academy (as demonstrated above) with free space for pupil to make their own pledges as to their learning and behaviour;
- Rewarding achievement and positive behaviour through awards, rewards and public commendation;
- Personal, social, moral and spiritual development including exploration of ethics, empathy and tolerance etc.

In the event that a minority of pupils fail to respond to positive behaviour management and persist in negative behaviour and/or affect other pupils due to misbehaviour, then the following sanctions may be applicable:

SANCTIONS FOR INNAPROPRIATE PUPIL BEHAVIOUR

Category 1

If a pupil fails to behave appropriately in class, teachers/tutors can:

- Send them out of a class for a defined period.
- Relocation to another member of staff (usually Personal Tutor or appropriate member of Senior Leadership Team).
- Set extra work.
- Arrange where pupil will sit.
- Set extra supervised study for persistent failure to complete work.
- Require that pupil attends supervised homework periods.
- Confiscate food, drink, personal stereos, phones or other inappropriate equipment until the end of the day.

Category 2

If behaviour and discipline in class does not improve or a pupil behaves inappropriately at the Academy a Personal Tutor (or member of the Senior

⁵⁰ S&DA (The Skills and Development Agency) – Lead Proposer

Leadership Team) can:

- Put a pupil into extra supervised study sessions.
- Arrange for separate lessons
- Take away certain non-statutory privileges for a limited period of time (e.g. access to the MAC room).
- Refer matters to the Principal, and recommend a period of suspension.

Category 3

Stage 3 involves the intervention of the Principal and begins when it is evident that a pupil has failed to respond to sanctions imposed in stages 1 and 2.

The Vice-Principal can impose the same level of sanctions as the classroom teacher and the Personal Tutor together with the following:

- Issue Saturday detentions.
- Suspend pupil for up to 2 days.
- Instigate formal disciplinary which may lead to suspension.
- Instigate formal disciplinary which may lead to expulsion.

In severe cases where there is a risk to the safety or well-being of others a pupil may be required to stay away from the premises pending outcome of disciplinary hearing. In the most severe cases police may be called upon to deal with serious disturbances, evidence of criminality or acts of violence.

Drugs and Alcohol

- a) All illegal drugs are strictly forbidden at STEM Academy;
- b) A pupil must not be under the influence, possess, use or deal in any illegal drug on STEM Academy premises or surroundings and during any external STEM Academy organised activity;
- c) A pupil must not attend STEM Academy under the influence of alcohol;
- d) The sale, supply or use of alcohol is strictly prohibited on Academy premises during the school day⁵¹.

STEM Academy Drugs and Alcohol Policy

STEM Academy will have a detailed and thorough Drugs Policy in place. The policy will aim to provide an effective balance between deterring the use and supply of drugs at STEM Academy (both high level offences) and the need to provide support and assistance to pupils affected by drugs either directly or through family and friends. STEM Academy will also provide Drug and Alcohol education and awareness to all pupils of STEM Academy as part of its commitment to the health and well-being of its pupils.

⁵¹ Certain exceptional exclusions may apply, for example events and conferences.

The STEM Academy Drugs and Alcohol Policy will include the following key items:

- a) Substance misuse education and available support
- b) Drug-related incidents
- c) Alcohol-related incidents
- d) Dealing with referrals/concerns from staff, parents and pupils
- e) Health and Safety
- f) Confidentiality
- g) External referrals for specialist support
- h) Medical Emergencies
- i) Discovery of drugs on Academy premises
- j) Supply of drugs

STEM Academy's policy will be in line with all statutory and legal duties.

Bullying and Harassment

The impact of bullying can be devastating. A study commissioned by ChildLine found that, of those surveyed, just over half (51%) of pupils in Year 5 reported that they had been bullied during the term and just over a quarter (28%) of pupils in Year 8.

An NSPCC study found that 25% of children bullied by their peers reported that they suffered long term harmful effects lasting into adulthood.

STEM Academy will promote a safe environment, will prevent bullying behaviour and will create a culture of safety for pupils **and** staff.

Teachers and support staff will receive training and support to ensure they are able to effectively identify bullying behaviour including the development and implementation of effective anti-bullying policy and strategy document and risks and are confident in tackling and addressing this behaviour.

Staff will be able to effectively identify the different forms of bullying (physical, verbal, non-verbal and cyber-bullying) and will be able to immediately react to any signs of bullying including reporting and referring bullying behaviour to appropriate SLT member.

Any incidence of bullying behaviour will lead to implementation of sanctions and loss of privileges as outlined above (Sanctions and inappropriate behaviour 'table').

Pupil wellbeing

STEM Academy's belief is that without a sense of wellbeing in life, young people cannot flourish and reach their potential. As individuals, when we have a sense of wellbeing in our lives, we are far better able to take in new information, take risks in our learning and take responsibility for our learning.

The UK does not currently perform well in UNICEF assessments of child wellbeing⁵².

STEM Academy is committed to contributing to an improvement of well-being for our pupils and if possible for the wider school community by sharing lessons-learned and best practice from the strategies that we pilot at STEM Academy. These strategies to include:

Nurture resilience

The International Resilience Project defined resilience as “a universal capacity which allows a person, group or community to prevent, minimize or overcome the damaging affects of adversity.”

Address stress

We all need a certain degree of stress in our lives in order to be adequately motivated to achieve. When that stress becomes excessive, the negative impact can be paralysing and physically and emotionally damaging.

Focus on equality

Inequality is directly linked with low levels of wellbeing. Unfortunately, research by the United Nations (Human Development Report 2009) has shown that the UK has high levels of inequality, which has a very negative impact on children/young people’s wellbeing. While STEM Academy is unable to change the economic and social circumstances of our pupils, we do intend to address issues of equality within the Academy and raise awareness amongst pupils of equality and tolerance issues.

Pupil voice and involvement in decision-making

We will actively seek the opinions of our pupils and will directly involve them in as many aspects of the Academy life and delivery as possible.

Positive behaviour

STEM Academy wants the best outcomes for its pupils so they are able to graduate with good qualifications and the right skills and aptitudes to enter the world of work. In order to achieve this, STEM Academy wants to work in partnership with pupils and their families to reinforce positive behaviour patterns and wishes to focus pupils primarily on the benefits of positive behavior rather than consequences of negative behavior.

With this in mind, STEM Academy proposes to adopt an approach similar to the Ellen Wilkinson School which uses a system of "Attitude to Learning" levels as part of the reporting process. The numbers and their corresponding descriptions are below and could be used by STEM Academy Personal Tutors to reward high achievement in "Attitude to Learning" as well as significant pupil progress in 'Attitude to Learning'.

⁵² Report Card 7: An Overview of Child Well-being in Rich Countries placed the UK at the bottom of the child wellbeing league table.

Positive behaviour will be rewarded through additional responsibilities and flexibilities including privileges for use of MAC Room, A/V⁵³ studio and other leisure benefits. The Academy will also implement termly award events with small prizes for a range of positive behaviour indicators (including 100% attendance).

The Ellen Wilkinson Attitude to Learning system:

No.	Indicator
9	A highly motivated, exemplary student who is likely to achieve at an outstanding level. A reflective learner, able to recognise and work to remedy weakness. A highly organised independent learner.
8	A motivated student, who takes full responsibility for his/her learning, and who always completes all class work and homework to a very high standard. He/she demonstrates initiative and has a positive, reflective approach to learning.
7	A committed student, who demonstrates a keen interest in his/her work and who is determined to achieve. He/she is developing the skills to advance his/her own learning. He/she will always aim to complete work to the best of his/her ability.
6	A hard working student who completes all work to a standard that reflects his/her ability. He/she demonstrates some initiative and will seek assistance when required. The student completes class work and homework to a good standard.
5	A student who completes the work to a standard in line with his/her ability but does not show real commitment to his/her studies. He/she completes all tasks presented to his/her, but lacks the initiative or motivation to develop his/her own learning further.
4	A student with the potential to achieve more, but whose lack of commitment is hindering his/her progress. He/she is capable of distinguishing what he/she needs to do to enhance his/her learning but often chooses not to do so. Class work and homework are completed to a basic standard.
3	An underachieving student who demonstrates little motivation to learn. The student shows minimal commitment to class work and homework. His/her behaviour is inconsistent, and his/her attentiveness is erratic.
2	A poorly motivated student whose behaviour and negative attitude adversely affect his/her own learning and that of others. He/she is inattentive in class. The student regularly fails to complete homework or class work.
1	A student who is disruptive and unprepared to learn. His/her poor attitude and behaviour adversely affects his/her own learning and that of others. He/she will often reject help and guidance that would enable his/her to further his/her learning. Homework is frequently not completed and deadlines are rarely met.

Behaviour management through tutorial support and pastoral care

On entry to STEM Academy, each pupil will be allocated to a 'house group'. Each house group will be looked after by a 'Head of House', who will manage a team of Personal Tutors allocated each 'house group'.

⁵³ Audio Visual Studio

Within the house, each pupil will have a dedicated and named Personal Tutor, who will support each pupil for the duration of their study at STEM Academy. Personal Tutors will be able to identify and respond to both academic and pastoral concerns (this may also involve referrals to specialist support).

Personal Tutors will play a key role in providing ongoing advice and guidance to pupils, monitoring progress and providing encouragement and necessary support to ensure pupils are well placed to meet and exceed expectations. Personal Tutors will play a key role in identifying potential pupil needs such as SEN, disability support needs, social/economical needs, and Gifted & Talented pupils.

Personal Tutors will also encourage peer mentoring between pupils of differing abilities within each house group.

STEM Academy pupils will have access to all necessary educational and welfare support. Where areas of support or expertise are not available internally (e.g. counselling), partnerships will be formed with external community or educational organisations to ensure STEM Academy pupils receive all necessary support.

Academic support available to STEM Academy pupils will include: support with study skills (e.g. research techniques and referencing for sources); identification of special and additional learning needs and intervention support (referral to Learning Support Coordinator); support in identifying and tackling any barriers to learning; home support liaison service. The STEM Academy academic support offer will also include provision for pupils to receive additional 1:1 tutorial/instruction where underperformance is identified and/or adequate/expected progress is not being made, this may be due to personal, family or other circumstances affecting the pupil.

Welfare support available to STEM Academy pupils will include: counselling, sexual health, healthy living, mental health, housing, social welfare, safeguarding and financial advice/support amongst others. It is expected that the majority of welfare support and services available to pupils will be provided via regular weekly surgeries delivered in partnership with local community providers; for example a counselling service made available every Tuesday afternoon with advance booking service. Heads of house, tutors, teachers and other Academy support staff will be able to refer pupils for above services, as appropriate; pupils will also be able to directly access support services as needed.

Careers guidance and progression support will form a key part of STEM Academy's offer in keeping with our Vision and Mission to prepare pupils for the world of work. Advisors will work with pupils to identify careers and pathways most suitable to the range of skills, aspirations, interests and abilities of each pupil. Pupils will receive crucial information about the range of progression opportunities available to them such as, university, Advanced

or Higher Apprenticeships and employment (preferably with education/training⁵⁴ attached such as KPMG A-Level trainee programme). Along with information about progression options, pupils will also receive detailed information about necessary entry requirements for specific schemes and also the impact of their subject choices on future career and study options (for example, a pupil aspiring to a career in Pharmacy would receive advice regarding the essential A level [or equivalent] qualifications: Chemistry and one from Biology, Mathematics and Physics; as well as the preferred A level [or equivalent] qualifications: Chemistry, Biology and Mathematics⁵⁵).

STEM Academy's career support offer will also include exposure to the world of work and specifically STEM-related industries. Pupils will have the opportunity to visit leading STEM employers and will benefit from high profile speakers and events at the Academy. STEM Academy will also have an exceptional Work Experience programme (further detailed in section D3 below).

Although we expect Personal Tutors to set targets which are realistic and challenging, the nature of the relationship fostered between pupils and tutors will enable pupils to feel that tutors are on their side and want the best for them now and in the future; targets will therefore feel less like an imposition and more an opportunity for development on the road to success and achieving their goals and dreams.

Improving pupil outcomes

STEM Academy is confident that effective implementation of the above set of pupil behaviour strategies will lead to improved outcomes for pupils and their families.

⁵⁴ The school leaver Graduate programmes range from full undergraduate provision (with paid employment), like KPMG's 6-yr scheme which involves Birmingham, Durham & Exeter Universities; to Advanced and Higher Apprenticeship schemes such as Network Rail 4-yr Apprenticeship scheme. Other employers with school-leaver Graduate programmes include: PwC, BT, Fidelity Investments, Deloitte, M&S, Wesleyan Assurance and British Gas. STEM Academy has started making initial contact with all of the above.

⁵⁵ Information from 'The Russell Group guide on making informed choices for post-16 education'

D7: DEMONSTRATE YOUR UNDERSTANDING OF THE LOCAL COMMUNITY AND ITS NEEDS, AND YOUR PLANS FOR SHARING FACILITIES WITH OTHER SCHOOLS AND THE WIDER COMMUNITY.

Overview of Hackney local community

The London borough of Hackney is one of the most economically and socially deprived in the country, with all 19 of its wards in the poorest 20% nationally.

Old Street⁵⁶ in London Borough of Hackney is located in the Hoxton Ward, a ward designated as a ward of multiple deprivation ranging from 5-10% most deprived⁵⁷, this is reflected in the high levels of unemployment, single-parent households, and other evident multiple social difficulties including education, health disadvantages and crime as detailed in the Hackney Borough profile referenced in sections below.

Socio-Economic info

Hackney LA has the third highest proportion of workless people in the United Kingdom, **with over 31% of the working age population without jobs**. Its residents are less well qualified than the London average, with over 16% of those of working age having no qualifications. The proportion of the population with mental health support needs is very high.

The proportion of **young people who are not in education, employment or training (NEET) at 10%, is the highest rate in London**. More than a quarter of the people living in Hackney are under 20 years old.

Overcrowding affects 35% of Hackney's population but the problem is even more acute among Hackney's children and young residents. More than half of 16-19 year olds live in homes with too few rooms.⁵⁸

Children and Young People

Around 26 per cent of Hackney residents (56,100 people) are under the age of 20, compared with 24 per cent in London and England⁵⁹.

Figure 1 below demonstrates the population density of 0-19 year olds across the whole borough, whilst Figure 2 provides a population analysis of 0-19 years across the borough and demonstrates regional and national comparisons to Hackney's 0-19 population.



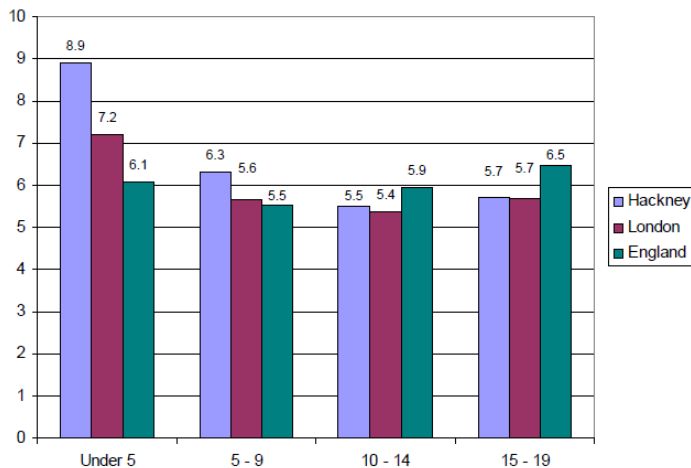
⁵⁶ STEM Academy's preferred location

⁵⁷ Refer to Figure 3 below

⁵⁸ The standard of overcrowding used in the Census. It is based on a calculation of how many rooms are needed for that household, taking into account its size and composition. Any household lacking one or more rooms compared to the calculation would be defined as overcrowded.

⁵⁹ Source: London Borough of Hackney based on mid-year ONS population estimates 2008

Figure 2: Population under 20 as percentage of total population



Hackney’s 56,100 children and young people come from a rich diversity of backgrounds and, as a group, are more ethnically diverse than the borough’s population in general. A disproportionate number of Hackney’s young people share similar characteristics and experiences which place them at a disadvantage compared with their peers living in other areas - 37 per cent of young people are affected by deprivation as a result of living in households dependent on benefits, while 46 per cent of under 20s live in overcrowded households. One third of households with children are single parent families.

In 2001, the percentage of family households in the borough with dependent children (see Table 1) was above the London and national averages. A higher proportion of these dependants are in single parent families. A third of Hackney’s households with dependent children are headed by a lone parent; seven percentage points higher than in London as a whole and 11 percentage points more than in England & Wales⁶⁰.

Table 1: Percentage of Family Households with dependent children

Geographical Area	Families with no dependent children	Families with 1 dependent child	Families with 2 or more dependent children	% of households with dependent children that are lone parent households
Hackney	44%	24%	32%	33%
London	52%	21%	27%	26%
England and Wales	57%	18%	25%	22%

Ethnicity

Young people in Hackney are more ethnically diverse than the borough’s overall population. Over half belong to black and minority ethnic groups. The White population is the single largest group in the area making up 43.5 per cent of the under 20s, a proportion 15.2 percentage points lower than that

⁶⁰Source: Census 2001

found in the general population. 56.5 per cent of young people belong to ethnic minority groups, with 35.8 per cent being Black African, Black Caribbean or Black British. It is estimated that 13.3% of the under 20s are Charedi Jewish, which are likely to be included in the 'White' ethnic group.

Table 2: Ethnic profile of people aged 0-19 compared with the general population of Hackney⁶¹

Ethnicity	Young People	Total Hackney Population
White	43.5%	58.7%
Black African	17.0%	12.0%
Black Caribbean	8.1%	8.9%
Black Other	10.7%	5.3%
Other	6.7%	4.4%
Indian	3.6%	3.6%
Bangladeshi	5.6%	3.2%
Other Asian	2.7%	1.8%
Chinese	0.9%	1.3%
Pakistani	1.1%	0.8%

Table 3: Percentage of pupils whose first language is known or believed to be other than English⁶²

Local Authority	Primary School	Secondary School
Camden	60 %	47 %
Hackney	55%	45 %
Hammersmith and Fulham	48%	41%
Haringey	53%	47%
Islington	42%	47%
Kensington and Chelsea	54%	49%
Lambeth	48%	40%
Lewisham	32%	24%
Newham	73%	67%
Southwark	40%	42%
Tower Hamlets	78%	70%

⁶¹ Source: GLA population projections, 2009

⁶² Source: DCSF (January 2009)

Wandsworth	43%	38%
Westminster	70%	61%
England	15%	11%
Inner London	54%	49%
London	43%	36%

Table 4 shows the percentage of pupils in Hackney who achieved five A*-C grades at GCSE, including English and Maths, in 2008 by ethnicity. The group with the highest achievement were Bangladeshi pupils, with almost 57% per cent achieving this level. In contrast, Caribbean (26.9%) and Turkish or Kurdish speaking (29.6%) pupils had the lowest overall percentages. On a national level in 2008, Indian pupils were the highest achieving group, with Bangladeshi pupils reporting lowest attainment⁶³. The difference in Hackney, where Indian pupils were outperformed by Bangladeshi and a number of other ethnic groups may be down to small numbers of Indian (61) and Bangladeshi (67) pupils taking their GCSEs at this time.

2008 GCSE 5 A*-C Performance	Percentage	Total number of pupils in cohort
African	38.4	242
Bangladeshi	56.7	67
Caribbean	26.9	171
Indian	39.3	61
Turkish or Kurdish speaking	29.6	108
Mixed heritage	40.2	92
All other ethnic groups	56.3	256
Hackney average	42.6%	
England average	47.6%	

'All other ethnic groups' includes English, Scottish and Welsh pupils, and is both the largest and highest performing group on the table.

Economic Deprivation

Income deprivation affecting children (i.e. those children under 16 years of age and living in families who are in receipt of income benefits) is shown in Figure 3 below.

93 of Hackney's 137 (68 per cent) super output areas (SOAs – a geographical area with on average 1500 residents) are among the ten per cent most deprived areas in the whole of England. The wards of Hackney Downs, Hackney Wick, Chatham, Queensbridge and **Hoxton**⁶⁴ are especially deprived, with large areas ranking among the top five per cent nationally.

⁶³ DCSF

⁶⁴ Hoxton Ward is our desired/preferred location for STEM Academy

The proportion of children living in families in receipt of out of work benefits or tax credits where their reported income is less than 60% median income is much higher in Hackney than in other parts of the country (Figure 4). It is almost twice the percentage of young people in England and 16 percentage points more than in London overall, ranking as the second highest in London after Tower Hamlets. In line with the trend nationally and with local comparators, child poverty in Hackney increased between 2006 and 2007.

The Hackney Housing Needs Survey of 2008 showed that 22% of all households with children were overcrowded. The distribution of overcrowding in Hackney varies, with households in Haggerston, Brownswood and New River wards experiencing the highest levels of overcrowding, and Stoke Newington, Clissold and Leabridge the lowest⁶⁵.

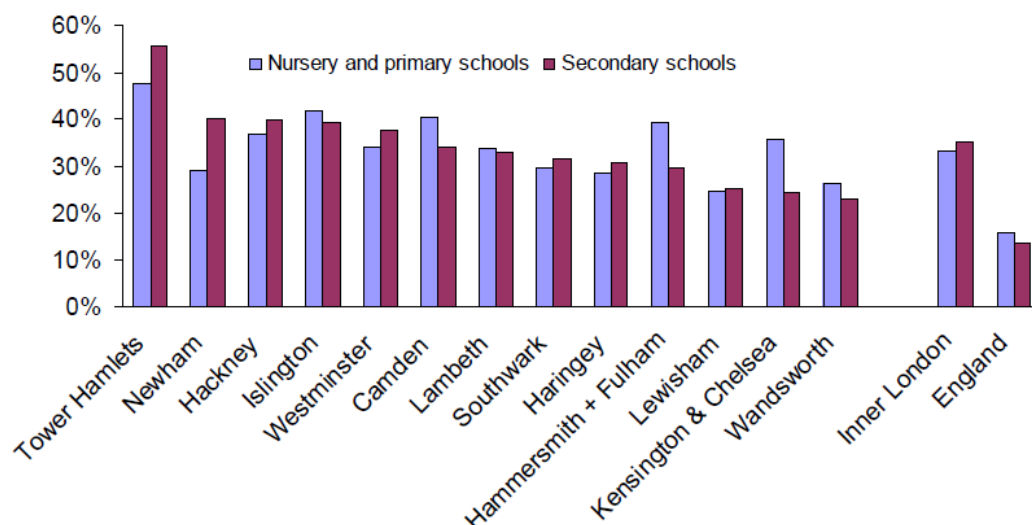
Table 5: Children and Young People in overcrowded households (one or more rooms too few)

Geographical area covered	People in overcrowded households		0 to 4 years	5 to 15 years	16 to 17 years	18 to 19 years	Under 20s
	Number	%	%	%	%	%	%
Hackney	70657	35	46	45	54	51	46
London	150639	21	28	28	35	33	29
England	4290369	9	12	12	18	17	13

Another indicator used to measure deprivation is eligibility for free school meals. Hackney has one of the highest rates for eligibility to free school meals in London; with 37% of primary and nursery school pupils and 40% of secondary school pupils eligible. These rates are above those of Inner London, and far higher than the rates for England overall.

⁶⁵ Census 2001

Figure 5: Proportion of pupils eligible for free school meals, by school stage



Source: DCSF, January 2009

Local Education Info

A total of 32,920 children attend schools in Hackney. This figure comprises the whole range of schooling available in the borough: nursery, primary, secondary, special schools, pupil referral units, academies and independent schools. 23,943 pupils attend maintained primary and secondary schools in Hackney, 6,579 go to independent schools, and 1,873 go to Academies.

The proportion of Hackney pupils achieving at least level 4 in English and Mathematics at Key Stage 2 rose from 57% in 2006 to 64% in 2009. This is a larger increase than in London and England generally.

However, in each of the last four years, and for estimates for 2009, Hackney has reported the lowest proportion of children achieving level 4 English and Maths of all London Boroughs. At an estimated 64% for 2009, the proportion of children in Hackney achieving level 4 is 8% below Southwark and 7% below Lambeth, the boroughs with the most similar demographic characteristics. The 2009 performance in Hackney is 1% lower than in 2008.

82% of school leavers in Hackney continued to full time education. However, just **18 per cent of 18 year olds who attended school in Hackney went on to higher education** in 2007/08, 8 per cent below the rate for London and 3 per cent below the rate for England.

The rate of improvement in the percentage of school pupils in Hackney who achieve 5 good GCSE's including English and maths has been faster than the national rate of improvement. Between 2006 and 2009 the proportion of Hackney pupils achieving 5 A*-C grades at GCSE including English and maths increased by over 15 percentage points - compared to a national increase of 4%, demonstrating that regardless of disadvantage or difficult socio-economic circumstances, all pupils can be supported to achieve

and excel when given the right support. In line with our Education Vision, we will have the highest expectations for our pupils.

There are currently twelve educational providers for 16-19 year olds in the borough but none of them offer specialist education and training in STEM subjects.

Six of the providers offer Engineering Manufacturing Technology at AS/A2 level only; many are offering Science at AS/A2 and one is offering Cambridge Pre-U for Science.

London overview

As a 16-19 school, STEM Academy will also welcome applications from other London Boroughs. If the Academy is oversubscribed priority will firstly go to local Hackney residents.

Below is a snapshot of 16-19 young people across London⁶⁶

- Attainment at level 2 by age 19 has improved and is above the national average.
- Attainment at level 3 by 19 has also improved and is above the national average.
- The attainment gap between young people eligible for free school meals (FSM) and young people ineligible for FSM has narrowed at level 2 and level 3 and is narrower than the national averages.
- **Fewer young people receiving FSM go on to study in Higher Education (HE).**
- The success rate for residents in FE and sixth form colleges has improved but is below the national average.
- Apprenticeship success rates have increased, but are below the national average.
- 2010/11 data shows that London's GCSE performance has increased for the third year running and remains above the national average.
- In London the average A Levels point score per student is **below** the national average.
- Youth unemployment (16-24 year olds) in London **is increasing and is above the national average.**

Provision accessed by learners with LDD⁶⁷

For 16-19 residents in FE and sixth form colleges in 2009/10:

- The proportion of learners with LDD was 12% compared to 17% nationally.

⁶⁶ Young people in London an evidence base – London Councils 2011

⁶⁷ LDD refers to Learning Difficulties &/or Disabilities (the post-compulsory term for SEN)

- Preparation for Life and Work accounted for 46% of learning aim enrolments, compared to 34% for learners without LDD.
- 28% of enrolments were at level 3, compared to national average of 29%.
- 44% of enrolments were at entry level or level 1, compared to 43% nationally.

For 16-19 residents in school sixth forms and Academies in 2009/10:

- The proportion of learners receiving support through School Action (7%) was above the national average (5%); support through School Action Plus (2%) was the same as the national average; and with a Statement (1%) also in line with the national average.
- **A lower proportion of Science and Mathematics learning aim enrolments** were studied by young people on School Action (24%) compared to young people with no special educational need (32%).
- There was a higher proportion studying Arts, Media and Publishing (14%) and Business, Admin and Law (10%).
- A lower proportion of level 3 enrolments were studied by young people on School Action (76%), than young people with no special educational need (91%).

Attainment

GCSE attainment (5 GCSEs A*-C including English and maths) has increased in London schools.

In 2009/10:

- Attainment increased from 54% in 2008/09 to 58% above the national average (55.3%).
- In-line with the national trend, attainment was higher for girls (61.6%) than boys (54.5%).
- There was variation in attainment by ethnic group: Asian 65%, Black 51%, Mixed 58%, White 57%.

2010/11 provisional data for GCSE attainment (5 GCSEs A*-C including English and maths) indicates continued improvement in London, with attainment increasing to 61.0% which is above the national average (58.3%).

2010/11 provisional data also shows that 17.6% achievement rate for the English Baccalaureate, which compares to 16.5% nationally.

The success rate for resident learners in FE and sixth form colleges improved to 78.6% from 76.9% in 2007/08. In 2009/10:

- Males had a lower success rate than females, by almost the same margin as in 2007/08 (0.2%).
- The success rate for learners with LDD increased at a faster rate than learners without LDD.

- Success rates for learners with LDD increased from 76.3% in 2007/08 to 78.5% in 2009/10 (0.5% less than learners without LDD).

Figure 10: Overall residence-based FE and sixth form college success rates

	All Qualification success rate		
	2007/08	2008/09	2009/10
England average	78.8%	80.6%	81.1%
London average	76.9%	77.7%	78.6%
Learners with LDD	76.3%	78.0%	78.5%
Learners without LDD	77.2%	78.1%	79.0%
Male	75.2%	76.5%	77.0%
Female	78.6%	78.9%	80.2%
White	77.3%	78.3%	78.7%
BME	76.8%	77.5%	78.6%

Source: Individualised Learner Record F05 2007/8, LR05 2008/9 and 2009/10.

In 2009/10, the average A levels point score per student in London was 698.8. This was below the national average of 744.8. 2010/11 provisional data indicates a further decline in performance in this area with the point score dropping to 695.6. The point score also dropped nationally to 733.1⁶⁸.

In 2009/10, the average point score per entry was 212.6 and 2010/11 provisional data indicates an increase to 213.7. This is below the national average which is 215.5. These figures include FE and sixth form colleges.

NEET⁶⁹ and disadvantage overview

The proportion of young people NEET in London in August 2011 was 5.2%, which equates to 12,596 young people. This compares to 7.6% nationally (128,901 young people).

The proportion of 'not knowns' in London in August 2011 was 11.6%, which equates to 29,171 young people. This compares to 11.5% nationally (208,338 young people).

52% of learners were disadvantaged⁷⁰, no change on 2008/09. This is higher than the national average (35%). Level 3 is the highest level of study for 50.6% of disadvantaged learners, compared to 59.9% for those who are not disadvantaged (Figure 2).

Responding to the needs of local and wider London community

The statistical data and evidence we have collected has heavily influenced our proposed **curriculum offer** and delivery in key areas, such as:

⁶⁸ These figures are taken from SFR10/2011 <http://www.education.gov.uk/rsgateway/DB/SFR/s001034/index.shtml>

⁶⁹ NEET: Not in employment, education or training

⁷⁰ Defined as learner eligible for disadvantage uplift funding in FE and sixth form colleges, two year trend used due to change in criteria to determine disadvantaged learners in 2008/09.

- Offer of Foundation for Progression GCSE provision for young people that have not achieved necessary grades to progress onto Level 3 study (currently applies to 42-57% of pupils), but have the interest and potential to do so – STEM Academy’s provision will help them to achieve their goals;
- Work Academy provision and focus on work skills to help combat the high levels of NEET and youth unemployment in Hackney and across London;
- Focus on STEM sector is very relevant to Hackney Local Authority’s aspirations for Old Street area (silicon roundabout) to become a leading centre of innovation for science, engineering and technology.

STEM Academy’s research influenced STEM Academy’s strategies in planning provision and shaping its educational vision and objectives.

The key considerations from the above data and statistical evidence can be most effectively summarised as follows:

- Hackney has higher levels of socio-economic and educational needs than the national average;
- Hackney educational standards are rising at a faster rate than the national average;
- London has a mixed picture of disadvantage and educational attainment, some indicators (such as GCSE) performing above London averages, whilst other indicators such as A Level performing well below national levels (30-40 points negative variance).
- Lower numbers of pupils previously qualifying for FSM progress on to Higher Education (Hackney and London).
- The level of NEET young people and unemployed young people in London is steadily rising.

How STEM Academy addresses identified needs

STEM Academy’s vision is to increase pupils’ access to superior higher education and career opportunities through the power of science, engineering, technology and mathematics. We believe passionately in equality of opportunity and will strive to create an environment where all individuals feel empowered to succeed and where equal chances are available to young people **of all backgrounds**.

Our offer has been designed around the needs of pupils from disadvantaged or less affluent backgrounds, for example our proposal for a longer school day is partly aimed at supporting pupils who may not have access to the appropriate resources or environment at home to effectively complete their homework or undertake private study.

We have considered the socio-economic needs of our target community which has driven every aspect of our vision and planning from proposed location (LB Hackney) to our admissions policy which confirms our commitment and dedication to supporting disadvantaged by giving priority to learners who previously qualified for Free School Meals.

Our Vision also sets out our intention to support social mobility amongst the families and households of our pupils as we recognise that as well as supporting our pupils in gaining and improving their confidence and aspirations they also need to receive the same support and encouragement from home.

We have also considered the education support needs of learners from the community by designing a Foundation offer (Foundation for Progression) for learners that did not achieve 5 GCSE's A*-C. This provision will support pupils that have not gained the necessary skills to progress to Level 3 study.

In section D3 we set out our strategies for supporting pupils with SEN/LDD with the aim of ensuring these pupils can achieve at a level equivalent to their peers and are supported to participate in all aspects of the curriculum.

The evidence that Hackney's educational standards are rising at a faster rate than national standards, effectively demonstrate that disadvantage is not a barrier to progress or pupil achievement. STEM Academy's key principles state that all pupils are able to grow, learn and achieve; and that STEM Academy will have high expectations of all pupils (regardless of background, gender, social standing etc).

STEM Academy's curriculum and Work Academy offer are directly in response to the very real difficulties young people are currently facing in the labour market. Work Academy provision will effectively prepare young people for the realities of the world of work, whilst our curriculum offer is based on labour market needs and priorities over the next 20 year ensuring we are effectively 'future-proofing' the skills of our pupils.

Working with other schools, educational establishments and the wider community

STEM Academy has effectively engaged and made links with the wider community in and around Hackney and the Greater London area including contact with various schools and educational establishments.

The table below demonstrates some of the organisations we have made contact with and initial discussions around how we may work together and/or support each other's work and delivery should STEM Academy's application to DfE be successful. Many of these organisations share STEM Academy's vision and ethos for supporting and improving educational attainment amongst minorities and disadvantaged groups and improving social mobility opportunities.

Name	Type of establishment	Nature of partnership/potential partnership
Lansdowne College	Independent Sixth Form	Potential governor/s; delivery of master-classes; assistance with planning and delivery of prep pro (university preparation programme); advisory and support service; best practice and CPD provision; mentoring programme.

Petchey Academy	Secondary Academy (Hackney)	Cross-referrals/signposting; joint events; sharing of resources, best practice and innovation.
Mossbourne Academy	Secondary Academy (Hackney)	Cross-referrals/signposting; joint events; sharing of resources, best practice and innovation.
Brooke House Sixth Form College	Sixth Form (Hackney)	Cross-referrals/signposting; joint events; sharing of resources, best practice and innovation.
Learning Trust	Hackney Education Local Authority Provider	Cross-borough planning and coordination; leadership and strategic support; assistance with recruitment of staff/governors; pupil planning, recruitment and coordination of places.
Bridge Academy	Secondary Academy	Cross-referrals/signposting; joint events; sharing of resources, best practice and innovation.
Emmanuel Community School	Primary School	Raising awareness of science, maths and engineering amongst community primary and secondary schools; encouraging pupil interest and engagement in STEM; sharing of resources, best practice and innovation; raising awareness of STEM careers and education amongst children and their parents; showcasing STEM skills and masterclasses.
Kids Company	Youth Charity	Referrals of potential pupils; joint-events; sharing of resources/equipment/expertise; potential governor/s; community outreach and engagement with NEET/disadvantaged young people.
Serious About Youth	Youth Charity	Referrals of potential pupils; joint-events; sharing of resources/equipment/expertise; potential governor/s; community outreach and engagement with NEET/disadvantaged young people.
Next Generation Projects	Youth Charity	Referrals of potential pupils; joint-events; sharing of resources/equipment/expertise; potential governor/s; community outreach and engagement with NEET/disadvantaged young people.
Community Youth Leaders	Youth Charity	Referrals of potential pupils; joint-events; sharing of resources/equipment/expertise; potential governor/s; community outreach and engagement with NEET/disadvantaged young people.
Stephen Lawrence Community Trust	Youth Charity	Referrals of potential pupils; joint-events; sharing of resources/equipment/expertise; potential governor/s; community outreach and engagement with NEET/disadvantaged young people.
Local Authority Youth Services	Statutory Services	Referrals of potential pupils (as agreed with Learning Trust), partnership and communication re: vulnerable pupils, pupils in care/leaving and pupils known to Local Authority.
Hackney Community College	FE College	Cross-referrals/signposting; joint events; sharing of resources, best practice and innovation.
City and Islington College	FE College	Cross-referrals/signposting; joint events; sharing of resources, best practice and innovation.
Hackney University Technical College (opens September 2012)	UTC	Cross-referrals/signposting; joint events; sharing of resources, best practice and innovation.

The Bridge Academy Cardinal Pole Catholic School The City Academy, Hackney Clapton Girls' Academy Haggerston School for Boys and Girls Mossbourne Community Academy Our Lady's Convent High School The Petchey Academy Skinner's Academy Stoke Newington School and Sixth Form The Urswick School Yesodey Hatorah Secondary School for Girls	Hackney Secondary Schools	Sharing of resources, best practice and innovation; raising awareness of STEM careers and education amongst children and their parents; showcasing STEM skills and masterclasses.
Other community schools	Primary and Secondary Schools	Raising awareness of science, maths and engineering amongst community primary and secondary schools; encouraging pupil interest and engagement in STEM; sharing of resources, best practice and innovation; raising awareness of STEM careers and education amongst children and their parents; showcasing STEM skills and masterclasses.
Faith Groups Police Service NHS Housing Services	Other community stakeholders	Joint working and collaboration; invitations to STEM Academy to raise awareness of issues/concerns relevant to STEM Academy pupils; joint events; sharing of knowledge, best practice and expertise; other as appropriate.

Promoting good community relations

STEM Academy will promote good community relations by communicating and involving the community in all aspects of STEM Academy. We will invite local representative to apply as potential governors of STEM Academy, will cooperate and collaborate with local initiatives and events, and will generally involve ourselves in the local community by offering support and services as appropriate.

STEM Academy will open up its premises for community use outside of school hours and will host regular events including:

- Open days for prospective pupils/parents
- Events and exhibitions (artwork, design etc)
- Hosting charity fashion shows
- Basic skills and employability classes for local adult population
- English and family learning provision

STEM Academy will work locally with Hackney's voluntary and community sector to encourage awareness and participation in STEM from all sectors of the community. One of our 9 Key Principles is to promote a '**Technology for Life**' culture which will apply to everyone that STEM Academy comes into contact with – not just its pupils. We will showcase STEM skills and provide

short courses in STEM areas for other schools, community providers and/or even directly to the community.

STEM Academy also proposes to offer access to children and young people during the summer and Easter breaks, we propose to offer STEM-inspired clubs and activities as well as short taster courses that can inspire children and young people to improve their STEM skills and also discover the 'wow' factor that science, engineering and technology has to offer.

We would also propose setting up a 'friends of STEM Academy' club who would believe in our vision and ethos and want to assist the Academy in fully delivering on its vision and aims. Friends of STEM Academy may volunteer services or expertise; do some fundraising on behalf of STEM; undertake some PR/networking; raise aware of STEM Academy etc.

Section E: Evidence of demand and marketing

E1: Provide evidence of demand from parents with children of the relevant age for each new year group in each of your first two years of operation. Include confirmation from parents that they would select your Free School as the first choice for their child.

Our school is new provision:

- In **column A** we have provided the proposed number of places in each year group.
- In **column B** we have provided the number of young people of the relevant ages who have directly and/or whose parents have indicated that they will choose the proposed school as their first choice.
- As a new school provision we have left **column C** blank.
- In **column D** we have expressed the demand (column B) as a percentage of the places available (column A). i.e. $D = (B/A) \times 100$.

	2013				2014			
	A	B	C	D	A	B	C	D
Reception								
Year 1								
Year 2								
Year 3								
Year 4								
Year 5								
Year 6								
Year 7								
Year 8								
Year 9								
Year 10								
Year 11								
Year 12	216	166		76.8%	216	68		31.4%
Year 13	0	0		n/a	216	166		76.8%
Totals	216	166		76.8%	432	234		54.1%

Geographical coverage of Evidence of Demand valid responses

STEM Academy 'Evidence of Demand' map demonstrating the location of parents/young people who have expressed their preference for STEM Academy as their 'first choice': [REDACTED] The above map demonstrates that demand is consistent with STEM Academy's proposed catchment area as described in Section D – Education Plan and summarised below:

STEM Academy will be an inclusive 16-19 school that will serve the communities of Hackney, surrounding boroughs (Tower Hamlets, City & Islington, Haringey, Waltham Forest and Newham) and other remaining areas of inner and Greater London⁷¹.

STEM Academy expects to have about:

- 50% of its pupil intake from Hackney
- 30% from surrounding East London boroughs; and
- 20% from the remaining inner and outer London boroughs

STEM Academy's exact survey questions and summary of responses

Name	Surname	Parent	*Postcode	*Age	*STEM Academy would be my 1 st choice Y/N	Preferred method of contact (phone, Email)	Local Authority	I would like to attend this school because: (please select as many as you like): A- I Want to Study STEM Subjects // B- I like Science/Technology/Engineering/Maths // C- Good Location // D- Career Prospects // E- I Agree with the Ethos & Objectives of STEM Academy // F- Other (please state)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

STEM Academy received 358 eligible⁷² survey responses. 124 were invalid and 234 were valid.

INVALID RESPONSES

124 were 'not eligible' for the purposes of Evidence of Demand. The reasons for this were:

1. Too young: we received responses from parents who want their child/ren to attend STEM Academy and have confirmed it as their first choice however, the children won't be at admissions age (16) on either of the years for which we are evidencing demand (2013 and 2014). We received 10 of these ranging from 3 -12 years old (current age);
2. Too old: we received survey responses from young people interested in STEM Academy and they have confirmed it as their first choice however, they will be over admissions age on the first year for which we are evidencing demand (2013) we have received 66 of these and the ages range from 18 - 28 years old (current age);

⁷¹ As a specialist 16-19 school it is expected that pupils from neighbouring boroughs as well as the wider London catchment area will wish to apply to STEM Academy (this is also reflected in the evidence of demand which extends to outside of LB Hackney).

⁷² e. postcode etc) or had indecipherable hand writing.

3. The remaining did not select STEM Academy as their first choice (either by omission or stated 'no'). The majority of those that said 'no' (2/3) stated that STEM Academy would **not** be their first choice but 'was a good idea'.

VALID RESPONSES

Of the 234 valid responses received:

- 234 respondents stated that STEM Academy would be their 1st Choice
- 166 respondents would be eligible for admissions to STEM Academy being at the required age of entry on the first year for which we are evidencing demand (2013);
- 68 respondents would be eligible for admissions to STEM Academy being at the required age of entry on the second year for which we are evidencing demand (2014);
- 217 included their first name (and in most cases their surnames as wellc.90%);
- 234 included their postcode and 50% included their full address and/or contact details as well;
- Of the reasons supplied for wanting to attend STEM Academy (please note some respondents selected more than 1 option):
 - 76 selected 'I want to study a STEM subject';
 - 77 selected 'I like Science, Technology, Engineering & Maths';
 - 24 selected 'good location'
 - 30 selected 'good career prospects'
 - 22 selected 'I agree with Ethos and Objectives of STEM Academy'
 - 23 selected 'other'. Comments under 'other' included: (1) beneficial in many ways; and (2) education is needed even in sports, if you don't achieve the grades you won't be able to play in high leagues.

The above summarises the responses received to all eligible surveys.

Template of the survey form we asked young people and/or parents to complete

First version of survey – October/November 2011

New School Survey Report

We are currently collecting information to measure support for a new school in our area. We may share this information with the Department of Education as part of our application for a new school.

THE STEM ACADEMY *Technology for Life*

The STEM Academy will offer places to pupils aged 16-19 from all over London, who are interested in Science, Engineering, Technology and Mathematics. The school's aim is to widen higher education and career opportunities to pupils through the power of science, engineering, technology and mathematics. The school wants to equip pupils with academic, technical and transferable skills to prepare them for employment in an increasingly global competitive environment. The experience of pupils through the curriculum, enrichment programme and the 'Work Academy' aims to help them raise their attainment level, aspiration and believe that they can achieve any goal.

Please register your interest in sending your son or daughter to this school by completing the form below. If you provide us with your contact details we will keep you updated on the progress of our application

URN	Name	Surname	Address	Telephone	Email	Local Authority	Age Range of Dependent Child(ren) (tick as many as relevant)						
							0-4	5-11	12-15	16-19			

I would select STEM Academy as my first choice		I think the school is a good idea because (tick as many as you wish)				What post 16 education options are you aware of	What are your key concerns about current options
Yes	No	School Specialism (Science, Technology, Engineering, Mathematics)	More Choice	Attractive Curriculum	Better Progression Opportunities		

Second version of survey – December 2011 onwards

STEM Academy

The place to be for Science, Technology, Engineering and Mathematics Studies

STEM Academy is a brand new proposed Academy due to open its doors in **September 2013**.

Based in London Borough of Hackney, the Academy will offer places to pupils aged 16-19 from all over London who are interested and demonstrate an aptitude in Science, Technology, Engineering and Mathematics (STEM).

The Academy's aim is to widen higher education and career opportunities through the power of science, engineering, technology and mathematics. We will promote a philosophy of *Technology for Life* which will run through all aspects of the curriculum and school experience.

The Academy will equip pupils with academic and technical transferable skills to prepare them for employment in an increasingly global competitive environment. Pupils will be supported to successfully progress into: top UK and international Universities; high quality Advanced/Higher Apprenticeship programmes; or directly into enterprise and/or employment.

The UK currently faces critical skills shortages in all STEM industry areas providing unique job and life-long career opportunities for pupils of the STEM Academy. STEM subjects can be applied to almost all areas of work and life including careers in medicine, teaching, construction, creative & digital arts, transport & logistics, hospitality, accountancy, business services, sport & leisure, entertainment/gaming and many others. Pupils will be given the opportunity to undertake ongoing work experience in relevant industry and occupational areas; work placements will be brokered directly by the Academy.

The experience of pupils through the curriculum, enrichment programmes, enterprise hub and the 'Work Academy' will help all pupils to raise their attainment level, aspiration and employment readiness.

Places at the school will be entirely free of charge.

Tell us what you think

If you want to attend STEM Academy then please answer a few very brief questions on the attached survey and return this to us. The information from this survey will help us assess the level of demand for places at the school from September 2013, please note that it is not an application for a school place and returning this survey does not guarantee a place at STEM Academy, although we will contact you with updates/admission information if you provide contact details. Thank You.

Alternatively, you may prefer to comment through The STEM Academy website:
www.stemacademy.org.uk

STEM Academy

The place to be for Science, Technology, Engineering and Mathematics Studies

Survey instructions

Please note:

- All fields in marked with an * are mandatory ('my FIRST' choice', 'postcode', 'age')
- Your preferred contact details would be very helpful and you will be entitled to *enter our prize draw.(subject to terms and conditions)
- Please be aware that under Data Protection, the information provided to us in this survey is confidential, only **ages** and **postcodes** will be shared with the Department for Education.

Please note that by selecting YES you are under no obligation to apply to attend STEM Academy, this information will only be used to assess the demand for places at the school in September 2012 & September 2013 and will only shared with the Department for Education

Name	Surname	*Postcode	*Age	*STEM Academy would be my 1 st choice Please see note above	Preferred method of contact (phone, Email)	Local Authority	I would like to attend this school because: (please select as many as you like): A- I Want to Study STEM Subjects B- I like Science/Technology/Engineering/Maths C- Good Location D- Career Prospects E- I Agree with the Ethos & Objectives of STEM Academy F- Other (please state)

How STEM Academy engaged with the community

The STEM Academy Steering Group planned and implemented a range of key actions and strategies to ensure effective engagement with the local community, these included:

- **Engagement with young people**
STEM Academy surveyed young people in person, via social networking and online via questionnaire on the STEM Academy website...
- **Engagement with parents**
STEM Academy engaged with parents through a number of mediums including canvassing and handing out leaflets, attendance at events and venues during ½ term week, emails and personal contacts...
- **Engagement with education community**
STEM Academy engaged with local schools such as Mossburne Academy, Bridge Academy and Petchey Academy and a number of FE Colleges. STEM Academy also engaged with the Learning Trust (Hackney Local Education Authority) and attended an initial meeting prior to submission of application.
- **Engagement with community partners**
STEM Academy engaged with youth organisations and community partners to consult organisations and young people about STEM Academy's proposed offer.

Engagement with the local community was implemented in a number of ways, including:

- Street canvassing on weekends - January and February 2012
- Surgeries at Hackney Central Library
- Group workshops with young people
- Attendance at Events e.g. SYC Youth Elections, LGBT History Month, Harris Academy
- Partnerships with colleges and schools (for young people to have access to STEM Academy information and survey)
- Online information (STEM Academy website)
- Email and Social Media (facebook, Twitter etc)
- Through friends and family of S&DA staff

Hackney Library Services – With the committed support of the Head Librarian at Hackney Central Library and Stoke Newington Libraries, regular weekly events have been carried out at Hackney Central Library. STEM Academy volunteers have manned a promotional area, raising awareness of STEM Academy amongst young people and parents as well as giving out leaflets and collecting surveys and opinions. We are currently discussing logistics around having a presence at the library on a regular weekly or monthly basis to continue informing local people, garnering interest and collecting demand surveys.

Netmums – In collaboration with the [REDACTED], we have been making regular posts on Netmums website to raise awareness of STEM Academy.

Online presence – During the pre-application stage STEM Academy developed an online presence to help reach the 16-19 target group through the use of social networking and web technologies:

- Website: www.stemacademy.org.uk
- Facebook page: [REDACTED]
- Twitter account: [REDACTED]
- Netmums: Hackney Noticeboard
email: [REDACTED]

We also engaged with other sections of the community to raise awareness of STEM Academy and gain support for our application. Some of the organisations/individuals we have worked and engaged with include:

New Schools Network

STEM Academy was successful in securing a competitive development grant from NSN (New Schools Network). Members of our project team attended the Boot Camp, monthly surgeries, conferences and other events organised by NSN throughout the entire application preparation period. We were also able to network with other Free School members from existing and previous rounds and share ideas, expertise and best practice; these included: School 21, Emmanuel Community School, Collective Spirit and Diaspora High School amongst others.

STEMNET

STEMNET is an agency of the Department for Business Innovation and Skills and helps encourage young people to be well informed about STEM, able to engage fully in debate, and make decisions about STEM related issues.

STEM Academy representatives met the London representatives of STEMNET in December 2011. STEMNET provided the following statement in support of STEM Academy's application:

*"We are pleased to see that the specialised STEM Academy is to develop pupil's capabilities and potential in science, technology, engineering and mathematics to the full, prepare them to enter University via relevant and valuable qualifications, or allow them immediately to take up employment in STEM related industries, where this suits their aspirations, personal goals and characteristics - regardless of background. These values are directly in line with our own at STEMNET. **We fully support STEM Academy's provision** of work placements, invited speakers, and visits to industry. To this end, we are already engaged with the founders of STEM Academy, via our Ambassador Programme, by enabling their Digital Media Apprentices to experience the work of Europe's largest provider of visual effects for the film industry. We look forward to supporting STEM Academy in the future."*

Double Negative

Double Negative is a Special Effects TV and Film company. They won an Oscar© for their work on the Harry Potter film series.

STEM Academy representatives met with Double Negative at their Soho studios in February 2012. Double Negative provided the following statement in support of STEM Academy's application:

*"When we met with S&DA (STEM Academy proposer), we realised how closely aligned STEM Academy is with the recommendations of the Next Gen Report⁷³, and the Next Gen Campaign⁷⁴ which are part of our ongoing efforts to encourage a greater emphasis on STEM subjects and related art and design, the creation of specialised STEM educational schools and universities, the creation of "home-grown" talent, and the link to job prospects in our and related industries. Furthermore, as a company that is closely involved in influencing the educational landscape for STEM through our links with SKILLSET, the accredited courses and the VFX Handbook we have designed for HE, and the online resources we provide for teachers, parents and students, **we are totally in support of the vision and establishment of STEM Academy**. We are particularly pleased that STEM Academy will provide the **vitaly needed Computer Science**, rather than just ICT, as a core subject and we have discussed*

⁷³Co-authored by Hope, DNeg MD and Ian Livingstone, Life President of Eldos
(http://www.nesta.org.uk/events/assets/features/next_gen)

⁷⁴<http://www.nextgenskills.com/>

with them the contribution we could make to this and other parts of the curriculum."

Mossbourne Academy

In December 2011 STEM Academy representatives were welcomed on a fact-finding visit to Mossbourne. STEM Academy team members were able to meet staff and discuss the need for diverse provision in the Borough as well as observe pupils during recreational and study time.

The team were also able to meet with Sir Michael Wilshaw (then Executive Principal of Mossbourne Academy, now Chief of Ofsted). Sir Michael Wilshaw welcomed STEM Academy's proposal and provided the following statement in support of STEM Academy:

"Having met with the principals in S&DA and discussed their plans for the STEM Academy, I agree that there is a place for academies that provide a specialisation in STEM, for 16 to 19 year olds, at a time when we foresee a critical need for a new generation of scientists, technologists and engineers so vital to our economy. I certainly support STEM Academy which will bridge the gap between academic and vocational education and the world of work that is often lacking in our education system. I am pleased to see that their plans include offers to students who have an aptitude and aspiration for STEM who may lack formal qualifications at A-C as well as students who have the potential to be pre-eminent in their field."

██████████ STEM Academy representatives met with ██████████
██████████ provided the following statement in support of STEM Academy's application:

"The typical route to the World of Work and higher education is by gaining GCSE and A Levels. These qualifications, as ex MD of Edexcel, I am the first to applaud. However, I am pleased to see that STEM Academy not only embraces these traditional qualifications but offers specialisation in Science, Technology, Engineering and Mathematics via entry streams that enable students to follow a path in line with their aspirations, inherent capabilities and potential. Via their specialised vocational courses and apprenticeships underpinned by Foundation as well as AS/A Level courses, STEM Academy will produce the technical practitioners, and higher level engineers and technologists demanded in our modern economy."

Rt. Honourable Dianne Abbott

STEM Academy contacted Dianne Abbott, MP for Hackney, to inform her of our application and plans for setting up STEM Academy in Hackney. STEM Academy was not able to secure a meeting with Dianne in advance of our application submission due to time commitments, however Dianne confirmed she had received and read the information we sent her in regards to STEM Academy. We received the following response from Dianne's office:

Thank you for getting in touch about your plans for a free school in Hackney. **Diane was very interested to read your plans.** Diane is unable to endorse specific plans, although we'd very much like to be kept up to date with the progress you are making.

Best wishes,

[REDACTED] The Office of Diane Abbott MP
[REDACTED] Portcullis House

House of Commons
London

[REDACTED] www.dianeabbott.org.uk

Mayor of London, Mr Boris Johnson

In December, STEM Academy wrote to the Mayor of London, Mr Boris Johnson, to inform him of our application and plans for setting up STEM Academy in Hackney.

We received the following response from the Mayor's office:

The Mayor is very supportive of the Free Schools initiative and is working closely with the Department for Education on this agenda. However, the Mayor is not able to actively promote any particular application, but we do wish you well in your endeavour.

Thank you again for writing

New Engineering Foundation | NEF

Institute of Innovation and Knowledge Exchange

STEM Academy made contact with NEF in December and continued communication with them up to submission of application. Amongst other items, STEM Academy discussed the prospect of gaining the STEM ASSURED quality mark for STEM Academy's provision, which has been met with positive response subject to successful application.

NEF has so far provided the following statement in support of STEM Academy's application:

"It sounds like an interesting endeavour, with some great supporting institutions."

ACE 3D Media – ACE 3D Media is a group of young Creative and Digital Media Apprentices being trained and mentored by S&DA (proposers). ACE 3D Media designed all of the graphics and images for STEM Academy's campaign including: website, leaflets, survey etc. They are themselves aged 16-19 and were able to fully connect with the concept and vision of STEM Academy.

Kids Company

Kids Company provides practical, emotional and educational support to vulnerable inner-city children. We are collaborating with Kids Company to offer support and education access to their young people including options for summer school provision and mini-courses to help them re-engage with education. We have also discussed potential opportunities for STEM Academy pupils with regards to volunteering and work experience at Kids Company and we have discussed the potential of a Kids Company representative joining the board of STEM Academy as a community Governor.

Hackney Council for Voluntary Service (HCVS)

HCVS have declared themselves fully supportive of STEM Academy. They were not able to get fully involved with STEM Academy pre-application due to tight timescales; however, they have agreed to help promote STEM Academy to their members going forward and also make links between us and local community/voluntary groups. The potential reach of this collaboration is to approximately 300 youth groups across Hackney.

Baker Dearing Trust

STEM Academy representatives met with [REDACTED], [REDACTED] in January 2012. We discussed the synergies of STEM Academy with UTC's, but agreed that STEM Academy would add value to the landscape rather than compete directly with UTC's as there are key differences in approaches, for example UTC's target a 14-19 age group whilst STEM Academy offer 16-19 provision; most UTC's only offer vocational-related provision (as opposed to STEM Academy's Academic and Vocational offer) and specialise in only one or two vocational or technical areas (e.g. manufacturing and construction); this differs from STEM Academy's offer which aims to offer a strong core foundation in STEM skills to enable pupils the choice of a wide range of potential options on progression to university or employment.

Lansdowne College

Lansdowne College is a leading 16-19 independent 6th Form. We have had initial discussions with Lansdowne's Principal (himself a science teacher) about potential partnering and collaboration between our organisations. We have invited Lansdowne to share their knowledge and expertise with our proposed school and potential suggest a representative to join our board of Governors.

Universities

STEM Academy has made initial contact with the following universities about future partnerships and collaboration with regards to visits, speakers, progression information sessions, delivery of master-classes etc. The following universities have indicated initial interest subject to successful application:

- Oxford University
- Cambridge University
- Imperial College London

- University of York
- Kings College

E2: Demonstrate how you intend to reach out to the wider community, including, where relevant, children from a range of backgrounds, faiths and abilities.

How STEM Academy plans to make the Academy attractive to pupils of different backgrounds and abilities; including pupils from deprived or disadvantaged families

STEM Academy's offer will be attractive to pupils of differing backgrounds and abilities as it will offer a diverse curriculum suited to the needs of different interests and abilities, these include:

- Foundation for Progression – GCSE provision for pupils that have not achieved 5 GCSE's at Grades A*-C;
- Level 3 Academic qualifications – A Levels and AQA Baccalaureate
- Level 3 Vocationally-related qualifications – Extended Diploma BTEC

STEM Academy will also provide an environment which is sensitive to the diverse socio-economic needs of its pupils, for example: free water will be provided in strategically-located water fountains; the canteen will offer heavily subsidised, healthy, nutritious and filling hot food (including breakfast).

STEM Academy will also source and coordinate all pupil Work Experience opportunities ensuring that all pupils receive high quality experiences and not just those whose parents have the available contacts or sector-knowledge.

In the lead up to school opening, STEM Academy will run focus groups and community consultation events to gain input from the local community in the set up and direction of STEM Academy (in line with our fixed Vision and Objectives).

In order to ensure that pupils from all backgrounds and abilities are aware of STEM Academy, we will promote our offer widely and in diverse range of mediums to ensure we are successfully and effectively reaching all sections of our target age group whilst also considering best Value for Money options. Strategies for STEM Academy awareness and engagement include:

Immediate

- Use of social media to engage young people – Twitter, facebook and consider mobile phone app
- Launch and maintain website - maintain accuracy and timeliness of all info and keep news sections fresh by adding at least 1 new item each week, use pictures, videos and interactive tools to engage and interest young people
- Consider coordinated admissions through Learning Trust (accept their offer to join)
- Use appropriate diverse media e.g. Voice Newspaper, Sunshine

Radio, Choice FM, Channel AKA, BET Channel. Popular youth magazines. Local Hackney press/media (more for parents)

- Attendance at youth events and exhibitions (e.g. Worldskills Excel centre)
- Referrals from Hackney Youth Services
- Referrals and signposting from Community Youth Organisations: Kids Company, NXG, Serious About Youth, S&DA, Stephen Lawrence Charitable Trust
- Consideration of wider media campaign (subject to cost) – posters, radio, bus, cinema etc.
- Direct Mail – leaflets, newsletter etc to households in selected postcode areas, libraries, sports and advice centres and other agencies, schools etc.
- Advertising – online, print, radio, outdoor, prospectus, website
- Online listing and profile – Optimizing Google search and other search engines – weekly e-bulletins/updates to e-mailing list
- Establish system to collate and record all enquiries generated for both analysis and to establish firm customer base
- Produce Academy Prospectus, course information sheets, and application/admissions form
- IAG Service
- Continued presence at Hackney central library
- Canvass and leafleting at public venues and locations: market, indoor mall, cinemas, Sainsbury/Tesco etc.

Longer term

- School Open Days
- Schools information service (e.g. offer engineering tutor to attend local schools and speak to children about careers in engineering)
- Summer short courses and activities programme
- Youth competitions and events

In terms of the above engagement and awareness-raising strategies, STEM Academy has identified its Target Market, summarised as follows:

Individuals

- Young People – Years 9, 10,11 currently in Schools and Sixth forms in Hackney and wider London boroughs, especially East London
- Young People aged 16 and 17 and not currently engaging in education or training
- Parents of young people

Organisations

- Local Schools, UTC, Sixth form provision, Learning Trust, 14-19 Coordinators
- Local stakeholders and organisations, voluntary and statutory e.g. Connexions/Careers Advisers/Next Steps Community Groups, Youth Clubs, sports centres, etc.
- Local employers – to engage their interest and support

Using the school as a resource for the wider community

STEM Academy fully intends for its premises to be used as a resource for the wider community, we have many ideas about how this could be effectively achieved and what suitable uses we may consider, these include:

- Partnerships with other schools for use of specialist equipment or pupil visits
- Partnerships with community organisations for delivery of community-related skills and training provision
- Employability advice and workshops for adults in the community
- Summer school provision
- Weekend or evening classes or extracurricular provision for community youth (non-pupils)
- Sign up for School Plus (school halls for hire web service)
- Hold exhibitions, shows, award events etc

We will manage the community use of premises/resources by having a comprehensive and detailed Premises and Resources Strategy which will include:

- Details of staff and manager responsible for activities and appropriate levels authorisation (named staff);
- H&S risk assessment and other necessary legislative requirements;
- Insurance;
- Pricing strategy;
- Priorities and acceptable usage etc.

Discussions with the local authority

Hackney Property Services

Hackney Council Property Services has been very involved in supporting us to find suitable potential premises and are very supportive of our work and proposal. We have been very fortunate to have such a positive response and working partnership with our preferred local authority.

The Learning Trust

The Learning Trust runs all the education services for the **London Borough of Hackney**. They are responsible for schools, children's centres, early years and adult education.

In January 2012, STEM Academy was invited to meet with the management team at the Trust to discuss STEM Academy's proposal and initial discussions re: planning of 16-19 places within the Borough.

On the 3rd of February 2012, representatives from STEM Academy attended a meeting at the Learning Trust offices and met with following key staff:

- [REDACTED]
- [REDACTED]
- [REDACTED]

The Learning Trust were supportive of STEM Academy's vision and offer and initial discussions around potential pupil places and need highlighted two key areas of need:

- (1) Places and provision is desperately needed for 16-19 pupils who have not achieved A*-C GCSE grades as currently there is a lack of options for this cohort due to existing Hackney Sixth Forms demanding minimum A-C grades for entry to 6th Form. The only options at the moment for this group is vocational study (usually at FE Colleges) which does not always meet the needs of all learners and limits options for future progression. With proper support, some of these pupils are capable of progressing further at academic level and the Trust were highly supportive of STEM Academy's Foundation for Progression offer with plans discussed of how the offer could be coordinated across the Borough and in partnership with Hackney Youth Services.
- (2) Hackney has been growing and expanding its 6th Form offer however, even more spaces will be needed in the Borough as a result of the raising of participation age to 17 in September 2013 (the year STEM Academy proposes to open) and onward to 18 in 2015. Equally, Hackney would like to see more 6th Form pupils staying in the Borough, with over 40% currently attending 6th Form outside London Borough of Hackney. STEM Academy's offer would be a welcome addition to Hackney's schools place plans.

We received the following statement from **Learning Trust** in support of our application:

"The Learning Trust in Hackney is committed to providing a mixed and diverse market place of high quality post-16 provision for all its learners and residents. We have met with the STEM Academy and have had reassurance that they will play an active role in this market providing a tailored offer to young people who have demonstrated a keen interest in the STEM subjects regardless of their ability."

Section F: Capacity and capability

F1: Show how you will access appropriate and sufficient educational expertise to deliver your vision.

Show that you have identified the resources, people and skills that you will need to set up and operate a school

STEM Academy is being proposed by S&DA, a community-focused not-for-profit organisation (limited by guarantee), with over 10 years experience in widening participation, providing education and training for post 16 across Greater London. Members of the proposer group are made up of existing S&DA staff, members, directors and associates. In addition to this core team, further capacity and capability is being provided by external individuals who share S&DA's vision and ethos for STEM Academy. These individuals each bring a wide range of skills, extensive experience and expertise that add value to the organisational planning from the initial vision through to launch of the new school.

Identification of proposer team

STEM Academy Development Team			
NAME	ROLE	KEY AREAS OF EXPERTISE	STATUS WITH STEM ACADEMY
██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████
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██████████	██████████	██████████	██████████

All of the aforementioned members and individuals recognise that their contribution is crucial to the success of the proposed STEM Academy and are fully committed to developing the STEM Academy's educational vision as set out in Section C and translating it into practice.

Our vision for STEM Academy both pre and post application requires identification of the resources required to bring this vision to reality.

Key resources requirements have been identified as follows:

Business Management and strategic planning

Organisational skills; experience of setting up processes and systems; knowledge of legislative requirements and business best practice; financial skills and understanding; ability to plan and implement effectively

Educational experience & knowledge

Curriculum planning; strategic development; ability to plan and structure staff timetables; knowledge and experience of running a 6th Form school; knowledge of curricula to meet requirements of academia; experience of developing policies for admissions, behaviour, SEN/differing abilities, facilities and premises

Staff recruitment and HR

Knowledge and experience of HR and equality & diversity policies and practices; knowledge of staff remuneration and reward; knowledge of effective HR planning and implementation strategies and policies

Finance & budgeting management

Accounting experience; payroll, pensions, knowledge of various contracts for school staff i.e. term time only, supply staff rates; procurement of suppliers and services; budget and credit control; financial planning

Legal and governance

Roles of members and governors; relevant legislation – H&S, company law, legal requirements etc

IT and Facilities

Equipment; IT; Learning resources

Research

Websites; network support; New School Network; DfE; university entry requirements and vocational programmes to meet the current labour market needs

The key team of proposers have assessed their skills, abilities and experience against the resources required and set out below the outcome of this assessment:

Resources required	Team Member Pre- application	Team Member Post-application	Member/Governor
Staff recruitment & HR			
Finance and budget management			
Educational experience & knowledge			
Curriculum planning			
Strategic development			
Timetabling			
Experience of running a secondary school – Head Teacher			

Knowledge of curricula to meet requirements of academia	[REDACTED]	[REDACTED]	[REDACTED]
Experience of developing policies for admissions, behaviour etc	[REDACTED]	[REDACTED]	[REDACTED]
Facilities, premises	[REDACTED]	[REDACTED]	[REDACTED]
Legal	External support and advice input	External support and advice input	

Educational expertise

Our group is able to demonstrate we have the educational expertise, capacity and capability to plan and manage the set up and running of the school.

We have access to appropriate educational expertise through key members of the group whom we have identified as follows:

STEM Academy team



Confirm time commitments to the project from relevant individuals

To ensure the skills, experience and specialism of members were maximised, (bearing in mind time commitments) during the application stage, a detailed implementation plan was drawn up designating roles naming a specialism leader and their support team members. This ensures the vision is threaded throughout the application as all members are involved in all areas in some way either leading or supporting.

S&DA is a staff co-operative and staff involvement in STEM Academy has been agreed on a voluntary basis; the implementation plan has been designed to ensure they have adequate time to fulfil duties and responsibilities related to the development of STEM Academy without jeopardising their current roles and responsibilities.

Name of proposer team member	Pre application	Post application
[REDACTED]	8 days per month	1-2 days per month or as needed for successful implementation
[REDACTED]	8 days per month	1-2 days per month or as needed for successful implementation
[REDACTED]	5 days per month	1-2 days per month or as needed for successful implementation
[REDACTED]	6 days per month	1-2 days per month or as needed for successful implementation
[REDACTED]	2 days a month	1 day per month
[REDACTED]	2 days a month	1 day per month
[REDACTED]	.5 days a month	1 day per month

		2 days a month	2 days per month
		2 days a month	1 day per month
		.5 days a month	1 day per month
		4 days per month	½ day per month

In addition to the above time commitments, it is expected that should the application be successful a Full Time Project Manager will be appointed (subject to DfE agreement and proper procurement rules) to manage the development phase. The Project Manager's time would be in addition to the member commitments stated above.

STEM Academy has robust arrangements in place to ensure that any potential conflicts of interest are avoided. This is implemented through a range of policies and strategies including fair and transparent recruitment processes; a register of declaration of interests and Personal Relationships at Work policy.

Time commitments from proposers with educational expertise would reduce following the recruitment and appointment of the Principal Designate and as key milestones are met including in-depth induction and hand over.

Set out clear and detailed plans for identifying and securing any necessary educational expertise currently missing from your group

STEM Academy is confident that the current team's expertise in education and the team's access to additional voluntary external educational expertise will be sufficient to meet the needs of STEM Academy up to appointment of the Principal designate. However, should any additional educational needs be identified we will secure additional support through future contract/s with appropriate high quality organisation with demonstrable track record and educational expertise (subject to DfE approval and proper procurement rules).

Below, we summarise the external educational expertise we have been able to draw on to date (all external support received to date has been on voluntary basis):

STEM Academy additional educational expertise sources, included:

1. STEM Academy was on the NSN Development Programme and through this were able to gain additional support from NSN's advisory team including consultations with Head Teachers and educational consultants. NSN also assisted with providing access to trusted advisors by way of contact details and at a series of workshops.
2. Via our own network of contacts we met with educational advisors covering a number of areas of expertise:
 - **STEMNET** - links to industry specific information
 - **Awarding Bodies** - linking to sector specific qualifications: i.e. OCR, City and Guilds, and Edexcel

- [REDACTED] - Mossbourne Academy
- [REDACTED] – former [REDACTED]
- **The Learning Trust** - who provided us with information in regard to current status of secondary education in the Borough together with future profiles indicating that more 6th form places would be required in 2015
- **Herts University** - advised on Engineering qualifications and curriculum
- **BSix** – Hackney 6th Form that invited our team for a visit of their school and assisted with support in identifying necessary equipment and resources.

A legal team of well reputed solicitors provided expertise and information with regard to the roles and responsibilities of Governors and Members of Academy as pertaining to educational oversight and scrutiny.

All members, directors and individuals forming the proposer group, are committed to long term involvement in ensuring the initial vision and ethos are embedded into the strategic structure and planning and maintained throughout the life of the of STEM Academy.

F2: Show how you will access appropriate and sufficient financial expertise to manage your school budget.

Show that you have identified the resources, people and skills that you will need to set up arrangements for and undertake the financial management of a school

Our proposer group assessed the resources, people and skills required to set up and undertake the financial management of STEM Academy and identified four key members of the group with the relevant expertise and the skills and resources required.

At development stage financial expertise will be provided by identified members of the Steering Committee. Once the Academy is up and running, operational financial duties will be delegated to the Principal, Business Manager and Finance Officer on a day-to-day basis with oversight from the Governing Body.

STEM Academy members will ensure that at all times the Governing Body have representatives with appropriate and sufficient levels of financial expertise to enable strategic guidance and scrutiny on all financial matters.

STEM Academy members with financial expertise

- 1. [Redacted] – [Redacted]
- 2. [Redacted] – [Redacted]
- 3. [Redacted] – [Redacted]
- 4. [Redacted] – [Redacted]

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Confirm time commitments to the project from relevant individuals

All proposer team members are committed to a long term involvement with STEM Academy. **There is firm time commitment** from individuals which is envisaged as follows:

Name of proposer team member	Pre application	Post application
██████████	8 days per month	1-2 days per month or as needed for successful implementation
██████████	8 days per month	1-2 days per month or as needed for successful implementation
██████████	5 days per month	1-2 days per month or as needed for successful implementation
██████████	6 days per month	1-2 days per month or as needed for successful implementation
██████████	2 days a month	1 day per month
██████████	2 days a month	1 day per month
██████████	.5 days a month	1 day per month
██████████	2 days a month	2 days per month
██████████	2 days a month	1 day per month
██████████	.5 days a month	1 day per month
██████████	4 days per month	½ day per month

In addition to the above time commitments, it is expected that should the application be successful a Full Time Project Manager will be appointed (subject to DfE agreement) to manage the development phase. The Project Manager’s time would be in addition to the member commitments stated above.

The time committed expressed above would steadily decrease following the recruitment and appointment of the school Principal Designate initially and continue to decrease once the school is up and running and other key staff with financial expertise and responsibilities are in post.

Set out clear and detailed plans for identifying and securing any necessary financial expertise, including an understanding of school budgets, currently missing from your group

STEM Academy is confident that the current team’s expertise in finance (including understanding school budgets) will be sufficient to meet the needs of STEM Academy up to appointment of the Principal designate and eventually other key staff with financial responsibilities.

However, should any additional financial needs be identified we will secure additional support through future contract/s with appropriate individuals &/or organisations with demonstrable track record and financial expertise in the education sector (subject to DfE approval and proper procurement rules).

Below, we summarise the external educational expertise we have been able to draw on to date (all external support received to date has been on voluntary

basis):

STEM Academy additional financial expertise sources, included:

3. STEM Academy was on the NSN Development Programme and through this were able to gain additional support from NSN's advisory team including consultations with educational financial consultants. NSN also assisted with providing access to trusted advisors by way of contact details and at a series of workshops.
4. Via our own network of contacts we met with educational experts with specialist expertise in a wide range of areas including school finance:
 - [REDACTED] - Mossbourne Academy
 - [REDACTED] - [REDACTED]
 - **The Learning Trust** – Hackney Council's LOCAL Education Authority provider
 - **BSix** – Hackney 6th Form that invited our team for a visit of their school and assisted with support in identifying necessary equipment and resources, including costs estimates and budgets.

A legal team of well reputed Solicitors provided expertise and information with regard to the roles and responsibilities of Governors and Members of Academy as pertaining to financial oversight and scrutiny.

All members, directors and individuals forming the proposer group, are committed to long term involvement in ensuring the initial vision and ethos are embedded into the strategic structure and planning and maintained throughout the life of the of STEM Academy.

F3: Show how you will access other relevant expertise to manage the opening and operation of your school.

Details of our group, including the members of the company, and their particular areas of experience and expertise;

We have assessed the requirements to manage the opening and operation of STEM Academy and believe that we have identified the required expertise and resources to effectively deliver and implement the vision for the opening and operation of STEM Academy.

As our group is comprised of talented individuals, whose professional experience cuts across private, public and voluntary sector organisations; particularly those involved in education, skills and training, we have identified other relevant expertise detailed in the table below:

STEM Academy Development Team			
NAME	ROLE	KEY AREAS OF EXPERTISE	STATUS WITH STEM ACADEMY
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Identify other relevant expertise, such as individuals or organisations with successful experience of setting up a new organisation or business, school governance, human resources, ICT, property/construction, marketing and project management;

S&DA Group

STEM Academy is being proposed by S&DA (The Skills and Development Agency), a successful provider of education and skills provision for those aged 16+.

S&DA’s expertise is clearly evident and relevant to the establishment of STEM Academy, by the fact that the Skills Funding Agency (SFA), YPLA, European Social Fund (ESF), UK Online, London Councils, and London Development Agency, amid other sources, have consistently granted competitive contracts to S&DA covering a wide range of vocational and non-vocational training courses, as well as Apprenticeship provision and employability support across London, the South East and East of England.

S&DA's current provision is predominately in the STEM sector, including Engineering Apprenticeships and Digital Media. In addition to skills' training, S&DA also successfully delivers educational provision, e.g. BTECs, numeracy and literacy courses.

Existing knowledge, expertise and experience will be transferred to STEM Academy ensuring the necessary skills are in place to support effective opening and eventual operation of STEM Academy. Setting up of STEM Academy is a natural step integrating academic and vocational education with employers and the real world of industry and business, a vision at the heart of the STEM Academy Members own commitment and passionate desire to play their full part in improving STEM education.

Importantly, S&DA is a not for profit company limited by guarantee (Company Registration No: 5258081). As a staff cooperative with an elected board, S&DA are thus already fully familiar with the ethos required for establishing and running a Free School based on fairness, inclusion, equality and community cohesion and STEM Academy will inherit these values. Moreover, S&DA has significant organisational, management financial expertise, evidenced, for example, by the SFA approving a 10 company consortium enabled by S&DA as part of the recent rationalisation of vocational qualifications and apprenticeship contracting arrangements by the Department of Business, Innovation and Skills (BIS).

This organisational, management, financial, training and educational expertise is already compliant to industry standards such as ISO 9001, IIP, Matrix and accreditation by leading Qualifications Awarding Bodies such as City & Guilds, Oxford Cambridge and RSA Examinations, and Edexcel – all awards and kitemarks which S&DA proudly holds.

S&DA is able to demonstrate clear evidence of expertise and knowledge in key business critical areas including: establishing a new organisation or business; governance; human resources; ICT; property/construction; marketing and project management – all areas which S&DA staff and Directors currently perform at high levels of competence.

Clear time commitments to the project from the relevant individuals

Individually and collectively, the STEM Academy proposer group has depth and breadth of experience, within most business areas, including: setting up a new organisation, corporate governance, human resources, ICT, property & facilities management, marketing and project management. The individuals included in the staffing table at the beginning of this section, have all been identified as having relevant expertise and experience to support the opening and implementation stage of STEM Academy.

All individual members of the group are committed to a long term involvement with STEM Academy. There is firm time commitment from individuals which is envisaged initially on table below.

Name of proposer team member	Pre application	Post application
██████████	8 days per month	1-2 days per month or as needed for successful implementation
██████████	8 days per month	1-2 days per month or as needed for successful implementation
██████████	5 days per month	1-2 days per month or as needed for successful implementation
██████████	6 days per month	1-2 days per month or as needed for successful implementation
██████████	2 days a month	1 day per month
██████████	2 days a month	1 day per month
██████████	.5 days a month	1 day per month
██████████	2 days a month	2 days per month
██████████	2 days a month	1 day per month
██████████	.5 days a month	1 day per month
██████████	4 days per month	½ day per month

In addition to the above time commitments, it is expected that should the application be successful a Full Time Project Manager will be appointed (subject to DfE agreement) to manage the development phase. The Project Manager's time would be in addition to the member commitments stated above.

The stated time commitment would steadily decrease following the recruitment and appointment of the Principal Designate and eventual staff and as key milestones are met including in-depth induction to STEM Academy employed staff and hand-overs.

Due to the members' commitment to STEM Academy, additional time would be committed to the opening and operation of STEM Academy as needed to ensure STEM Academy is successfully set-up and operated.

How work on this school will be balanced against the development of others if your group is seeking to establish more than one school

Members are not seeking to establish more than one school in this round. Should STEM Academy succeed with its application, members would certainly consider the benefits of applying to start further schools as an Academy chain or sponsor, indeed STEM Academy has already received some evidence of demand petitions from Leeds.

In the immediate future, getting STEM Academy up and running is our priority and focus.

Set out clear and detailed plans for identifying and securing any necessary expertise currently missing from your group

STEM Academy is confident that the team's experience and expertise, as fully

detailed above, will be sufficient to meet the needs of STEM Academy up to appointment of the Principal designate and eventual selection and recruitment of other key staff.

However, in the event that any additional necessary expertise is identified, we have clear and detailed plans for identifying and securing any additional necessary expertise, these include:

- NSN Advisory Team (Development Programme);
- Comprehensive register of known and trusted advisors – legal, finance, business management, education consultants etc (subject to DfE approval and procurement guidelines);
- Voluntary partnerships with voluntary & community sector organisations and individuals with successful track record in relevant areas.

Organisations that have preliminarily agreed to support STEM Academy on a voluntary basis include:

- Learning Trust (Hackney educational services)
- Kids Company
- Stephen Lawrence Charitable Trust
- Landsdowne College (independent school)
- Serious About Youth
- NXG Projects
- Youth Community Leadership
- S&DA Group
- Apprenticeships in Action
- STEMNET
- Double Negative, amongst others
- Partnerships with schools across London that share our ethos
- Partnerships with Universities and UTCs

F4: How Staffing Structure will deliver the planned curriculum

Staffing structure overview

A crucial aspect of STEM Academy's staff selection and recruitment strategy will be to ensure there is a complete 'buy-in' and full commitment to the vision. STEM Academy acknowledges that staff are the most important resource in the school and to make it successful it is essential that the staff fully understand and support every aspect of the school's ethos and its aims, as set out in Section C: **Vision** and Section D: **Educational Plan**.

The Principal will be fully involved in the recruitment and selection of staff and will effectively lead the team in delivering its vision and ethos. It is expected that the appointed person will be an experienced and charismatic leader who will be able to articulate the vision and lead by example.

Year 1 will have a reduced staffing complement as STEM Academy will not yet be operating at full capacity (full capacity Yr 2).

Year 1 will require teachers who are experienced, versatile and able to work independently as they will have responsibility for establishing and developing the curriculum as well as working across a number of areas: teaching, extra-curricular, tutorials etc. They will need to have previous experience of successfully delivering the GCSE, AS/A level and BTEC subjects on offer.

It is assumed that teaching staff will have contracts for 36 hours per week of which 24 hours will be contact with pupils and the remaining 12 hours will be used for preparation and marking. Of the 24 hours contact time 20 hours will be 'hard' contact - that is teaching of a subject to a class of approximately 16-18 pupils, and 4 hours will be 'soft' contact which will include tutorials and running an enrichment activity such as one of the extended day clubs. Through deploying staff hours in this format we will be able to deliver the extra-curricular programme without any additional staff cost.

Year 1 **Senior Leadership Team (SLT)** will include one Senior Teacher and the Principal. Therefore subject teachers will have responsibility for the standardisation and internal moderation procedures pertaining to their subject.

In Year 2 as the school intake expands there will be opportunities for progression for some subject teachers (others to join through recruitment) as the school develops its management team to include **Heads of Department**, who will have responsibility for leading defined curriculum areas.

Roles and responsibilities of STEM Academy staff

ROLE	AREA OF RESPONSIBILITY
SENIOR LEADERSHIP TEAM	
Principal	With equality of opportunity at its core, the Principal will have overall responsibility for the day to day running of the school; the quality of teaching and learning; the strategic leadership, implementation and monitoring of KPI's; and the effective deployment of staff (Year 1). From Year 2 the deployment of staff may be delegated to the Deputy Principal.

The Principal will work closely with the Board of Governors to ensure the Academy is run effectively in line with all legal and best practice requirements and delivers fully to its stated aims, objectives and Vision.

The Principal will have overall responsibility for the recruitment and assignment of staff including dismissal &/or disciplinary procedures. The Principal will be supported in this role by SLT and the Office Manager (responsibility for HR).

Other key roles and responsibilities of the Principal:

- Chair staff meetings, SLT meetings and community partnership meetings (as appropriate);
- First point of contact for DfE, YPLA/EFA, Hackney Learning Trust/LEA's;
- Keep up to date on all legislative and best practice updates and resources;
- Attendance at Leadership meetings, conferences and events etc;
- Keep the academy's **vision** at the forefront of all decisions and practices, using the STEM Academy's Vision, ethos, aims & objectives to guide the development of policies, practices, procedures, staff selection/recruitment, quality improvement and all other aspects of planning and delivery;
- Work closely with the governing body to ensure the school stays on track with its vision and stated aims & objectives;
- Lead the effort to create budgets; staffing schedules and patterns; policies and practices that best serve teaching and learning;
- Act as final point of reference for pupil disciplinary actions and referrals to external authorities in most severe circumstances;
- Ensure a focus on high academic expectations, challenging curriculum, effective instruction, and support for all students – in line with STEM Academy's 9 Key Principles;
- Ultimate accountability for the financial well-being of the school, including responsibility for effective coordination and delegation of fundraising activities;
- Mobilise and support teacher leadership through Heads of Department and wider SLT group;
- Line Management of identified SLT staff:
 - Deputy Principal
 - Head of Work Academy and Business Development
 - Business Manager
- Build strong relationships with Hackney LEA and wider local authority, teachers, pupils, families, community partners and YPL/EFA and DfE key contacts;
- Be involved in every aspect of the day-to-day life of STEM Academy and demonstrate knowledge and understanding encompassing every role and feature of STEM Academy's operations, teaching and learning, and service delivery;
- Overall responsibility for Ofsted and other statutory inspections and related reports including self-assessment and Quality Improvement Plan;
- Undertake business planning activities; develop 5-year Business Plan in partnership with governing body, Head of Work Academy & Business Development, Business Manager and other members of SLT; develop and update annual operations plan;
- Lead on achievement of Academy-wide quality standards and kite-marks;
- Act as a Champion and ambassador for STEM Academy both internally and externally.

Deputy Principal

With equality of opportunity at its core, the Deputy Principal will support the Principal in the day to day running and management of the Academy and will have a small teaching allocation (expected to be around 0.2).

In Year 1 the Deputy Principal will also perform the role of Head of Curriculum working

with the Principal and teachers to design, develop and deliver appropriate programmes of learning in line with STEM Academy's 9 Key Principles of Learning and stated requirements of Ofqual and appropriate Awarding Bodies.

By Year 2, five Heads of Department (HoD) will be in post with responsibility for leading on curriculum design and delivery in their identified curriculum area/s. The Deputy Principal will Line manage the HoD's and will maintain responsibility for the high quality design and delivery of learning programmes. In addition, the Deputy Principal's role will expand to include additional areas of responsibility as summarised below.

The Deputy Principal will be accountable to the Principal for the effective management and administration of the relevant areas of his/her responsibility and will deputise for Principal in his/her absence. In collaboration with the Principal and other members of SLT, the Deputy Principal will provide educational leadership in the school and the community by developing and promoting the school vision. The Deputy Principal will lead and motivate staff in quality improvement and planning with a specific focus on STEM Academy Key Performance Indicators as referred to in Section D4. A key aspect of the role will be to assist in facilitating workforce effectiveness i.e. effective deployment of staff. The Deputy Principal will lead on staff development and the strategies for improvement of professional performance. The Deputy Principal will contribute to the planning and continued development of the Academy through collaborative decision making, including assisting in developing policies, processes and establishing and maintaining systems. The Deputy Principal will have a significant role in the daily management of staff and student well-being including attendance and ensuring good behaviour. The Deputy Principal will take the lead in the implementation and monitoring of Academy policies and procedures. The Deputy Principal will lead on community engagement partnerships and strategies and will be first point for of contact for community partners, schools, friends of STEM Academy and other community partnerships. The Deputy Principal will also assist the Principal in ensuring compliance with relevant legislation.

The Deputy Principal will ensure all are provided with timely and appropriate feedback about their performance, opportunities for professional development (including coaching and mentoring). The Deputy Principal (in partnership with SLT) will help to ensure the effective use of information systems to report and monitor on a range of Academy performance areas including: compliance; whole school and individual department performance; individual pupil/teacher/class performance; financial/accounting performance; attendance and behaviour all other aspects of STEM Academy's Key Performance Indicators. The Deputy Principal will support the Principal in planning, preparation and achievement of Academy-wide quality standards and kite-marks;

On appointment, the Deputy principal will accept overall accountability for following key areas: coordination, implementation and monitoring of SEN policy and strategy; coordination, implementation and monitoring of pupil admissions policy and strategy; coordination and implementation of behaviour management, pupil wellbeing and attendance policies and strategies; coordination, implementation and monitoring of Key Performance Framework; community relations and partnerships (including partnerships with other schools and liaison with Hackney Learning Trust); overall responsibility for staff professional development and monitoring of performance in partnership with Principal.

Head of Work Academy and Business Development

The Head of Work Academy and Business Development will be part Senior Leadership Team as the Work Academy provision forms a key part of STEM Academy's vision in effectively preparing pupils for the world of work. It is envisaged that the role will be Part-time (0.5) and supported by a FT Work Academy Coordinator.

	<p>With equality of opportunity at its core, the key roles and responsibilities for the Head of Work Academy and Business Development will be to ensure the effective running of the Work Academy (WA) in line with stated vision and objectives; securing corporate sponsorship and support for WA provision; high-level contact/networking with business community to ensure successful delivery of WA provision (e.g. Service Level Agreements with businesses for Work Experience, pupil mentoring, potential school governors/advisors, speakers etc); strategic planning and direction for future development of the Work Academy (e.g. expansion of services, offering WA services to other schools/youth organisations). The Head of Work Academy and Business Development will also have responsibility for the business development strategy of STEM Academy which would include key tasks such as: overall responsibility for Marketing/PR of STEM Academy; strategy and implementation for community/external use of premises and equipment; development of complimentary services/activities (e.g. school holiday provision); international development opportunities; partnerships with other schools/youth organisation (sale or exchange of services); growth/duplication of STEM Academy Trust (i.e. group of academies); general first point of contact for businesses and business opportunities. The Head of Work Academy and Business Development will work effectively with industry bodies such as STEMNET, New Engineering Foundation, National STEM Centre etc.</p>
<p>Heads of Department</p>	<p>In Year 1 there will only be one PT Head of Department for Foundation for Progression (GCSE) provision, their key remit will be the design and development of the Foundation for Progression GCSE curriculum in partnership with Deputy Principal. From Year 2, this will become a FT role as the Academy expands to full capacity.</p> <p>From Year 2 four more Heads of Department will join STEM Academy, who along with responsibility for curriculum in their area may be delegated tasks such as timetabling and deployment of staffing within their department. With equality of opportunity at its core, Heads of Department will have immediate accountability for performance within their departments across a wide range of indicators including: staff performance; pupil performance, behaviour, attendance and participation; parent, pupil and staff satisfaction; effective use of staff and resources etc.</p> <p>Heads of Department will have demonstrable experience of teaching and in-depth subject knowledge as well as experience and expertise in monitoring quality of learning and observing teaching.</p> <p>It is also anticipated that one of the Heads of Department will take responsibility for UCAS preparation and co-ordination of references. Heads of Department will have a maximum allocation of 18 contact/teaching hours per week.</p> <p>Our proposed Heads of Department will be allocated as follows:</p> <ul style="list-style-type: none"> • HoD – Science • HoD – Maths • HoD – Technology and Engineering • HoD – BTEC and Vocational • HoD – GCSE Foundation for Progression provision <p>Heads of Department will each have Line Management responsibilities for Teaching Staff (including Teaching Assistants and Lab Assistant/s). Heads of Department may also be called upon to perform Head of House duties (especially in earlier years) if it is deemed that there are not sufficient senior teachers to undertake this role (see below – Teaching Staff for further details).</p>
<p>Business Manager</p>	<p>This Business Manager will be responsible for administration; financial management including processing of salaries and budgets; cash-flow analysis and preparation of annual accounts and budgets; ordering and maintaining the Academy’s inventory of equipment, stationary, learner resources and the like; maintaining/managing the</p>

Academy's estates and facilities including control/management of related in-house staff (e.g. caretaker, security, welfare officer) and sub-contractors; managing all out-sourced services (e.g. catering); overseeing health & safety; maintaining records of pupil and staff attendance, absences etc.

Due to the size of the academy in Year 1, the Business Manager will pick up the responsibilities of the HR Officer in Yr 1 to save costs. In performing this role, the Business Manager will work closely with the Principal's PA and will delegate some duties to him/her in so doing.

The Business Manager will also provide management and leadership on critical business issues dealing closely with the Principal and leadership of the Academy

Due to the critical importance of the Business Manager's role to the efficient running of the Academy, this will be a full time post even in Year 1 when pupil numbers are reduced – this will enable the Business Manager in Year 1 to contribute significantly to the planning considerations required to move the Academy to steady state.

By year 2 when the Academy reaches full capacity the Business Manager will Line Manage the following roles:

- HR Officer 0.5
- Exam Officer 1.0
- IT/Network Technician 1.0
- Learning Resource Officer 1.0
- Receptionists 1.2
- Caretaker 1.0
- Finance Officer function 0.5

Learning Support Coordinator (SENCO)

The Learning Support Coordinator (SENCO) will initially start as a PT role in year 1 progressing to a FT role in year 2 when the Academy reaches full capacity. The Learning Support Coordinator will be part of the Senior Leadership Team. With equality of opportunity at its core, the Learning Support Coordinator will be responsible for the coordination and oversight of STEM Academy's policies and practices for pupils with additional support needs. It will be part of the LSC's responsibilities to ensure that resources and support are allocated and maintained to all those individual pupils who may need additional provision.

Specific responsibilities will include:

- Line Management of Welfare Officer, Learning Support Assistant and coordination of the effective deployment of Teaching Assistants (Line Managed by Heads of Department);
- Ensuring all pupils, including those with special or additional needs receive their full educational entitlement and have access to the full curriculum;
- Managing support initiatives and interventions and development/coordination of alternative teaching strategies and individual programmes where necessary;
- Advising STEM Academy policy and strategy from a pupil needs point of view;
- Supporting staff in their understanding and effective response to additional support needs;
- Preparation, delivery and assessment of staff training and development pertaining to SEN/Additional Support Needs;
- Strategic overview of SEN/Additional Support Needs and Inclusion throughout the school including planning, policy writing, advising and supporting other staff;
- Preparing and managing statutory assessment paperwork;
- Organisation and oversight of pupil monthly, quarterly and annual reports (as appropriate);
- Meeting with parents, carers and statutory agencies (as applicable);
- Management and coordination of referrals to external partnership agencies and monitoring of outcomes/implementation of recommended actions;

- Some teaching responsibilities –small groups or one to one (when needed);
- Leading on effective collation and analysis of data including effective interpretation of pupil progress/performance data.

ACADEMY STAFF

Teaching/tutorial Staff	<p>In Year 1 there will be a reduced staffing complement as the school will not yet be operating at capacity, Y1 will have 11 teachers/tutors. The school will reach capacity at Year 2 and will at that stage have a full staffing complement of 21 teachers/tutors which will remain consistent for future years.</p> <p>With equality of opportunity at its core, teachers/tutors are responsible for the planning, preparation and delivery of classes to meet the needs of all pupils. They will be expected to set and mark work, track and record student progress effectively and prepare monthly reports of pupil progress for each of their classes/subject areas. STEM Academy teachers will be passionate, demonstrate excellent subject knowledge and will be committed to STEM Academy's 9 Key Principles. Teaching Staff will also have responsibility for a tutorial group which will include a pastoral role. More experienced teachers will have the opportunity for additional responsibility as designated 'Head of House' which will include offering support to other tutors within the 'house group'; Heads of House will not however, have formal Line Management responsibilities for tutors who will be managed by the Heads of Department (as indicated above). Teachers will also run, coordinate or supervise one or more of the enrichment/extra-curricular activities (detailed in the Education Plan). Time for enrichment/extra-curricular provision has been accounted for in their 36 hour contracts.</p>
Teaching Assistants	<p>In Year 1 there will be a reduced staffing complement as the school will not be operating at capacity, Y1 will have 1 PT Teaching Assistant (0.5). The school will reach capacity at Year 2 and will at that stage have a full staffing complement of 3 Teaching Assistants which will remain consistent for future years.</p> <p>Teaching Assistants will support teachers in and out of the classroom and will be effectively deployed to support specific pupils (in and out of the classroom) as needed. Teaching Assistants will also form part of the English as an additional language strategy effectively supporting pupils with English language needs. Teaching Assistants will also play a role in supporting the effective running and administration of extra-curricular activities.</p>
Lab Assistant/s	<p>In Year 1 there will be a reduced staffing complement as the school will not be operating at capacity, in Y1 there will be 1 PT Lab Assistant (0.5). The school will reach capacity at Year 2 and will at that stage have a full staffing complement of 2.5 Lab Assistants which will remain consistent for future years.</p> <p>The Lab Assistant/s will liaise with and support the subject teachers by ensuring the appropriate equipment is available and in good working condition. The Lab assistant/s will also act as a classroom assistant when experiments and /or practical activities are being carried out to ensure health & safety procedures are maintained. The Lab Assistant posts are expressed as either 1 or 2 FTE and in reality may be filled by 3-4 PT up to the full FTE quoted, it is expected these could be graduate students or trainee teachers/practitioners.</p>
Work Academy Coordinator	<p>The Work Academy Coordinator is likely to have had extensive experience of work based learning &/or commercial/industrial experience. S/he will be experienced in working with young people and will be adept at dealing and negotiating with employers. The Work Academy Coordinator will support the Head of Work Academy in the effective management and administration of the Work Academy (WA). The Work Academy Coordinator will have responsibility for the day-to-day running of the Academy including:</p> <ul style="list-style-type: none"> • Line Management responsibility for Career Coach; • Development and delivery of WA programmes; • Coordination and Work Experience placements; • Organisation of WA competitions and awards and entry to external competitions/awards; • Coordination of STEM Academy staff and volunteers for delivery of selected WA

	<p>programmes (e.g. ECDL, Enterprise Skills, Microsoft Project Management etc);</p> <ul style="list-style-type: none"> • Organisation of external events and exhibitions (e.g. World Skills, Career events etc); • Support of employer and industry involvement in WA; • Effective communication with internal and external sources re: the work of WA.
Welfare Officer	<p>With equality of opportunity at its core, the Welfare Officer is expected to join the Academy in Year 2, previously being performed by the Learning Support Coordinator until the Academy reaches full capacity in Yr 2. The Welfare Officer will be will be a PT role with responsibility for coordinating and supporting pupils' additional social needs. The Welfare Officer will report to the Learning Support Coordinator and will support pupils with a range of support needs, effectively engaging with community partners, local authorities, parents/carers, LA's as appropriate. The Welfare Officer will also take the lead in the Administration and management of the STEM Academy Learner Support Fund including fundraising activities to supplement statutory pupil funding.</p> <p>Key areas of likely support needs for pupils may include: housing; family difficulties; bereavement; care/leaving care concerns; financial difficulties (esp. related to transport); offending or 'at risk' of offending behaviour; substance misuse; poor attendance (as a result of one or more of the previous) etc.</p>
Learning Support Assistant (SEN)	<p>The Learning Support Assistant will report to the Learning Support Coordinator (SENCO) and will be designated as a PT role from YR 2 onwards.</p> <p>The Learning Support Assistant will support the work of the Learning Support Coordinator. With equality of opportunity at its core, the Learning Support Assistant will be expected to contribute to the following functions:</p> <ul style="list-style-type: none"> • Ensuring all pupils, including those with special or additional needs receive their full educational entitlement and have access to the full curriculum; • Support initiatives and interventions and development/coordination of alternative teaching strategies and individual programmes where necessary; • Support staff in their understanding and effective response to additional support needs; • Administrative support of policies and procedures including statutory assessment paperwork; • Organisation and administration of pupil monthly, quarterly and annual reports (as appropriate); • Meeting with parents, carers and statutory agencies (as applicable); • Coordination of referrals to external partnership agencies and monitoring of outcomes/implementation of recommended actions; • Support the effective collation and analysis of data including effective interpretation of pupil progress/performance data.
Career Coach	<p>The Career Coach is expected to join the Academy in Year 2, the role previously being performed by the Work Academy Coordinator and Head of Work Academy until the Academy reaches full capacity in Yr 2. With equality of opportunity at its core, the Career Coach will offer an effective career advice service to pupils offering genuine and realistic advice pertaining to education, training and careers for work. The Career Coach will be expected to demonstrate high level industry understanding and expertise and will stay abreast of labour market needs, patterns and evolution.</p>
HR Officer	<p>The HR Officer is expected to join the Academy in Year 2, the role previously being performed by the Business Manager with support from the Principal, PA to the Principal and Governing Body. The HR Officer will report to the Business Manager and is expected to add value to the organisation and effectively support the whole staffing process. Key duties will include:</p> <ul style="list-style-type: none"> • working closely with SLT and assisting Line Managers to understand and implement staff and performance-related policies and procedures; • assist with successful application of liP and coordination of liP standard following achievement; • promoting equality and diversity as part of the culture of the organisation; • liaising with a wide range of people involved in policy areas such as staff

	<p>performance, and health and safety;</p> <ul style="list-style-type: none"> • recruiting staff – including assisting with the development of job descriptions and person specifications, preparing advertisements, checking application forms, short-listing, interviewing and selecting candidates; • developing and implementing policies on issues such as working conditions, performance management, equal opportunities, disciplinary procedures and absence management; • preparing reports to the board on pay and other remuneration issues, including promotion and benefits; • negotiating with staff and their representatives (for example, trade union officials) on issues relating to pay and conditions; • administering payroll and maintaining employee records; • interpreting and advising on employment legislation; • dealing with grievances and implementing disciplinary procedures; • developing HR planning strategies with SLT and line managers, which consider immediate and long-term staff requirements in terms of numbers and skill levels
<p>Exam Officer</p>	<p>The key responsibility of the STEM Academy Exam Officer is for the administration, organisation and smooth running of examinations.</p> <p>With equality of opportunity at its core, the role of the examinations officer will require strong organisational, administrative skills as well as making qualified judgements under strict conditions. The role of Exams Officer will include:</p> <ul style="list-style-type: none"> • Liaising with Heads of Department, invigilators, teachers and Awarding Organisations; • Issuing rules of conduct to all pupils and staff; • Issuing pupils with their entry slips and making any necessary corrections; • Drawing up examination timetables; • Preparing, organising and supervising examinations in accordance with the regulations laid down by all the examination boards; • Supplying all the necessary stationery and materials related to the smooth running of the examination system; • Dealing with certification issues; • Liaison with Awarding Bodies and representatives; • Attending result days, distributing documentation to staff and dealing with queries, where appropriate, from pupils, staff and parents; • Maintaining statistical data and undertaking statistical analysis including benchmarking of STEM Academy statistics including local, regional and national statistics; • Checking all examination fees and charges from each examination board.
<p>Learning Resource Officer</p>	<p>The Learning Resource Officer will manage the Learning Resource Centre (LRC) and will be responsible for all aspects of the effective running and management of Learning Resources, including:</p> <ul style="list-style-type: none"> • Management and day-to-day running of LRC; • Oversight and monitoring of pupils using the LRC, ensuring appropriate behaviour and use of equipment; • Booking system of LRC and small guidance rooms; • Coordination and update of online learning portal; • Administration and monitoring of the borrowing of books/resources/equipment; • Supporting pupils in their use of equipment and searching for specific information; • Other tasks and responsibilities related to effective management of LRC space.
<p>Support staff</p>	<p>Other Support Staff will include:</p> <ul style="list-style-type: none"> • IT/Network Technician • Caretaker

- Receptionist x 2 PT roles
- PA to the Principal

VOLUNTARY (NON-PAID) POSITIONS

Clerk to the Governors

The clerk to the Governors is expected to be a voluntary role undertaken by a committed volunteer from S&DA or the community with a genuine commitment to STEM Academy's Vision.

The clerk to Governors will play an important role in governing body effectiveness, not least by ensuring the governors have an efficient administration support and offering procedural advice and guidance.

The clerk to the Governing Body will:

Meetings

- work effectively with the chair and Principal to prepare a purposeful agenda
- produce, collate and distribute the agenda and papers for receipt at least 7 days before the meeting
- record the attendance of governors at meetings
- advise the governing body on governance legislation and procedural matters where necessary
- record all decisions accurately and objectively
- send draft minutes to the Chair and Principal for amendment/approval by the Chair
- circulate approved draft minutes within agreed timescales
- liaise with the chair to receive updates of action points
- Chair that part of the meeting at which the Chair is elected

Membership

- maintain a database of names, addresses and category of governing body members, and their term of office
- initiate a welcome pack being sent to new governors
- maintain copies of terms of reference, committee membership and nominated governors, e.g. literacy
- advise governors and appointing bodies of expiry of terms of office and of new governors
- ensure a register of governing body pecuniary interests is maintained and reviewed annually

Advice and information

- advise the governing body on procedural issues
- have access to appropriate legal advice and guidance
- ensure that new governors have a copy of the DfE Guide to the Law and other relevant information
- take action on the governing bodies agreed policy to support new governors
- advise on the requisite contents of the school prospectus and annual report to parents
- ensure that statutory policies are in place

Professional Development

- successfully complete the National Training Programme for Clerks to Governing Bodies, or its equivalent

- attend termly briefings
- keep up-to-date with current developments and legislation

Curriculum delivery

As the school is a STEM-specialist Academy, the primary focus of the curriculum is on Science, Technology, Engineering and Maths related subjects. Pupils wishing to take AS level will be offered a choice of four subjects which will also include a language (English, French or German). It is assumed that on progression to A2 (year 2 of A Levels) the majority of pupils will drop one subject and continue to study three A level subjects; it is anticipated that if chosen, one of the subjects dropped is likely to be one of the languages. As each pupil's learning programme will be individualised, where it is appropriate those with the capability and wishing to take four A level subjects will be able to do so providing there is viability in terms of class size.

The GCSE/Foundation classes have been allocated 5 periods each week however as it is likely that the cohort will be retaking subjects it is anticipated that there will be four formal class periods each week and the fifth period will be used for smaller group sessions to enable extra tuition for those who require it.

To maximise efficiency of resources class sizes will be between 16-18 pupils per class.

Staffing has been determined by the number of hours delivered each week and fractional posts have been indicated. It is assumed that there will be some crossover with subjects where relevant and appropriate so for example it is likely a Physics teacher will be able to teach on the Maths programme and would also be able to contribute to relevant units taught on the BTEC Engineering programme.

Teaching time allocations are effectively illustrated in tables below (Years 1-5):

Year 1 – intake 216 pupils							
Position	FTE ⁷⁵	Subject	Teaching periods			Total periods	Total hours
			GCSE ⁷⁶	AS	BTEC		
	1.4	English	15	18		33	27.5
	1.4	Maths	15	18		33	27.5
	1.3	Double Science	30			30	25
	0.8	Physics		18		18	15
	0.8	Chemistry		18		18	15
	0.8	Biology		18		18	15
	0.8	Computing		18		18	15

⁷⁵ FTE¹ - full time equivalent staff hours have been rounded up

⁷⁶ GCSE² - worked out on basis of 5 periods per week

	0.9	French	10	12		22	18.5
	0.5	German	5	6		11	9
	0.8	Design Technology		18		18	15
	2.3	BTEC			54	54	45
	n/a	Tutorial	3	6	3	12	10
Total	11.8		78	150	57	285	237.5

Supporting Notes:

Total classroom periods (excluding Work Academy) required over one week = 285.

Total number of rooms required to accommodate classroom periods = $285 \div 50 = 5.7$ rooms.

Teaching staff will teach across subjects where appropriate.

For example, a 0.8 AS Physics teacher would also be able to teach Double Science at GCSE and the 0.4 BTEC Engineering teacher would also be able to teach Physics and/or Maths. Staffing complement of 11.8 equates to a teacher: pupil ratio of 1:18.

Refer to statement of assumptions (below for further details).

Year 2 – intake 432 pupils									
Position	FTE ¹	Subject	Teaching periods					Total periods	Total hours
			GCSE ²	AS	A2	BTEC Yr 1	BTEC Yr 2		
	1.4	English	15	18				33	27.5
	2.3	Maths	15	18	21			54	45
	1.3	Double Science	30					30	25
	1.7	Physics		18	21			39	32.5
	1.7	Chemistry		18	21			39	32.5
	1.7	Biology		18	21			39	32.5
	1.7	Computing		18	21			39	32.5
	0.9	French	10	12				22	18.5
	0.5	German	5	6				11	9
	1.7	Design Technology		18	21			39	32.5
	4.5	BTEC				54	54	108	90
	n/a	Tutorial	3	6	6	3	3	21	17.5
Total	19.4		78	150	132	57	57	474	395

Year 3 – intake 432 pupils									
Position	FTE ¹	Subject	Teaching periods					Total periods	Total hours
			GCSE ²	AS	A2	BTEC Yr 1	BTEC Yr 2		
	1.4	English	15	18				33	27.5
	2.3	Maths	15	18	21			54	45
	1.3	Double Science	30					30	25
	1.7	Physics		18	21			39	32.5
	1.7	Chemistry		18	21			39	32.5
	1.7	Biology		18	21			39	32.5
	1.7	Computing		18	21			39	32.5
	0.9	French	10	12				22	18.5
	0.5	German	5	6				11	9

	1.7	Design Technology		18	21			39	32.5
	0.5	Human Biology		12				12	10
	0.5	Environmental Science		12				12	10
	0.5	Geology		12				12	10
	4.5	BTEC				54	54	108	90
	n/a	Tutorial	3	6	6	3	3	21	17.5
Total	20.9		78	168	132	57	57	492	410

Year 4 – intake 432 pupils									
Position	FTE¹	Subject	Teaching periods					Total periods	Total hours
			GCSE²	AS	A2	BTEC Yr 1	BTEC Yr 2		
	1.4	English	15	18				33	27.5
	2.3	Maths	15	18	21			54	45
	1.3	Double Science	30					30	25
	1.7	Physics		18	21			39	32.5
	1.7	Chemistry		18	21			39	32.5
	1.7	Biology		18	21			39	32.5
	1.7	Computing		18	21			39	32.5
	0.9	French	10	12				22	18.5
	0.5	German	5	6				11	9
	1.7	Design Technology		18	21			39	32.5
	1.1	Human Biology		12	14			26	21.7
	1.1	Environmental Science		12	14			26	21.7
	1.1	Geology		12	14			26	21.7
	4.5	BTEC				54	54	108	90
	n/a	Tutorial	3	6	6	3	3	21	17.5
Total	22.7		78	186	174	57	57	552	460

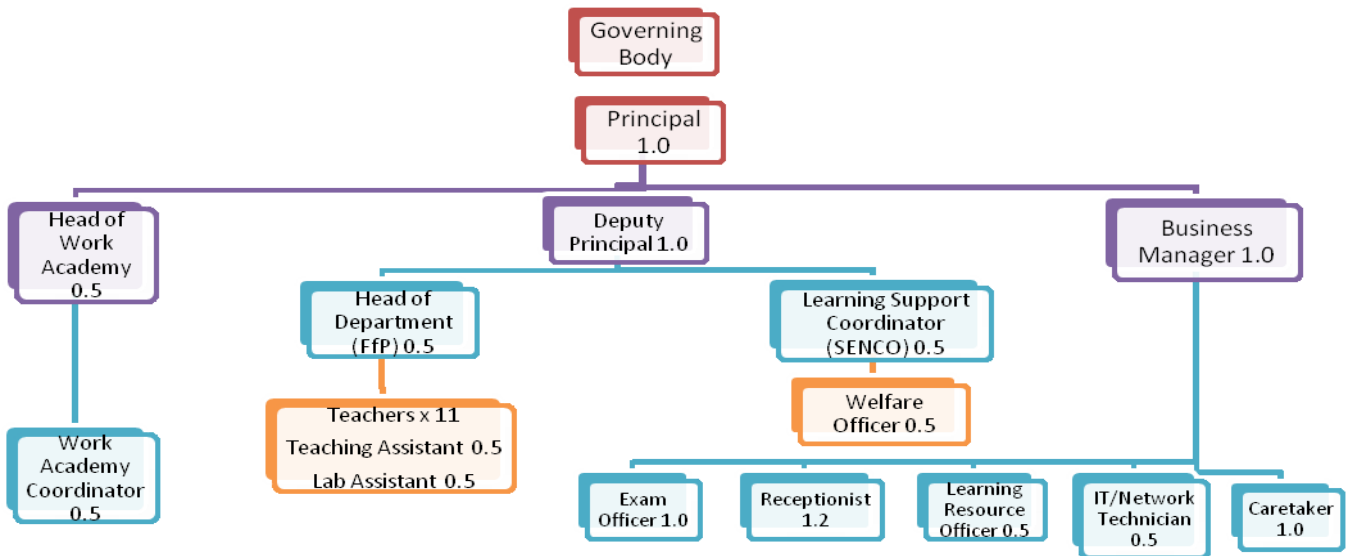
Year 5 – intake 432 pupils									
Position	FTE ¹	Subject	Teaching periods					Total periods	Total hours
			GCSE ²	AS	A2	BTEC Yr 1	BTEC Yr 2		
	1.4	English	15	18				33	27.5
	2.3	Maths	15	18	21			54	45
	1.3	Double Science	30					30	25
	1.7	Physics		18	21			39	32.5
	1.7	Chemistry		18	21			39	32.5
	1.7	Biology		18	21			39	32.5
	1.7	Computing		18	21			39	32.5
	0.9	French	10	12				22	18.5
	0.5	German	5	6				11	9
	1.7	Design Technology		18	21			39	32.5
	1.1	Human Biology		12	14			26	21.7
	1.1	Environmental Science		12	14			26	21.7
	1.1	Geology		12	14			26	21.7
	4.5	BTEC				54	54	108	90
	n/a	Tutorial	3	6	6	3	3	21	17.5
Total	22.7		78	186	174	57	57	552	460

Statement of Assumptions for Timetabling & Staffing

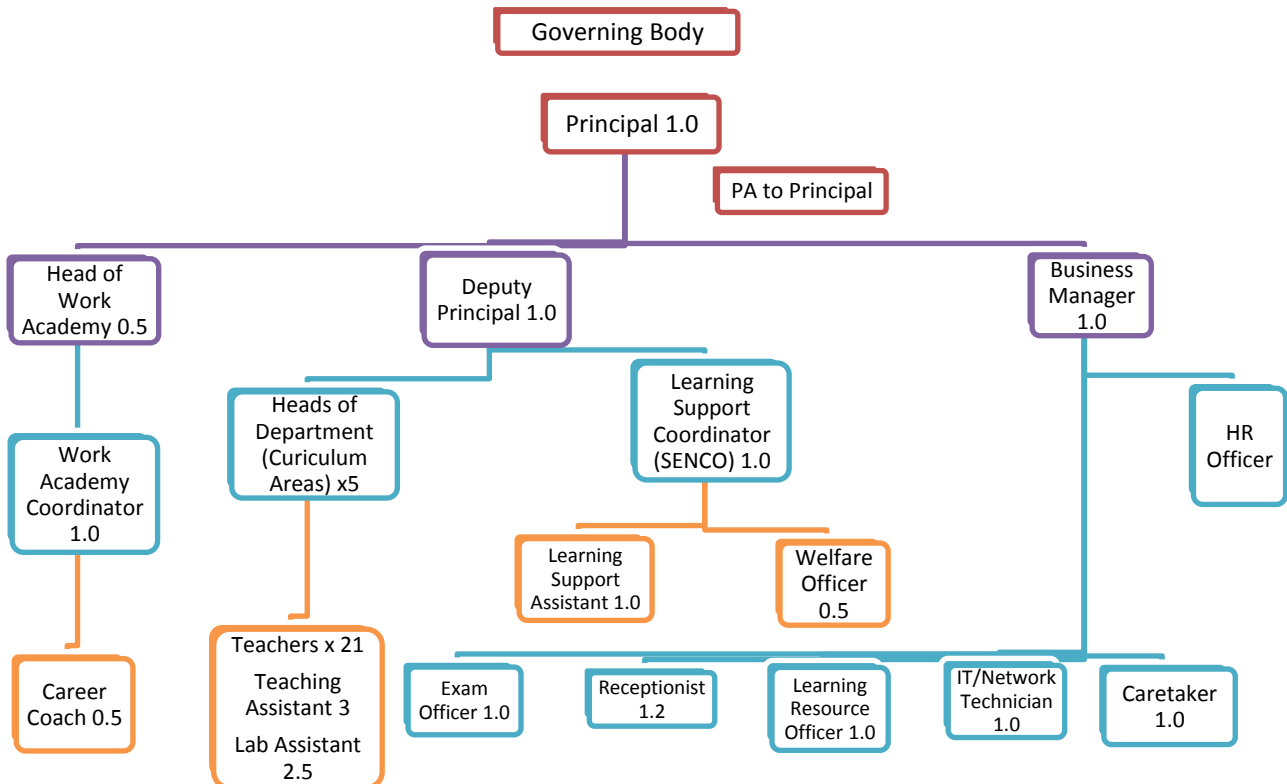
Reference	Assumption
Lesson Periods	<p>The weekly timetable has been divided into periods to maximise the use of resources (i.e. rooms, staffing) and ensure efficiency of guided learning hours. Each school day is divided up into 10 periods, within one week there are 50 periods. Each period lasts for 50 minutes and pupils will usually have double periods that last for 1 hour and 40 minutes.</p> <p>The decision for allocating 50 minutes to each period is based on the following assumptions derived from the recommended guided learning hours (glh) for each qualification detailed in table.</p>
GCSE/ Foundation guided learning hours	<p>Each subject has 120 - 140 recommended guided learning hours (Ofqual). Each pupil will take 5 GCSE subjects totalling 600 – 700 glh per annum. To maximise use of resources, and given that the targeted pupil cohort will be retaking GCSEs it is reasonable to assume that the curriculum could be successfully delivered either within 600 glh or in less time. It is also assumed that the GCSE timetable will be delivered over 30 weeks running from September to May.</p> <p>30 weeks @ 5 periods of 50 minutes each = 625 glh (extra 5 hours per GCSE but still within recommended glh at 125 hours). All pupils will have 4 periods each week (100 glh per GCSE), the 5th period will be used for small group supported learning.</p>
GCSE/ Foundation numbers Year 1	<p>There will be an intake of 54 pupils in year 1 with three classes comprising of 18 pupils per class.</p>
AS Level guided learning hours	<p>Each subject has 180 recommended guided learning hours. It is assumed that each pupil will take 4 AS levels in Year 1 totalling 720 glh over 36 weeks. This equates to 20 hours per week. Each AS subject will be allocated 5 hours per week which will be broken up into 6 x 50 minute periods.</p> <p>Each pupil will chose four subjects within a block.</p>
AS Level numbers Year 1	<p>There will be an assumed 108 pupils studying AS in year 1 with six classes comprising of 18 pupils per class (the remainder of pupils studying BTEC Y1 or FFP GCSE).</p>
AS subjects	<p>In years 1 & 2 there will be a choice of nine subjects. It is assumed that the three</p>

	language subjects offered (English, French & German) will only be offered as a fourth AS subject. It is assumed that there will be no progression of these subjects to A2. In year 3 there will be three additional subjects offered (Human Biology, Environmental Science and Geology). It is assumed that in the first year these subjects are offered there will be two groups studying each subject. It is also assumed that these groups will continue to study these subjects at A2 level.
A2 delivery	It is assumed delivery for A2 will be over 30 weeks due to exams starting mid May. Therefore periods will be increased to 7 periods per week. Each subject is 180 glh over 30 wks = 6 hours per week. Each A2 subject will be delivered over 7 periods per week which equates to 175 glh, an efficiency saving of 5 hours per A level equating to 20 hours saved assuming 4 A levels pursued.
BTEC Extended Diploma in Engineering guided learning hours	The two year programme has 1080 recommended guided learning hours. It is assumed 540 glh will be delivered in year 1 over 36 weeks. This equates to 15 hours per week broken up into 18 x 50 minute periods.
BTEC numbers Year 1	It is assumed that there will be an initial intake of 54 pupils, three classes of 18 pupils.
Tutorial periods	In total there will be 12 groups, each group will have a tutorial period each week so an additional 12 periods will be added to the total number of periods per week.
Work Academy	Each group will have some time allocated in the Work Academy each week. It is envisioned that each group will spend 4 periods per week in the Work Academy equating to a total of 48 periods in total per week.
Staffing	<p>Teachers</p> <p>It is assumed that 1.0 FTE will be contracted for 36 hours per week, of this 24 hours will be contact time which will be apportioned as 20 hours 'hard' class contact (i.e. teaching a subject) and 4 hours will be 'soft' contact (i.e. tutorials, running an enrichment activity etc).</p> <p>In Year 1 we will have 12 teaching staff and years 2-5 will have 26 teachers per year which gives some additional flexibility for smaller class sizes (>18) where needed and also additional time for teachers/tutors to contribute towards enrichment and extra-curricular activities. Head of Department, Deputy Principal and Principal will also have some teaching responsibilities ensuring we are always above the minimum 1:18 staff/pupil ratio and there are opportunities for flexibility and responding to need as and when these arise.</p>

Initial staffing structure (Year 1)



Final staffing structure (Years 2-5)



Show how staffing is sufficient, affordable and appropriate to deliver the education vision and plan;

Sufficient

As demonstrated annual staffing plans and assumptions, there is a sufficient number of staff to cover the curriculum and with a teacher pupil ratio of 1:18 (this is made up of teaching staff + Heads of Department + Deputy Principal + Principal, all of whom have a specified teaching allocation – please refer to Roles and Responsibilities Table above). This is highly efficient strategy both in terms of demonstrating good value for money as well as part of our strategy for maintaining high teaching standards and compliance to STEM Academy's 9 Key Principles as the Senior Leadership Team will lead by example.

Having teachers with a [teaching] contact commitment of 24 hours per week; provides the flexibility for staffing enrichment and extra-curricular activities without an additional cost; and also provides flexibility for scheduling in additional tutorials subject to need.

Contact hours will be written into their Employment Contracts so all staff will be committed to delivery of additional identified provision (i.e. enrichment, tutorials etc). It also facilitates revision classes that we may wish to offer during Easter holidays – in many schools staff will be paid extra to run these, however, if we are averaging contact hours then we can schedule staff for revision sessions without incurring any extra cost.

The Teaching Assistants will provide additional flexibilities in meeting the needs of varying abilities and/or smaller class sizes/groups where needed. They will be deployed effectively where needed including 1-2 TA's being permanently assigned to the FfP⁷⁷ (GCSE provision). They will also be able to support the coordination of group activities and extra-curricular provision. We feel that this is quite cost effective option which will yield positive levels of flexibility and additional support for teachers where needed. We envisage that STEM Academy Teaching Assistants may be graduates (preferably from a STEM background) who are interested in pursuing teaching as a career and may using the experience to get on to a PGCE course and/or as part of their teacher training.

Affordable and Appropriate

STEM Academy's staffing model is based on the curriculum and Education Plan. We have created a staffing model that will ensure we have a balanced management team and appropriate levels and range in teaching staff including: teachers/tutors; teaching assistants; lab assistants; Learning Support Coordinator (SENCO); Learning Support Assistants etc.

As demonstrated by our Financial Plan (Section G) and Financial Spreadsheets our staffing model is affordable and we feel offers optimum

⁷⁷ Foundation for Progression

value for money by ensuring staff are effectively deployed, have flexibility in their roles (e.g. teaching staff running enrichment activities), and avoids duplication across roles and departments (especially at senior level).

F5: Provide realistic plans for recruiting a high quality principal designate, other staff and governors in accordance with your proposed staffing structure and education plans.

Recruiting STEM Academy's principal designate and the role we envisage him/her playing in the implementation phase

Overview

STEM Academy will phase in the initial leadership structure which reflects the capacity and staffing to deliver the curriculum plan outlined.

The primary phase will be focused on the recruitment of a Principal Designate and Governing Body.

The key role of Principal Designate will be recruited through a combination of national and regional advertising and head hunting. Potential publications/recruitment gateways may include:

- Times Educational Supplement
- National Association of Head Teachers
- The Times
- The Guardian
- Association of Colleges
- FE.Jobs.com
- E-teach
- Learning Trust (Hackney)
- Association for Science Education (www.ase.org.uk)

STEM Academy will be seeking to appoint a talented individual with excellent leadership attributes and competencies. We will be seeking to appoint someone whose vision and beliefs matches those of the Academy and someone with an extensive range of attributes including, inspirational, has a clear vision, excellent leadership and people management skills, motivated, committed, honest, enabling and accountable. We attach a copy of a Person Specification detailing the qualities we would be seeking in our Principal Designate and the rationale behind our choice is that we believe that only a person with these qualities can achieve the aims and objectives our STEM Academy.

STEM Academy will use the **Future Leaders Competencies** as one of the indicators for measuring and evaluating the potential suitability of applicants to the post of Principal. Other competency measures we will use will include

We will develop a carefully defined and rigorous application, selection and interview process for the appointment of principal and all subsequent positions. These will be informed and guided by expertise within the current development team. Teaching and support staff posts will be recruited similarly, with competency testing and classroom observation defined for teaching posts.

Draft Job Description

JOB DESCRIPTION

POST TITLE: Principal Designate

RESPONSIBLE TO: STEM Academy

AIMS AND PURPOSE OF THE ROLE:

- To work with the Governing body to develop this exciting new Academy and develop the vision and strategy in order to provide outstanding education and training
- To position the Academy as the first choice provider for academic and vocational 16–18 education in Science, Technology, Engineering and Mathematics
- To be responsible to the Governing body for the strategic leadership and development of the Academy
- To promote a culture of empowerment, supporting effective organisational operation and management.
- To maintain a high profile as a champion for the Academy, promoting and representing the Academy locally, regionally and nationally
- To establish successful and effective partnerships with key stakeholders local, regional and national

SPECIFIC ACCOUNTABILITIES:

Governing Strategy and Policy

To make proposals to the Governing body about the educational character, activities and Mission of the Academy and to implement the policies and decisions of the Governing body ensuring that:

- The Academy adopts strategic aims and objectives, and develops a strategic action plan, to successfully fulfil its mission
- The Strategic Plan clearly outlines the action the Academy will take to establish itself and all activities within the current environment
- It closely monitors progress against this plan and takes appropriate action as the plan develops;
- Academy policies, procedures and practices, including those relating to safeguarding and equality and diversity, are promoted and implemented

Leadership and Management

To provide effective and inspiring leadership for STEM Academy, ensuring that all staff are working in collaboration to achieve the highest results for learners by:

- Ensuring that the overall management, internal organisation, and discipline of staff and learners are consistent with the Instrument and Articles of Government and policies approved by the Governing body, and

that they are applied fairly and effectively;

- Ensuring that appropriate targets are set and agreed throughout the Academy in order to achieve the agreed strategic aims and objectives and that performance against these targets is monitored and the Academy meets the targets;
- Fostering positive internal and external communication, ensuring staff and learners are made aware of all key developments and decisions of the Governing body and the Senior Management Team, relevant national and local policy developments and new initiatives arising in the sector;
- Demonstrating a commitment to the personal growth and development of staff and pupils at all levels, enabling them to develop the skills necessary to achieve outstanding outcomes;
- Being an outstanding ambassador for the Academy, promoting and representing it at local, regional and national level.

Pupils and Teaching

To determine the Academy's academic activities ensuring to:

- Promote and facilitate the innovation and development of the curriculum and to offer routes for progression into, within and beyond a comprehensive, flexible and accessible service for the whole community served by the Academy;
- Develop and implement relevant and appropriate pupil support services, including advice, guidance and counselling to support the curriculum provision;
- Develop and implement the effective operation of all pupil-related systems including the maintenance of pupil discipline and, in accordance with the Articles of Government, the suspension or expulsion of pupils on disciplinary grounds and implementing decisions to expel on academic grounds;
- Ensure that there are mechanisms in place for effective dialogue with pupils and consult actively and engage with pupils in a positive way.

Resource Management

Acting as the Academy's Accounting Officer in accordance with the Articles of Government, to secure compliance with all rules and regulations and advise the Governing body fully in accordance with the Financial Memorandum, YPLA, and/or SFA guidance ensuring that;

- Annual estimates of income and expenditure are properly prepared for consideration and approval by the Governing body;
- The Academy acquires the maximum financial resources in a manner which is consistent with its stated aims;
- These resources are allocated and controlled in an equitable and open manner based upon criteria which are clearly stated and which support the Strategic Plan;
- All resources are used efficiently and effectively and that the Academy is

developed as a financially viable institution;

- Academy assets are effectively managed and, particularly the Academy estate is planned, developed and operated to produce the maximum benefit to the Academy within the context of the Strategic Plan;
- All budgets and resources are managed within the estimates approved by the Governing body;
- Information systems are in place to provide timely robust data to support the management of the Academy, and to ensure accurate and timely reporting to the Governing body and external agencies;
- Corporate responsibility for Health, Safety and Wellbeing is embedded and that a safe and healthy environment for pupils, staff and visitors to the Academy is promoted.

Quality Systems

- Establishing and implementing effective and robust quality assurance systems and processes, which comply with all regulatory requirements by Ofsted, DfE, examination boards and others
- Overseeing the timely production of effective Self Assessment Reports, Quality Improvement Plans and other quality reviews.
- Developing and implementing the operation of systems for review, monitoring and evaluation of all the Academy's activities in such a way as to secure continual quality improvement and guarantee equitable treatment for all students and staff
- Promote the evaluation of the quality of education, respond to learner and employer views and other feedback, and ensure that action is taken in response to that feedback to enhance and enrich the learner experience.

External Relations

Forge and develop effective and meaningful partnerships and relationships with government funding agencies, local authorities, key employers, feeder schools, universities, community organisations and other key stakeholders and individuals.

Governance and Management

Work closely with the Governing body and its committees so that they can make the maximum possible contribution to the success of the Academy;

Develop and ensure that the formal committee structure is managed successfully to derive maximum benefit.

General

- Undertake any personal and professional continuous development necessary to ensure effective performance in the role.
- Undertake any additional duties that the Governing body may require

within the scope of the post.

This post is subject to an annual Performance Review within a framework agreed by the Governing body. Targets will be set within the context of the Academy's overall plan. The postholder will also undertake appropriate reviews with other senior staff.

The Job Description is current at the date shown, and is a guide to the work the postholder will be required to undertake. In consultation with the postholder, it may be amended from time to time by the Governing body to meet changing circumstances.

Safeguarding and Promoting Welfare of Children.

All work in the Academy involves some degree of responsibility for safeguarding children, although the extent of that responsibility will vary according to the nature of the post. STEM Academy is committed to safeguarding and promoting the welfare of children and young people and expects all staff and volunteers to share this commitment. The post holder will develop and ensure the Academy's policies to safeguard and promote the welfare of children, and adhere to their guidelines.

Person Specification – Principal Designate

Person Specification – Principal Designate

STEM Academy is committed to safeguarding and promoting the welfare of children and young people and expects all staff and volunteers to share this commitment.

	Essential	Desirable	Method of Assessment
	These are qualities without which the applicant could not be appointed	These are extra qualities which can be used to choose between applicants who meet all of the essential criteria	
QUALIFICATIONS	<ul style="list-style-type: none"> • <i>Good honours degree</i> • <i>A DfES recognised teaching qualification</i> 	<ul style="list-style-type: none"> • <i>Post graduate qualification – subject related or educational</i> 	<ul style="list-style-type: none"> ✓ <i>Production of the applicant's certificates</i>
EXPERIENCE	<ul style="list-style-type: none"> • <i>Successful experience of school leadership, preferably at head teacher level.</i> • <i>Good examination results achieved by pupils taught</i> • <i>Positive working relationships with colleagues and parent body</i> • <i>Experience of teaching own subject in previous school to A Level standard</i> • <i>Experience of preparing students for Oxbridge</i> • <i>Experience of taking students through the UCAS process, culminating in considerable success with their destinations</i> 	<ul style="list-style-type: none"> • <i>Relevant INSET for teaching</i> • <i>Previous successful experience of Head of Sixth or Senior Management role</i> 	<ul style="list-style-type: none"> ✓ <i>Contents of the Application Form.</i> ✓ <i>Interview</i> ✓ <i>Professional references</i>
SKILLS	<p><i>The candidate must be able to demonstrate:</i></p> <ul style="list-style-type: none"> • <i>Ability to teach own subject to GCSE and A level to pupils of all abilities</i> • <i>Ability to use a variety of teaching and learning styles</i> • <i>Effective time management</i> • <i>Good organisational skills</i> • <i>Ability to convey infectious enthusiasm for the subject</i> • <i>Ability to motivate young people</i> • <i>Excellent written communication skills</i> • <i>Excellent rapport with parents, staff and students</i> 	<ul style="list-style-type: none"> • <i>Competency with ICT and interactive whiteboards</i> 	<ul style="list-style-type: none"> ✓ <i>Contents of the Application Form</i> ✓ <i>Interview</i> ✓ <i>Professional references</i>
KNOWLEDGE	<ul style="list-style-type: none"> • <i>Mastery of content of a GCSE syllabus</i> • <i>Familiarity with an A level syllabus</i> • <i>Familiarity with BTEC syllabus</i> • <i>Extensive knowledge of UCAS process</i> 	<ul style="list-style-type: none"> • <i>Familiarity with a variety of textbooks and resources, including web-based</i> 	<ul style="list-style-type: none"> ✓ <i>Contents of the Application Form</i> ✓ <i>Interview</i> ✓ <i>Professional references</i>

<p>PERSONAL COMPETENCIES AND QUALITIES</p>	<p><i>The candidate must be able to demonstrate:</i></p> <ul style="list-style-type: none"> • <i>The enthusiasm, initiative and commitment to ensure that good practice is embedded throughout the schools and drive forward the new Academy</i> • <i>The ability and experience to implement and manage change effectively</i> • <i>A clear and coherent educational vision</i> • <i>The ability to build a collaborative and creative learning culture</i> • <i>A commitment to raising standards of ability and achievement</i> • <i>An ability to provide planning for the long-term future of the school</i> • <i>The ability to tackle difficult issues and take difficult decisions and convey outcomes clearly and sensitively</i> • <i>Emotional resilience in working with challenging behaviours</i> • <i>Motivation to work with young people</i> • <i>Ability to form and maintain appropriate relationships and personal boundaries with young people</i> • <i>Positive attitude to use of authority and maintaining discipline</i> • <i>Ability to work as part of a team</i> • <i>Good health and attendance record</i> 	<ul style="list-style-type: none"> • <i>Flexibility</i> • <i>Good sense of humour</i> 	<ul style="list-style-type: none"> ✓ <i>Contents of the Application Form</i> ✓ <i>Interview</i> ✓ <i>Professional references</i>
<p>STRATEGIC LEADERSHIP</p>	<p><i>The candidate must have the ability to:</i></p> <ul style="list-style-type: none"> • <i>Develop and communicate a vision for STEM Academy to the pupils, parents, staff and wider community</i> • <i>Translate the vision into coherent, achievable and challenging plans</i> • <i>Manage the schools' finances effectively and efficiently including an awareness of all funding sources</i> • <i>Secure the confidence and loyalty of the wider community</i> • <i>Create and lead a united successful management team</i> • <i>Show a commitment to collaborative decision making</i> 		<ul style="list-style-type: none"> ✓ <i>Contents of the Application Form</i> ✓ <i>Interview</i> ✓ <i>Professional references</i>
<p>PROMOTING EXCELLENCE AND ACHEIVEMENT</p>	<p><i>The candidate must be able to demonstrate:</i></p> <ul style="list-style-type: none"> • <i>Commitment to developing a broad based curriculum that addresses the needs of a diverse cohort</i> • <i>Commitment to achieving excellence and a track record of delivering strategies to raising standards</i> • <i>Aspire to achieving a 'Centre of Excellence' status for STEM Academy</i> • <i>A track record of effective behaviour</i> 		<ul style="list-style-type: none"> ✓ <i>Contents of the Application Form</i> ✓ <i>Interview</i> ✓ <i>Professional references</i>

Recruitment process and timescales

Recruiting and Selecting Principal Designate – Plan of Action

Serial	Action	Planned Date	Lead
1.	Identify Recruitment Panel Members. Appoint Recruitment Panel and Chair.	20/01/2012 (Pre-Approval Date (PAD))	Head of HR
2.	Write draft Job Description and Person Specification.	By PAD plus 14 days	Chair of Recruitment Panel
3.	Design Draft Interview Schedule and Assessment Centre Process.	By PAD plus 14 days	Chair of Recruitment Panel
4.	Design and write Draft Advertisement: Print Version and Website Version (Prepare Online Application from Website).	By PAD plus 28 days	Chair of Recruitment Panel
5.	Pilot Job Description, Person Specification, Interview Schedule, Advertisements and Assessment Centre Process (ACP) (walkthrough only for ACP) with sample Target Audience (cannot be subsequent applicant/s).	By PAD plus 42 days	Chair of Recruitment Panel
6.	Recruitment Panel review feedback from Pilot and agree Final Job Description, Person Specification, Interview Schedule, Assessment Centre Process and Paper and Web Advertisements.	Immediately after approval of STEM Academy from Secretary of State (Approval Date (AD)) Est. August 2012	Chair of Recruitment Panel
7.	Publish Job Advertisement in Key Publications, e.g. TES. Post Advertisement on Website and enable Online Applications. Include Job Description and Person Specification. Include Latest Date for Applications.	By AD plus 7 days AD plus 25 days	Chair of Recruitment Panel
8.	Confirm and Appoint Selection Panel Members and Chair.	By AD plus 14 days	Chair of Recruitment Panel
9.	Clarify and resolve by telephone or email to Candidate(s) any queries arising from Applications.	By AD plus 20 days	Chair of Recruitment Panel
10.	Selection Panel Screens Candidates' Applications and prepares Shortlist of not more than 4 Applicants plus 2 Reserves.	By AD Plus 32 Days	Chair of Selection Panel
11.	Notify Successful Candidates by telephone of their Short-Listing and invite to Interview and Assessment Centre. Confirm in conversation that the Applicant wishes to proceed to Interview and Assessment Centre. If not, contact Reserves.	By AD Plus 39 Days	Chair of Selection Panel/HR
12.	Confirm Decision in writing to Non-successful Candidates as to their status, i.e. Reserve or not selected on this occasion.	By AD Plus 49 Days	CEO/HR
13.	Confirm telephone conversation (Serial 11) with successful shortlisted Candidates by letter/email outlining all requirements and activities that will form the Interview and Assessment Centre, the date/time per Applicant and Venue.	By AD Plus 49 Days	CEO/HR
14.	Organise Interview Rooms, Interviewers and Assessment Centre Activities .	By AD plus 49 days	Chair of Selection Panel
15.	Conduct Interviews (using Interview Schedule) and Assessment Centre Process.	By AD plus 56 days	Chair of Selection Panel
16.	Reserve right for second interview, observation at	By AD plus 60 days	Chair of Selection

	work etc		Panel
17.	Select successful candidate, subject to references and CRB confirmatory check (Candidate expected to be already CRB Cleared), and notify by telephone to ensure candidate accepts the post under the Terms and Conditions (T&C) outlined in the Job Description including salary and benefits – negotiate (T&C) as necessary. If not accepted, contact next candidate by merit, and so on.	By AD plus 70 days	Chair of Selection Panel
18.	Make Formal Offer in writing subject to satisfactory Reference and CRB Status and state latest formal acceptance date (5 working days).	By AD plus 70 days Start action by AD plus 70 days	CEO/HR
19.	Receive written confirmation from Candidate that Offer is accepted.	By AD plus 75 days Est. October 2013	CEO/HR
20.	Take up References and confirm satisfactory CRB status (or start CRB process).	Start action on confirmation of acceptance By AD plus 75 days	HR
21.	Maintain dialogue with Principal Designate during notice period on all relevant matters prior to taking up post.	Oct12 – Jan13 or Oct12 – April 13 (depending on Notice Period)	
22.	Principal Designate takes up post.	Takes up post between January – April 13 (depending on notice requirements) – earlier the better	CEO/HR

Role of Principal Designate in Implementation Phase

The principal will play a key role in the implementation phase especially in regards to the recruitment and selection of staff.

The key roles and responsibilities of the principal during start-up/implementation phase will include:

- Marketing of Academy and outreach activities to raise awareness and build support for STEM Academy (to include PR duties);
- Involvement in all aspects of staff recruitment and selection;
- Development of STEM Academy Policies and Procedures;
- Operational planning and strategy of performance monitoring systems, principles and practices;
- Input in purchase, acquisition and development of systems for monitoring performance, pupil progress, behaviour, attendance and all other aspects of monitoring and statistical analysis needs;
- Input in layout and preparation of premises/equipment/furniture etc...
- Undertake training and development in identified areas as applicable;
- Other roles and duties necessary and beneficial to the effective set-up and implementation of STEM Academy.

It is envisaged that the Principal Designate will initially be offered a one-year fixed-term contract, which will allow the Governing Body to review performance and progress before committing to a long-term appointment. It is recognised that the role of Principal will be **crucial** to the effective and successful implementation of STEM Academy's stated Vision, aims & objectives as well as the establishment of a positive and forward-thinking culture in line with STEM Academy's ethos.

Set out plans for recruiting high quality members of staff

Securing high-quality staff will be crucial to the delivery of STEM Academy's vision and objectives. It will be imperative that all staff appointed to STEM Academy demonstrate a strong commitment to the Academy's ethos, aims and objectives.

The Principal Designate will be fully involved in the STEM Academy staff recruitment and selection process.

In order to ensure, appropriate high-quality teaching staff are secured by STEM Academy, we will implement an Action Plan for attracting high quality staff which, is briefly summarised below:

Action Plan – STEM Academy Teaching Staff

1. Identify the characteristics of STEM Academy that is attractive to teachers (e.g. shaping a new establishment, focussed curriculum, high levels of support, flexible hours, comprehensive CPD and professional development opportunities, career progression opportunities etc) and seek to both market and build upon them to recruit new staff;
2. Establish recruitment goals in terms of teacher quality and quantity for STEM Academy;
3. Develop and sustain partnerships with universities and colleges that deliver teacher-training provision;
4. Develop and sustain partnerships with Future Leaders;
5. Develop strategies to recruit former teachers, including those recently retired/semi-retired;
6. Develop effective in-house teacher training programmes (QTLS) to encourage applicants from industry into the teaching profession;
7. Establish "grow-our-own" programmes (long-term strategy) to recruit future teaching staff from the pool of current/previous STEM Academy pupils, volunteers, teaching assistants, non-teaching staff and other individuals identified as having high quality teaching potential;
8. Ensure timely and organised selection and recruitment process so suitable candidates are hired before they seek employment elsewhere.

STEM Academy will market itself to potential staff as an 'Employer of Choice' focussing on the following key features:

- Value our employees
- Treat employees with respect

- Provide employees with tools to do their jobs and appropriate levels of independence and freedom (e.g. refer to STEM Academy's Approach to Teaching section D1 Education Plan)
- Provide comprehensive CPD and Staff Development opportunities
- Flexible working and positive work-life balance to meet both pupil and staff needs
- Opportunities for internal growth and advancement
- Evaluate employee satisfaction and perceptions by conducting
 - Employee Surveys
 - Exit interviews
- Offer Employees a Variety of Benefits

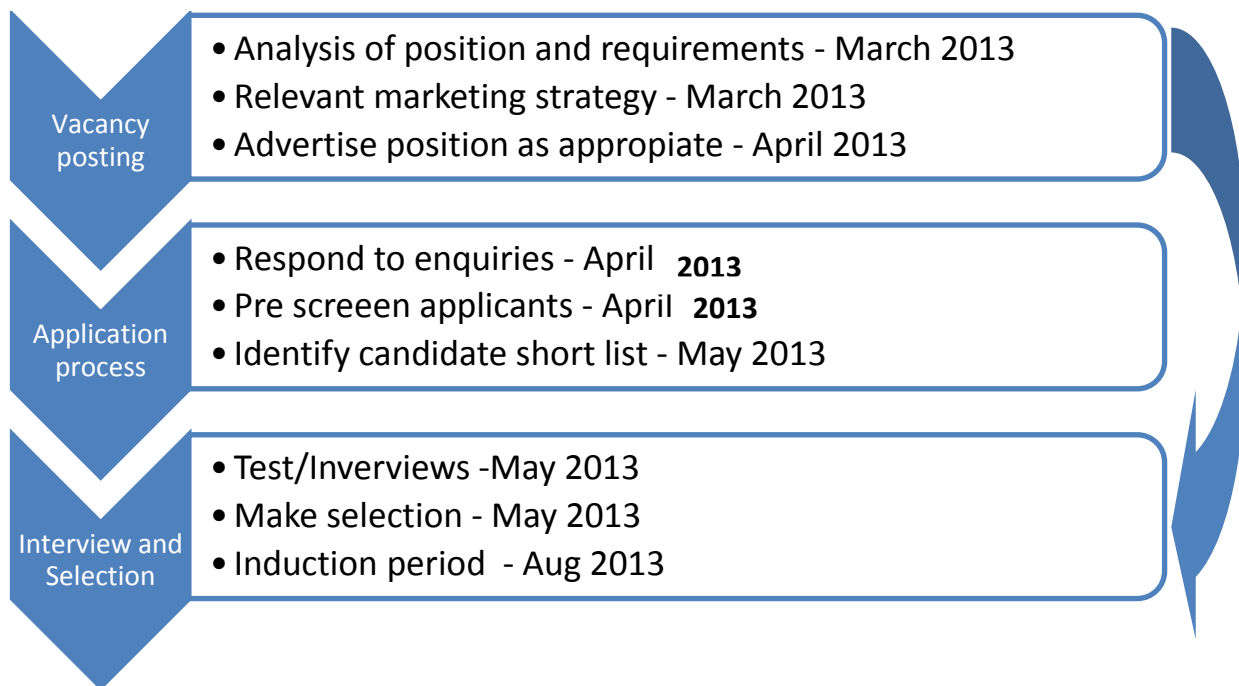
S&DA are current holders of Investors in People and will support STEM Academy to achieve this standard within 12 months of opening.

Potential staff will be recruited through a combination of national and regional advertising and head hunting. Potential publications/recruitment gateways may include:

- Times Educational Supplement
- National Association of Teachers
- The Times
- The Guardian
- Association of Colleges
- FE.Jobs.com
- E-teach
- Learning Trust (Hackney)
- Association for Science Education (www.ase.org.uk)
- STEM Academy and S&DA websites

All recruitment practices will be compliant with Employment Law in regards to current legislation i.e. equality and diversity (ethnic, gender, age, sexual orientation, disability) and falls in line with terms and conditions for teaching staff working in an Inner London school.

We will implement the following recruitment process:



As well as effective recruitment policies, STEM Academy will have effective policies and strategies in place for staff retention, progress and rewarding of achievements

Tell us about any individuals you have already identified as prospective governors and their relevant skills and expertise

STEM Academy has already identified 3 founding Governors, who are committed to continue to have a long-term role and commitment to STEM Academy.

Details of the Founding Governors are included in table below:

NAME	ROLE	KEY AREAS OF EXPERTISE	Competencies
[REDACTED]	<p>Policy development and strategic planning, including target-setting to keep up momentum on school improvement;</p> <p>Establishing and maintaining a transparent system of prudent and effective internal controls;</p> <p>Management of STEM Academy's financial, human and other resources</p> <p>Monitoring performance and the achievement of objectives, and ensuring that plans for improvement are acted upon;</p>	[REDACTED]	<p>Commitment to the Educational vision</p> <p>Effective decision making</p> <p>Problem solving</p> <p>Evaluation and quality assurance</p> <p>Communications</p> <p>Team working</p> <p>Project Management</p>

<p>[REDACTED]</p>	<p>Policy development and strategic planning, including target-setting to keep up momentum on school improvement;</p> <p>Management of STEM Academy's financial resources</p> <p>Setting the academy's standards of conduct and values;</p> <p>Assessing and managing risk.</p>	<p>[REDACTED]</p>	<p>Commitment to the Educational vision</p> <p>Problem solving</p> <p>Risk Management</p> <p>Communications</p> <p>Team working</p>
<p>[REDACTED]</p>	<p>Policy development and strategic planning, including target-setting to keep up momentum on school improvement;</p> <p>Ensuring sound management and administration of school, and ensuring that managers are equipped with relevant skills and guidance;</p> <p>Management of STEM Academy's financial, human and other resources</p> <p>Helping the academy be responsive to the needs of parents and the community and making it more accountable through consultation and reporting;</p> <p>[REDACTED] has prior experience as a school Governor</p>	<p>[REDACTED]</p>	<p>Commitment to the Educational vision</p> <p>Effective decision making</p> <p>Problem solving</p> <p>Evaluation and quality assurance</p> <p>Communications</p> <p>Team working</p> <p>Project Management</p>

Recruiting future Governors

STEM Academy has already identified potential individuals as prospective future governors.

Their details, with relevant skills and expertise, are outlined below:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Describe how you will identify and appoint committed governors with the breadth of skills needed to oversee successfully both the implementation of a school and its operation once open

It is expected that the STEM Academy Governing Body will initially have in the region of seven to eight governors (in addition to Principal) and will draw representation from parents, employer representatives and the wider local community. We will be targeting and headhunting specific individuals and organisations that support the ethos and specialist offer of the Academy.

We will also seek to appoint individuals who can offer specific expertise to assist in the initial phases and development of robust planning and processes, for example Barclays Bank, who have a specialist team of volunteers to assist with financial and other planning for Free Schools and Academies.

The categories of Governors will include:

1. Principal
2. Minimum of 2 Parent Governors
3. STEM sector industry Governor
4. A local authority Governor (optional)
5. Community Governor
6. Governor with Legal experience
7. Governor with Financial experience
8. Governor with expertise/experience in areas of quality, compliance, audit & monitoring etc.

In addition to headhunting, we will be use a mix of dedicated recruitment and membership organisations, such as the School Governors One Stop Shop, STEMNET and targeted advertising in a national and local media, to ensure that the Governing Body membership reflects the breadth of skills, expertise, commitment and diversity necessary for the implementation of STEM Academy, and its successful operation once it opens.

- advertising in key publications and online recruitment portals, including:
- Local volunteer centres
- Word of mouth via our community networks
- Employers in STEM sector
- Professional bodies especially those we have worked with to incorporate STEM academy
- Chamber of Commerce
- General local advertising
- Times Educational Supplement
- National Association of Head Teachers
- The Times
- The Guardian
- Association of Colleges
- FE.Jobs.com
- E-teach
- Hackney Learning Trust

- ASE
- STEM Academy will seek to attract the most talented and able individuals, with vision and values which reflect those of the Academy.

Set out below founding Governors and future Governors key elements and levels of responsibility and delegation to individuals in setting up STEM Academy

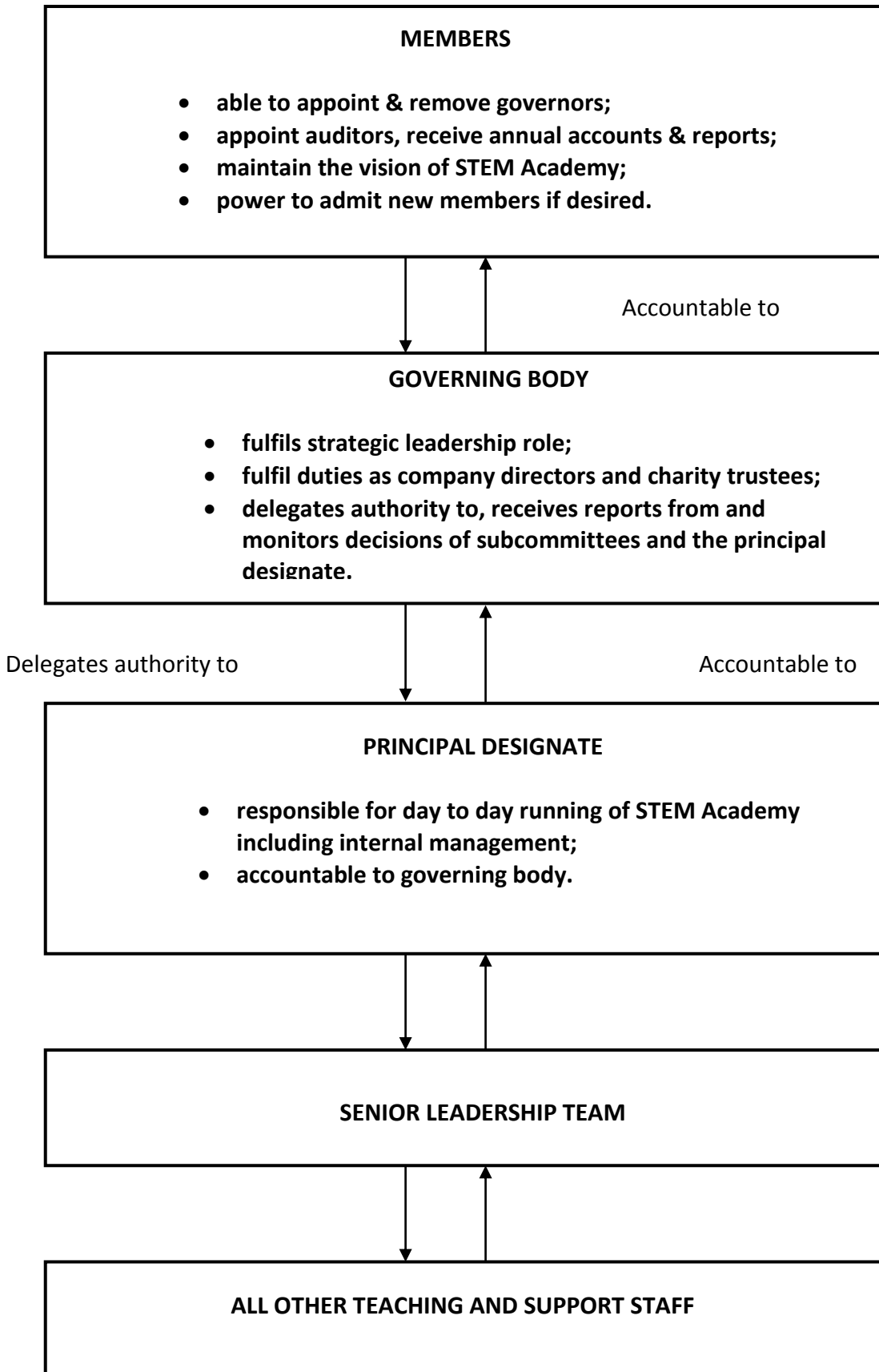
The Founding Governors believe we have a team that have the skills and competencies to undertake the strategic role of running STEM Academy and our strategic framework will implement the aims and objectives outlined in our Vision Section C and our Education plan Section D.

F6: Demonstrate a clear understanding and describe the respective roles of the company members, governing body and principal designate in running your school.

Corporate Structure

Refer to Fig 1.

Fig. 1



Roles and Responsibilities

Company Members

The company law members of STEM Academy exert the ultimate control over STEM Academy as a company as they are able to amend the Articles of Association (subject, when STEM Academy is open, to DfE approval), appoint more members and both appoint and remove governors. The founding members have the power to appoint more members under Article 16 and to appoint governors under Article 50. They therefore have an important role in shaping the vision of STEM Academy by helping to choose the personnel involved with STEM Academy.

The members will receive the annual accounts of STEM Academy, copies of annual reports and attend the AGM. They will therefore be able to monitor the progress of STEM Academy.

On selecting the company members for STEM Academy the steering committee undertook a skills analysis of all interested parties. The company members were then chosen based on:

- Their expertise in the relevant areas required;
- A shared vision for STEM Academy;
- Evidenced commitment to STEM Academy;
- Able to commit to long-term involvement; and
- Demonstrable understanding and commitment to STEM Academy's: vision, aims & objectives, and ethos.

Governing Body

The governing body is responsible for ensuring that high standards of corporate governance are maintained. It will exercise its powers and functions with a view to fulfilling a largely strategic leadership role in the running of STEM Academy, addressing such matters as:

- (a) policy development and strategic planning, including target-setting to keep up momentum on school improvement;
- (b) ensuring sound management and administration of school, and ensuring that managers are equipped with relevant skills and guidance;
- (c) ensuring compliance with legal requirements and any statutory guidance;
- (d) establishing and maintaining a transparent system of prudent and effective internal controls;
- (e) management of STEM Academy's financial, human and other resources;
- (f) monitoring performance and the achievement of objectives, and ensuring that plans for improvement are acted upon;

- (g) helping the academy be responsive to the needs of parents and the community and making it more accountable through consultation and reporting;
- (h) setting the academy's standards of conduct and values;
- (i) assessing and managing risk.

The governing body also has a duty to take appropriate action when there are weaknesses in STEM Academy.

The governing body must appoint the principal designate to STEM Academy who will also act as an ex officio governor. The governing body will formally delegate the powers and functions to the principal to manage the internal organisation, management and control of STEM Academy (including the implementation of all policies approved by the governors and for the direction of the teaching and curriculum at STEM Academy).

The governors are also the legal trustees of STEM Academy as a company limited by guarantee with exempt charitable status. This means that the governors must comply with the duties placed upon charity trustees to advance the purposes of the charity. This includes, amongst other things, the duty to act in the best interests of STEM Academy and avoid any conflict of interest between their personal interests and those of STEM Academy.

Post application, the governing body will be expanded to include governors with relevant skills and expertise. The process for this is described in section F5 above.

The governing body will agree a formal schedule of matters reserved for their decision, i.e. those which will not be delegated within STEM Academy. Beyond this, the governing body will establish committees to be responsible for specific areas of business in accordance with agreed terms of reference. This will include a finance committee.

Each committee will be chaired by a governor. The membership of the committee may include persons who are not governors but a majority of members will be governors. The committees will record decisions in written minutes of their meetings and provide feedback to the governing body so that the committee can be considered formally by the governors.

Principal Designate

The principal designate to STEM Academy will also act as an ex officio governor. The principal is responsible, under the governing body, for the overall organisation, management and control of STEM Academy and the staff, the implementation of all policies approved by the governing body and for the direction of teaching and the curriculum.

The principal will inform the governing body about the progress of STE Academy and any issues that may arise. This will also be an advisory role so the governing body are aware what the principal considers are the primary issues and priorities for STEM Academy at an operational level.

Conflicts of Interest

The Articles of Association for STEM Academy set out a procedure for managing conflicts of interest of governors in Articles 6, 98 and 99 and the governing body will act in accordance with these.

The Articles stipulate that any governor who has any direct or indirect duty or personal interest which conflicts with their duties as a governor must disclose this to the governing body as soon as they become aware of it. The governor in question must then absent themselves from any discussions of the governing body in which it is possible that a conflict will arise between the governor's duty to act in the best interests of STEM Academy and any duty or personal interest. Any personal financial interest is specifically recognised as providing a potential conflict of interest. An example of this would be any decisions being made by the governing body in relation to the remuneration of the principle designate, who is also an employee of STEM Academy. In this situation, the principle designate would need to be absent for any part of the governing body's meeting discussing the remuneration and would not be able to vote on any decision on the matter.

In addition, the governing body will draw up and adopt a conflicts of interest policy which ensures that conflicts are identified at an early stage and appropriate action is taken to resolve them. This policy will include the keeping of a register of interests which will be open to the public.

Where a potential conflict of interest is identified, the relevant member of the governing body will complete a declaration of interest which will be used to complete the register of interests. Governors will be asked to update the declarations on a regular basis.

Section G: Initial costs and financial viability

G1: Show how the school will be financially viable and offer good value for money up to the point where there are pupils in each year

██████████.

Section H: Premises

Possible site options

Introduction

The search for suitable sites for STEM Academy in our chosen location, the [REDACTED] area/ borough of Hackney, has been a challenge due to the size requirements, as available properties in the area were found mainly to be smaller office or retail units.

[REDACTED] was chosen for two reasons:

- There is a clear link between the vision for STEM Academy and the [REDACTED] area often referred to as '*Silicon Roundabout*', a reference to its considerable concentration of technology, science and digital media businesses. With a strong focus on science and technology, being located in this area would enable STEM Academy to meet its vision of making sure that all leavers are science and technology literate individuals by forging links with local companies to provide the bridge between education and commerce. Businesses would be encouraged to become involved in the Work Academy, for example as mentors to the young people, and to provide guest speakers and/or work placement opportunities.
- S&DA Ltd is about to take possession of a Hackney Council-owned property on [REDACTED] that will form the company's new head office. There is undoubtedly an advantage in working with a local authority with which there is already have a strong commercial relationship, particularly as we would be required to submit a planning application for a change of use on our preferred site to D1.

Steps taken to identify suitable premises

We approached the search for suitable premises from a number of angles, namely we:

- approached two departments in Hackney Council - Commercial Estates and Invest in Hackney
- registered with a number of commercial estate agents
- liaised with Partnerships for School and used their search tool
- searched the internet, including the Local Government Assets Register
- walked around the [REDACTED] area

Partnerships for Schools were unable to suggest suitable sites and have confirmed the lack of available, suitable premises in London and nationally.

A number of properties were identified during a walkabout of the [REDACTED] area which on further research, were unsuitable for STEM Academy. One positive result of this approach was the link made with the estate agent that identified the [REDACTED] and [REDACTED] properties.

We have to date been unable to identify a suitable publicly owned site for the STEM Academy.

The approach to commercial estate agents has recently borne fruit; unfortunately, none of the larger properties referred from estate agents are in Hackney. We have been sent details of properties in [REDACTED], Tower Hamlets and [REDACTED], Islington. Details of both these properties are included in the immediate section below (potential premises options)

Potential premises options

1. Hackney Council was keen to support our request for an additional property, although Invest in Hackney was unable to identify a large enough property. Our contact in [REDACTED] however, informed us of a property that may become vacant in the future as the result of a rationalisation of their offices. *Due to the sensitive and ongoing nature of the proposals, we are unable to disclose the name of the property at this stage.* The building is in **Hackney Town Centre**, close to a mainline train station and on several bus routes, it is the right size for STEM Academy and seems suitable at first glance but we were unable to gain full access or inspect the property internally. For reasons of uncertainty over the future of this building this is not our preferred site.
2. The [REDACTED] property is 3,397m², the ideal size for STEM Academy and is advertised as suitable for educational use. We have not selected [REDACTED] as our *preferred* site as our preference is for a base in the Borough of Hackney and we have demonstrated a demand for STEM Academy in that borough.
3. The [REDACTED] property is of a suitable size for STEM Academy but falls within the London borough of Islington and for this reason would not be our first choice of property. Whilst we are committed to opening STEM Academy in Hackney, we would of course consider properties in surrounding boroughs in the event that our bid is successful and there are no suitable properties available in Hackney, although our preference is for a suitable site based in London Borough of Hackney.

Internet searches resulted in a limited number of properties being identified, few of which were of a sufficient size in a suitable location; however, one property on [REDACTED] has been identified as suitable for the Academy. This property is our **preferred choice** for the reasons given below.

Details of our preferred site

Our reasons for choosing it

We have selected [REDACTED] as our preferred site for a number of reasons:

- The site is an appropriate size for STEM Academy;
- [REDACTED] is close to the 'Silicon Roundabout'

- There are excellent transport links; the site is less than a 5-minute walk from [REDACTED] Station with its underground and national rail links, is within walking distance of Shoreditch and [REDACTED] Stations and on a number of bus routes
- The building is currently under refurbishment and will be fitted with new, up-to-date services and facilities including
 - fully DDA compliant with level street access and two lifts
 - raised floors to enable services to be run under the floor
 - high ceilings
 - natural light (except in the basement)
 - heating & ventilation, including air conditioning
 - secure bicycle rack to encourage healthy transport options
 - toilets, including a disabled toilet, on each floor
 - showers
 - new window frames with double-glazing throughout
 -
- The Landlord is supportive of the idea of the site being used as a school
- Initial capital costs will be reduced due to the recent refurbishment
- Sensitive refurbishment has retained the character of the building, whilst introducing modern-day services and facilities commensurate with STEM Academy's needs
- The site is within the borough of Hackney

The address and postcode of the proposed site and its current use

The property is at [REDACTED], London [REDACTED]. The site is currently undergoing refurbishment and is not occupied; current use classes are 1st-4th floors (B1), ground floor (A1/A3), basement (A1/A3).

The current freeholder of the proposed site

The site is currently owned by a private company, [REDACTED]. The Landlord accepts the proposal to establish a free school at the site and is flexible in how the space would be modified.

A brief description of the site including size (in square metres) along with the pupil numbers we are proposing

STEM Academy will enrol up to 432 pupils, for which we will require 3,374 m² of space. The [REDACTED] property totals 3,740 m², approximately 360m² of which has been identified for retail use. This would leave 3,380m² of space available for the STEM Academy. The Landlord has also identified restaurant space for which planning permission has been secured, but is flexible on this use and prepared to lease the building in its entirety with the exception of the retail space.

The building is arranged over 6 floors; ground, lower ground and floors 1 – 4. Entry is into a reception area from [REDACTED]. The building is fully accessible for disabled persons from street level and has two 8-person lifts. Exit in an emergency is onto [REDACTED], and refuge for disabled persons has been provided on the staircase of each floor. All services will be integrated into the design of the building during the refurbishment, including

lighting, air conditioning & ventilation, power, water, fire alarm system, data and telecoms. Should S&DA be successful in this application and secure this site, the existence of these services to modern standards will save extensive capital costs in adapting the building for school use. The site sits within [REDACTED], which will restrict the use of external marketing boards and signage; there is no outdoor space.

The availability of the site and the nature of the tenure

The site is currently available for negotiation, pending completion of the refurbishment; floors 1 - 4 will be available for occupation in May 2012, the entirety will be completed by September 2012. The property will be available on a long-term lease. There has been much interest in the site to date; a supermarket chain has already secured part of the ground floor. We are trusting that the building will still be available in the summer, should we be successful in our application.

Why we think the site is suitable for STEM Academy and how it will support delivery of our education vision

The STEM academy will require 3,374 m² of space with the aim of accommodating 432 students by year 2. High quality, technical facilities will be needed in order to deliver the Academy's vision of providing young people with specialist academic and vocational training in Science, Technology, Engineering and Mathematics, and to effectively deliver the proposed curriculum and enhance the students' educational experience using classroom resources of a high quality, quantity and range. The nature, layout and location of the premises will impact greatly on our ability to engage young people who have passed the school leaving age and encourage them to continue in or re-enter education.

This site has excellent public transport links, important as it is unlikely that many young people of this age group will own their own cars. It is in an ideal location close to Old Street tube station and within walking distance of Shoreditch and Liverpool Street stations, as well as being served by several bus routes. The local area will be important in helping STEM Academy to meet its aim of *supporting pupils in their transition to independence and adulthood*; rather than seek premises in quiet locations we have actively sought properties in lively areas and whilst a canteen facility will be provided, pupils will be encouraged to leave the building at break times and explore the vicinity, which would also serve as a means of exercise.

Personal safety is also a consideration and the lively Old Street area will provide greater safety for the pupils attending and leaving the Academy, particularly during the dark winter months and in the evenings.

Core areas

The first point of access will be the reception area and it is important that this is a welcoming, bright space, which could be used to promote STEM Academy and display students' work. Today's reality is that a security presence will be required at STEM Academy and will be the first point of contact for visitors to the building; as such a key area of training for security

staff will focus on how to engage effectively with young people and resolve conflict before it escalates. All pupils will have swipe cards to the security gates for direct access to the building.

STEM Academy will ideally be designed with a canteen as a central hub that will serve as a pupil break out area and facilitate interaction between students of all disciplines, ages and abilities, as well as provide informal contact with staff. STEM Academy believes passionately in equality of opportunity and will strive to create an environment where all individuals feel empowered to succeed and where equal chances are available to young people of all backgrounds. Offering timetabled advice sessions within the canteen space will provide a non-threatening environment for students to seek spontaneous advice, particularly for those students who have previously under-performed due to a lack of guidance and/or support. This area would host refreshment vending machines, a bank of computers, free Wi-Fi and have soft seating areas in addition to the canteen chairs and tables. The canteen will be self-service in order to cater for pupils' and teachers' individual timetables. The associated kitchen will have commercial equipment and take account of food hygiene regulations, including a separate hand washing area.

The vision

STEM Academy is ... dedicated not only to bringing forward the next generation of inspired and creative mathematicians, engineers, designers, technologists and scientists at all levels, but will equally enable greater career choice and options for its pupils on leaving the Academy, be this to employment or onward education.

STEM Academy will be unable to meet this vision without access to world class equipment and learning resources, including adaptive technology for pupils with disabilities or learning difficulties.

The key curriculum areas will be well served by our chosen site:

KEY CURRICULUM AREAS

SUITABILITY OF THE PREFERRED SITE

<p>Science Biology Chemistry Physics Human Biology Environmental Science Geology</p>	<p>The property boasts a basement with high ceilings, air conditioning and ventilation that would be ideal for conversion into Science Laboratories (Labs). Raised floors means that gas pipes could be safely routed under the floor. The area could be easily secured for safety and security outside of lesson times.</p> <p>There will be two, multi-function Labs, each with a prep room. Each Lab will have at least one work bench that can be adjusted for wheelchair users. Facilities will be modern and safe, including fume cupboards, and particular attention will be paid to gas, fire and chemical safety procedures. Safety will be promoted through the STEM Academy Code of</p>
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	Conduct, particularly numbers 5 & 6.
Technology Computing Music Technology Interactive Media Communications Technology (Telecoms)	<p>The basement would also be suitable for the Audio Visual Suite that would be built away from quiet areas and classrooms. The lack of windows would be an advantage for the music technology studio and would enhance the sound proofing.</p> <p>Effective use of technology is central to STEM Academy's approach to teaching in order to make teaching relevant to pupils and reflect the outside world. Technology will be a core theme throughout the school and the provision of data and communication services through central risers will facilitate connectivity for banks of computers in all areas, including labs, workshops, and studios. There will also be an Information & Communication Technology training suite for teaching office-based applications and a suite of Apple Mac computers for the media provision.</p> <p>Adaptive technology will be provided for pupils with disabilities or learning difficulties. In addition, the location of the site will expose pupils to local technology businesses and enhance their learning experience.</p>
Engineering Design Technology [Engineering Technology] Engineering	As with the science Labs, the basement would be an ideal location for the Engineering and Design technology workshop. The high ceilings, air conditioning and ventilation would enable the safe use of equipment such as blow torches. The workshop would be equipped with state of the art engineering equipment, computers, CAD software and a 3D printer. There will be at least one height adjustable work bench for wheelchair users.
Mathematics Maths and Further Maths	<p>Up to five general purpose classrooms will be designed on the upper floors in order to maximise the natural light, thereby reducing energy costs. The availability of two lifts will facilitate easy movement between floors in order to move punctually from one room to another during the 10 minute break between lessons.</p> <p>The classrooms will be neat, clean and modern with minimal distractions to support an effective learning process. Each room will have at least one height adjustable desk for wheelchair users, a bank of computers and the latest interactive whiteboard and</p>
Complementary Subjects A Levels: English and Modern Languages GCSE: English, History, Geography, Modern Languages	

	projector, enabling the rooms to be used flexibly, for example as tutorial or House rooms. A Language Lab will be set up in one classroom.
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Work Academy

One of the unique selling points of STEM Academy is the *innovative Work Academy which seeks to proactively prepare young people for the realities of work. As well as providing employability skills, STEM Academy's vision is for the Work Academy to be an effective physical space for work-orientated learning and skills.*

The Work Academy will occupy a dedicated space set apart from the main Academy with its own 'professional reception' and an environment replicating that of a work place. In order to imitate the work environment the Work Academy will be resourced with 'offices' and a resource area and office equipment such as a photocopier, telephones, fax machine, franking machine and computers, which will be used to set 'real work tasks'. Two small interview rooms will be built within the Work Academy to facilitate information, advice & guidance sessions, mock interviews and mentoring and other confidential 1:1 sessions. A water cooler and coffee machine will be provided and the environment will have a corporate look and feel in order to encourage local companies to engage with the Work Academy.

The Work Academy will also host STEM Academy's Enterprise Hub where pupils will be encouraged to pursue entrepreneurial ideas and take part in the Enterprise and Business Development Programmes. Facilities will be shared with the Work Academy, with a separate enterprise resource area.

During quiet times such as the summer term when pupils are sitting examinations, the work Academy would provide a useful community resource with short courses being offered to local people who are searching for work (funded through S&DA) or to local schools, thus meeting STEM Academy's vision of benefiting the local and wider community.

Learning Resource Centre

A well equipped Learning Resource Centre (LRC) will be essential in enabling STEM Academy's pupils to make effective use of their timetabled study periods and free sessions. The LRC will be located on the first or second floor in order to facilitate easy access from all points of the building. The Centre will host a bank of computers with earphones which would be used in delivering innovations such as the flipped classroom and will be a key resource for the more disadvantaged pupils who do not own a computer.

The LRC will be divided into a number of areas: quiet reading area with soft seating, study desks, resource areas and display areas to complement the display space at reception. There will be free Wi-Fi, a soft seating area, self-issue terminal and a photocopier that could be used by pupils for a small charge. The Centre will facilitate the development of independent learning,

self managing and research ability for all pupils but in particular will be a key resource for pupils undertaking the AQA Baccalaureate in enabling them to complete their extended project.

Staff facilities

STEM Academy expects all teachers to demonstrate a high level of understanding and knowledge in the subject matter; have well-planned and thought-out lessons plans and activities and use appropriate resources of a high quality. Teachers will require a quiet space in order to effectively plan their lessons and mark pupils' work. The staff room will be located on the first floor, midway between the floors, to enable them to respond rapidly in the event of an emergency either on upper or lower floors. The staff room will have desks/tables and chairs as well as soft seating, secure storage for pupils' files and shelving, a kitchen area. Whilst staff will be encouraged to mix with pupils at lunch and break times, the staff room is an important avenue for talking to each other, discussing work, sharing concerns and building effective relationships with each other.

The Principal will lead the staff in the vision and it is expected that the appointed person will be an experienced and charismatic leader who will be able to articulate the vision and lead by example. In order to achieve this s/he will require an experienced support team and will rely on his/her Personal Assistant (PA). The support team will be located close to the Principal's office, with the PA directly outside. In addition to the general office equipment this area will require secure & confidential storage for pupils' and staff's records, a networked photocopier, commercial shredder, secure mail area and a breakout area with soft seating.

Extra-curricular provision

One of STEM Academy's key aims is to increase the social, economic and ethnic diversity of young people progressing onto leading universities and into the top professions. STEM Academy recognises that in order to achieve this, we have to focus on the whole person as well as academic performance. The extra-curricular provision will be central to achieving this aim and will in some instances, require additional space to that detailed above.

STEM Academy Plus Enrichment and Extra-curricular Themes		Additional Space Requirement
Arts and Culture Music, drama, fashion, cinema & film, foreign language (conversational), debate society	Performance space. This would take the form of a multi-purpose hall which would have a mobile stage, PA system and stage lighting.	
Sports and Fitness Team sports, fitness classes, martial arts, Sports Leadership Award	The multi-purpose hall would be used for indoor sporting & fitness activities. We would source local playing fields for outdoor sports activities.	
Social History British citizenship and social	None, general classrooms would be used.	

history, cultural history, industrial history and its impact on people and the environment	
Economic Development Preparation for work, career advice and counselling, entrepreneurship, financial awareness	None, the Work Academy and general classrooms would be used.
Personal Development Volunteering, Duke of Edinburgh Award, public speaking	Much of the activity would take place offsite; the hall would be used for large public speaking/debating events.

The Multi-function Hall would also be used for large Academy meetings and events and would be hired out as a community resource.

Additional facilities

STEM Academy is not designated as having a religious character and will welcome pupils from all religions and non-religious backgrounds. STEM Academy will not particularly promote or endorse any specific religion above another, and will designate one of the quieter classrooms as an area for quiet reflection and prayer that is open to all pupils outside of class times.

Other space requirements include:

- A First Aid / Pastoral Care Room with soft seating and a bed or couch
- A Server Room with a cooling system that would host the cabling, network points and telephone system

Design considerations

The design of the site into STEM Academy will be required to take a number of factors into consideration, not least the health & safety of all users and the various building-related regulations. The distance between classrooms and other facilities is important in ensuring that students can move between classes within the time allowed and the sample timetables have been planned with this in mind. Disabled access has been built into the refurbishment of the site from street level, the design of classrooms, workshops, LRC etc. will ensure complete access within the site.

Personal safety measures would be built into the design, including access control on the main entrance, security barriers at reception and CCTV.

Other factors that will be taken into consideration in designing the layout include:

- the need for the AVA Studio to be away from quiet areas
- the requirement for adequate air conditioning and ventilation in science labs, prep rooms and the engineering workshop
- the vision of using the canteen as a central hub for pupils
- the ease of moving around the building from one classroom to another within the allotted 10 minutes between lessons

Capital cost savings

Significant capital cost savings would be achieved from acquiring this site as the challenge and major costs of converting the building to a school will centre on how best to configure the partitioning around the location of services that have been installed, in order to maximise use of the space; brand new services and facilities that are already in place include:

- level street access and two lifts
- raised floors to enable services to be run under the floor
- high ceilings
- natural light (except in the basement)
- heating & ventilation, including air conditioning
- secure bicycle rack to encourage healthy transport options
- toilets, including a disabled toilet, on each floor
- showers
- new window frames with double-glazing throughout

Capital investment

Please detail any sources of funding available to you to support site acquisition.

STEM Academy does not have any sources of capital funding available to support the acquisition of a site.

Annexes

If there is any additional information that you wish to submit as part of your application please include it here.

- **A1: Financial Plan and Assumptions**
- **A2: Financial Plan (90% sensitivity analysis) and Assumptions**
- **A3: Community Youth Leadership letter of support**
- **A4: Expanded Statement of Assumptions**
- **A5: STEM Academy Certificate of Incorporation**

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