



Standards
& Testing
Agency

2024 key stage 2 teacher assessment

Technical specification

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Summary

This document provides the specification for the 2024 key stage 2 (KS2) teacher assessment data collection which is returned to the Standards and Testing Agency (STA).

It has been produced to help schools, local authorities and school management information system suppliers to prepare and return all the required data to STA.

Who is this publication for?

This technical specification is for:

- suppliers developing software for use in management information systems (MIS)
- local authorities collecting and submitting 2024 KS2 assessments data
- schools submitting 2024 KS2 assessments data

Main points

These specifications enable schools and local authorities, including software suppliers working on their behalf, to prepare and submit data on KS2 assessments carried out in 2024. It contains:

- what pupil data is required for each pupil
- how to structure the data in XML
- how to check the data against the validation rules

This guide must be read in conjunction with the current version of the [Common Basic Dataset \(CBDS\)](#). It defines common data items that schools use in MIS software and that we use in our data collections.

1. Introduction

This document provides the specification for the return of KS2 teacher assessments, pre-key stage and engagement model data to STA. Returns are made using the Primary Assessment Gateway (PAG) and are in XML format.

1.1 Statutory requirement

The return of data to the Department for Education and its subsequent publication is underpinned by the following legislation:

- Section 29 of the [Education Act 1996](#)
- [The Education \(School Performance Information\) \(England\) Regulations 2007](#)
- Regulations 5 and 8 of the [School Information \(England\) Regulations 2008](#)

1.1.1 Data sharing

The UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018 (DPA 2018) provide certain safeguards regarding the use of personal data by organisations, including:

- the department
- local authorities
- schools

The UK GDPR and DPA 2018 detail the rights of those (known as) data subjects about whom data is held, such as:

- pupils
- parents
- teachers

This includes (amongst other information that we are obliged to provide):

- the right to know the types of data being held
- why it is being held
- to whom it may be communicated

For the purposes of data protection legislation, the terms 'process', 'processed' or 'processing' apply to any activity involving personal data, such as:

- collecting
- storing
- sharing

- destroying

Please note that this list is not exhaustive.

The department provides suggested wording for [privacy notices](#) that schools and local authorities may wish to use. However, where the suggested wording is used, the school or local authority must review and amend the wording to reflect local business needs and circumstances.

This is especially important as data will be processed that is not solely for use within data collection exercises.

1.2 Structure

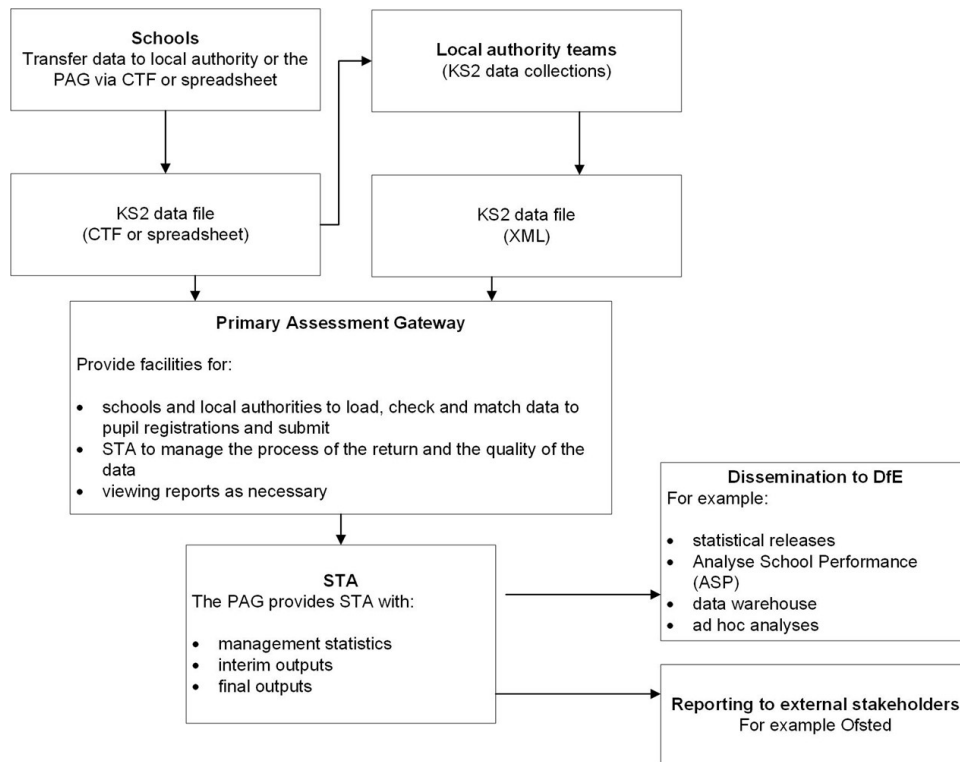
This technical specification contains a narrative, sample XML messages and validation. Schools, local authorities and suppliers should read this specification in conjunction with the current version of the [Common Basic Data Set \(CBDS\)](#).

1.3 Scope

This data collection exercise covers all schools in England that are required to, or have chosen to, provide data on KS2 assessments carried out in 2024. It also covers local authorities that might be submitting data on behalf of schools. This includes independent schools, academies and free schools outside of their geographical area, where the local authority has been selected to carry out moderating activities.

Figure 1 outlines the overall scope of the collection.

Figure 1: High-level data collection process



1.4 Changes for 2024

For the 2024 KS2 data collection technical specification, changes have been made to:

- dates, to reflect the current academic year
- reflect common transfer file (CTF) 23 specification

1.5 Key dates

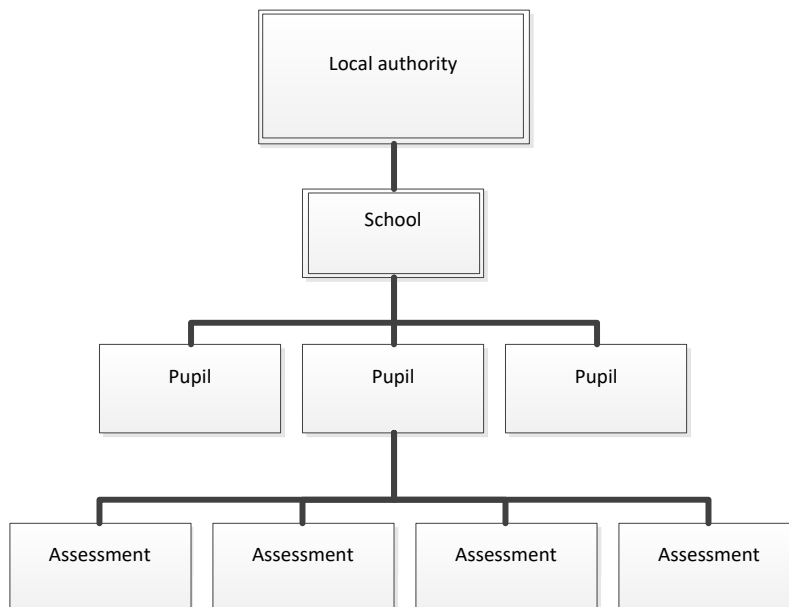
Data must be submitted via the PAG between Monday 20 May and Friday 28 June, either directly from schools or by local authorities submitting on their behalf. Schools and local authorities will be able to correct errors and resubmit until the teacher assessment form closes in September.

2. Collection and submission of assessment data

2.1 Outline of data content

Each return from a local authority will consist of a header and one or more school modules (only one school per return as shown in Figure 2), each of which will contain a pupil module with a number of pupil records. Each pupil record will include identifiers and a series of assessment records.

Figure 2: outline structure of data



2.2 What schools must assess

Teachers will complete the end of KS2 assessment following the process set out in the [2024 KS2 assessment and reporting arrangements \(ARA\)](#).

Schools will report the outcomes of those assessments either to STA or via their local authority if the local authority is submitting on behalf of the school. Schools must submit a valid outcome for:

- all children in English writing and science teacher assessment
- any child that is working below the standard of the national curriculum in English reading and/or mathematics

The codes that should be used when submitting data are as follows:

Key Stage 2	Pupils working at the standard of national curriculum assessments	Pupil working below the standard of the national curriculum assessments and engaged in subject specific study	Pupils working below the standard of the national curriculum and not yet engaged in subject-specific study	Other codes
English reading	Not applicable	PK1,PK2,PK3,PK4,PK5,PK6	EM	A
Mathematics	Not applicable	PK1,PK2,PK3,PK4,PK5,PK6	EM	A
English writing	GDS, EXS, WTS	PK1,PK2,PK3,PK4,PK5,PK6	EM	A, L, F, P
Science	EXS, HNM	HNM	HNM	A, L, F, P

Please see [KS2 teacher assessment guidance](#) for more information on teacher assessment judgements.

2.3 Submitting results

Steps 1 and 2 below are for schools submitting their data directly to STA or via their local authority using an XML export file:

1. Schools enter individual pupils' KS2 teacher assessment results (including pre-key stage and engagement model data, if applicable) into their respective MIS.
2. The MIS then creates an XML export file (partial CTF) for loading into the PAG, or, if arrangements have been made for a local authority to submit data on the school's behalf, submission to the local authority by secure means.

Local authorities submitting data on behalf of schools are required to complete steps 3 and 4, following schools' completion of steps 1 and 2:

3. Load results (in all formats) into the local authority central database or processing system.
4. Create school XML export files using local authority software for loading into the PAG.

STA will only accept submissions in XML format. If this is not available, a KS2 Excel template is provided in the PAG to enable schools and local authorities to submit their data.

2.4 Entry of results into school MIS

Each pupil's teacher assessment for English writing and science must be entered into the MIS. In addition, results for any pupils working below the standard of the national curriculum in English reading and mathematics must be entered in the MIS.

Pre-key stage standards

The pre-key stage standards are for pupils who are working below the standard of the national curriculum assessments but are engaged in subject-specific study. This means they will be working below the lowest standard in the relevant framework for teacher assessment. The pre-key stage standards are used to make statutory judgements in English reading, English writing and mathematics for pupils who have not completed the relevant KS2 programme of study but reached the end of year 6, when an outcome must be reported for school accountability.

Pre-key stage standards have not been defined for science. Any pupils that have not met the expected standard in science should be marked as 'HNM'.

Engagement model

Schools must use the engagement model to assess pupils working below the standard of national curriculum assessments and not engaged in subject-specific study at KS2.

The engagement model is a teacher assessment tool that replaces P scales 1 to 4. It became statutory from September 2021.

The full list of valid assessment values for all of the above is as shown in the [Assessment component file 2024 \(A Comp\)](#).

For more information on when pre-key stage standards and the engagement model should be used, refer to the [KS2 ARA](#).

2.5 MIS data entry checks

The school MIS software should check that a valid judgement has been entered for each subject, where appropriate. Any invalid or missing entries should be reported to the school when the data is entered or when the CTF is created. For more information, refer to section 4.

2.6 Naming convention for CTF files

XML files should be created using the following naming convention:

'xxxnnnn_KS2_NAALLL_yyy.XML'

'xxx' represents the local authority number, 'nnnn' is the school number (establishment number) and 'yyy' is an incremented version number starting at 001.

2.7 Loading results into the local authority central management system

Where a local authority is collecting and submitting data on behalf of schools, their management system should allow them to import the CTF into its central database. It should also allow them to validate the CTF in accordance with the rules in section 4, where applicable. Any missing or invalid teacher assessment, pre-key stage and engagement model data should be reported to the local authority in their system. The software should also flag if any Unique Pupil Numbers (UPNs) are missing or invalid, or if any dates of birth are missing, incomplete or outside the expected age range.

In addition, the software should allow the local authority to load into its central database a file created by independent schools from the KS2 teacher assessment template, available in the PAG.

The export filename should be:

'ks2_yyyxxxx_###.xls'

'yyy' is the local authority number and 'xxxx' is the school establishment number (for independent schools, this number will always start with a 6). '###' is the version number of the file.

Where any pupil's identifying or contextual data is already present in the local authority central database, there should be a prompt to ask if the existing data should be overwritten by the CTF or xls import.

Where a CTF contains any pupil data from previous assessments – for example, earlier years' KS2 results – there should be a prompt to ask if the existing assessment data should be overwritten.

The local authority should also have facilities to:

- remove and add pupils
- amend a pupil's identifying data or result outcomes and revalidate the new data in accordance with the rules in section 4

- reimport a corrected CTF with an option for the operator to either replace all existing data or add as new data to be validated in accordance with the rules in section 4

2.8 Creation of XML export file for transmission to STA

The software should create separate XML files containing individual pupil data for each school, as specified in the example XML file in section 3.2. The files should be created for loading into the PAG.

These XML files should be validated in accordance with the rules in section 4. Any data failing the validation checks should be reported using the error codes and messages specified.

In addition to the local authority and school number, the file will contain the following data items for each pupil:

Identifier	CBDS Module	Data item name
N00001	Pupil identifiers	Unique Pupil Number (UPN)
N00003	Pupil identifiers	Surname
N00004	Pupil identifiers	Forename
N00006	Pupil identifiers	Date of birth
N00783	Pupil identifiers	Sex

Each pupil will have a number of stage assessments containing each KS2 teacher assessment, pre-key stage or engagement model result as recorded.

Task/test results must not be included in the XML file.

Please note, an approved supplier ID will not be issued. The PAG will use the supplier ID tag value specified by suppliers for this purpose.

Exporting the XML

When exporting the XML, the:

- local authority should be provided with options to include all or selected schools' individual pupil results, even if these contain errors or have previously been

exported (the software should inform the operator if a school is in error or has previously been exported)

- school should be provided with options to include all or selected individual pupil results, even if these contain errors or have previously been exported (the software should inform the operator if a pupil is in error)

Whichever option is chosen, all results for each pupil within the school must be exported.

Where a CTF contains any pupils' previous assessment data – for example, earlier years' KS2 results – there should be a prompt to ask if the existing assessment data should be overwritten.

2.9 Additional local authority software requirements

The software should allow the local authority to:

- produce a list of schools to check that all expected school returns have been processed
- produce a report for each school, or for all schools, to show the number of boys, girls and total number of pupils included in each school's CTF submission
- transmit results in batches without the need to resubmit results already transmitted

2.10 Reports for schools and parents

The software should produce pupil results and school result reports for the academic year 2023 to 2024.

2.11 Return of data to schools

The PAG will produce a file in XML format, which can be imported back into the school's MIS. The data is also available in CSV format.

Imported data may differ from the existing data if changes have been made in the PAG by:

- the school
- the local authority
- an administrator

Imported data may also differ if data was resubmitted following moderation by the local authority.

In some cases, data may be annulled following moderation. This process was introduced in 2018 and is denoted by the Q code as specified in 'A_Comp'. This code will only be

used in files exported from the 'Results' section of the PAG. The software should accept the import of the Q code, but validation should prevent the Q code from being selected when creating teacher assessment data submission files. There should be no restriction on including the Q code in other files, such as the CTF for onward transmission of a pupil's data to a new school.

3. Data return formats

A submission file from a local authority or agent should be provided in an XML file structure as described in section 3.2. Where an optional item is not included, the associated tag should be omitted. Where a mandatory item is omitted, an error will be generated.

For more technical information on CTFs see the [Common transfer file 23: specification](#).

3.1 Special notes for XML returns

The standard XML entity references should be used for the following special characters:

Character	Entity reference
Ampersand (&)	&
Left angle bracket (<)	<
Right angle bracket (>)	>
Single quote / apostrophe (')	'
Double quotes (")	"

For special characters such as é use a character reference such as é. This produces a generic XML file, which can be viewed as such in a suitable browser. Details of all characters are found within the XML standard documentation, [Extensible Markup Language](#), in section 2.2.

3.2 Example file structure for XML returns

CBDS Ref	XMLFormatLayout	Notes
	<?xml version="1.0" encoding="UTF-8" ?>	
	<CTfile>	
	<Header>	
N00600	<DocumentName>Common Transfer File</DocumentName>	
N00608	<CTFversion>23.0</CTFversion>	
N00609	<DateTime>2022-11-27T00:00:00</DateTime>	
N00611	<DocumentQualifier>partial</DocumentQualifier>	
N00605	<SupplierID>SIMS</SupplierID>	
N00616	<SourceSchool>	
N00216	<LEA>302</LEA>	D00004
N00147	<Estab>2071</Estab>	
N00057	<SchoolName>A School</SchoolName>	
N00618	<AcademicYear>2023</AcademicYear>	
	</SourceSchool>	
	<DestSchool>	
N00216	<LEA>NAA</LEA>	D00004
N00279	<Estab>LLLL</Estab>	
	<URN>654321</URN>	
	</DestSchool>	
	</Header>	

CBDS Ref	XMLFormatLayout	Notes
	<CTFpupilData>	A repeatable group of 1 or more
	<Pupil>	
N00001	<UPN>A123456789012</UPN>	
N00003	<Surname>Smith</Surname>	
N00004	<Forename>John</Forename>	
N00006	<DOB>2013-03-21</DOB>	
N00783	<Sex>M</Sex>	
	<StageAssessments>	
	<KeyStage>	
N00156	<Stage>KS2</Stage>	
	<StageAssessment>	
N00088	<AssessmentLocale>ENG</ AssessmentLocale >	<StageAssessment>: A repeatable group of 1 or more depending on the combination of <Subject>, <Method>, <Component> and <ResultQualifier> required. See A_Comp 2024
N00602	<Year>2024</Year>	
N00134	<Subject>ENG</Subject>	
N00062	<Method>TA</Method>	
N00063	<Component>REA</Component>	
N00061	<ResultStatus>R</ResultStatus>	
N00200	<ResultQualifier>NC</ResultQualifier>	
N00064	<Result>EM</Result>	
N00094	<ResultDate>2024-06-28</ResultDate>	
	</StageAssessment>	
	</KeyStage>	
	</StageAssessments>	
	</Pupil>	
	</CTFpupilData>	
	</CTfile>	

4. Data validation rules

This section specifies validation rules that STA applies to the data, using the PAG. The rules should also be applied, where possible, and any issues resolved as far as possible by:

- schools prior to exporting the file and passing it to the local authority, or loading the data directly onto the PAG
- local authorities prior to loading the data onto the PAG

Data items included in the specification but not appearing in the validation rules should be supplied where available. The rules below show the errors that will be presented to the school or local authority on submission of their data if they fail the validation checks.

Any file that is exported with errors, and uploaded to the PAG without being corrected first, may fail to upload or require a new file to be created and uploaded in order to correct it.

Syntax requirements for XML files:

- validation checks are expressed as conditions that must be true (errors)
- the error message shows what will be displayed if the condition fails
- data items are indicated using the XML tag with the CBDS number in parentheses - for example, <UPN> (N00001)
- data groups are indicated using the XML tag only - for example, <Assessments>
- single dates or date ranges are sometimes defined in relation to <ReferenceDate>, which is from the XML header

4.1 Header validation

Sequence number	Error/query	Validation check	Error message
001	Error	<DocumentName> (N00600) must be present with a value of "Common Transfer File"	Document name missing or invalid - the file must be recreated
002	Error	<SupplierID> (N00605) must be present	Supplier ID is missing

4.2 Establishment-level validation

Sequence number	Error/query	Validation check	Error message
003	Error	<LEA> (N00216) must be provided and must be a valid value	Local authority number missing or invalid
004	Error	<Estab> (N00279) must be present with a valid value	Establishment number is missing

4.3 Pupil-level validation

Sequence number	Error/query	Validation check	Error message
1001	Error	<DOB> (N00006) must be present	Date of birth is required
1002	Error	<DOB> (N00006) format must be DD/MM/YYYY	Date of birth format must be DD/MM/YYYY
1003	Error	<DOB> (N00006) should be between 1/9/2010 and 31/8/2013 for KS2	Pupil's date of birth is outside expected date range
1004	Error	<Sex> (N00783) must be present and a valid value	Sex code is invalid
1005	Error	All schools except independent schools <UPN> (N00001) (Unique Pupil Number) must be present	UPN is required

Sequence number	Error/query	Validation check	Error message
1006	Error	<p>If <UPN> (N00001) is present, it must contain the correct check letter. To calculate the check letter:</p> <ol style="list-style-type: none"> 1. Multiply the individual digits by their weights as follows: <ul style="list-style-type: none"> • digit 2 by weight 2 • digit 3 by weight 3 • digit 4 by weight 4 • digit 5 by weight 5 • digit 6 by weight 6 • digit 7 by weight 7 • digit 8 by weight 8 • digit 9 by weight 9 • digit 10 by weight 10 • digit 11 by weight 11 • digit 12 by weight 12 • digit 13 by weight 13 2. Sum the individual results, divide the total by 23, and take the remainder. 3. Calculate the check letter from the result as follows: 0 = A; 1 = B; 2 = C; 3 = D; 4 = E; 5 = F; 6 = G; 7 = H; 8 = J; 9 = K; 10 = L; 11 = M; 12 = N; 13 = P; 14 = Q; 15 = R; 16 = T; 17 = U; 18 = V; 19 = W; 20 = X; 21 = Y; 22 = Z. For calculating the check letter (see above) any alphabetical character at digit 13 is accorded the same numerical value as listed in paragraph 3 above – for example: A = 0, B = 1, C = 2 and so on. 	UPN invalid (wrong check letter at character 1)
1007	Error	Each pupil <UPN> (N00001) must be unique across all pupils in the school	More than one pupil record with the same UPN

Sequence number	Error/query	Validation check	Error message
1008	Error	If <UPN> (N00001) is present, characters 2 to 4 of <UPN> (N00001) must be a valid post-April-1999 local authority code or a recognised 'pseudo local authority' code (001 to 005, 201 to 213, 301 to 320, 330 to 336, 340 to 344, 350 to 359, 370 to 373, 380 to 384, 390 to 394, 420, 660 to 681, 701 to 708, 800 to 803, 805 to 808, 810 to 813, 815, 816, 820 to 823, 825, 826, 830, 831, 835 to 841, 845, 846, 850 to 852, 855 to 857, 860, 861, 865 to 896, 908, 909, 916, 919, 921, 925, 926, 928, 929, 931, 933, 935 to 938, or 940 to 943)	UPN invalid (characters 2-4 not a recognised local authority code)
1009	Error	If <UPN> (N00001) is present, characters 5 to 12 of <UPN> (N00001) must be numeric	UPN invalid (characters 5 to 12 not all numeric)
1010	Error	If <UPN> (N00001) is present, character 13 of <UPN> (N00001) must be numeric or A-Z, omitting I, O and S	UPN invalid (character 13 not a recognised value)
1011	Error	<Surname> (N00003) must be present	Surname is required
1012	Error	<Forename> (N00004) must be present	Forename is required
1013	Error	Where <Subject> = ENG and <Component> = WRI and <ResultQualifier> = NC, there should be a stage assessment <Result>	The writing result is missing - it must be one of GDS, EXS, WTS, PK6, PK5, PK4, PK3, PK2, PK1, EM, A, L, F or P
1014	Error	Where <Subject> = SCI and <Component> = SCI and <ResultQualifier> = NC, there should be a stage assessment <Result>	The science result is missing - it must be one of EXS, HNM, A, L, F or P
1015	Error	If <Subject> concatenated with <Component> and <ResultQualifier> equals 'ENGREANC', then <Result> must be EM, PK1, PK2, PK3, PK4, PK5, PK6, or A	The reading result is invalid - it must be one of PK6, PK5, PK4, PK3, PK2, PK1, EM, A

Sequence number	Error/query	Validation check	Error message
1016	Error	If <Subject> concatenated with <Component> and <ResultQualifier> equals 'ENGWRINC', then <Result> must be EM, PK1, PK2, PK3, PK4, PK5, PK6, WTS, EXS, GDS, A, L, F, or P	The writing result is invalid - it must be one of GDS, EXS, WTS, PK6, PK5, PK4, PK3, PK2, PK1, EM, A, L, F or P
1017	Error	If <Subject> concatenated with <Component> and <ResultQualifier> equals 'MATMATNC', then <Result> must be EM, PK1, PK2, PK3, PK4, PK5, PK6, or A	The mathematics result is invalid - it must be one of PK6, PK5, PK4, PK3, PK2, PK1, EM, A
1018	Error	If <Subject> concatenated with <Component> and <ResultQualifier> equals 'SCISCINC', then <Result> must be HNM, EXS, A, L, F or P	The science result is invalid - it must be one of EXS, HNM, A, L, F or P
1036	Error	Where Test Status* for reading = B, then there must be a stage assessment where <Subject> = ENG and <Component> = REA and <ResultQualifier> = NC and <Result> is one of PK6, PK5, PK4, PK3, PK2, PK1, EM or A	Our records indicate that this pupil is working below the standard and a result is expected - it must be one of PK6, PK5, PK4, PK3, PK2, PK1, EM, A
1037	Error	Where Test Status* for maths = B, then there must be a stage assessment where <Subject> = MAT and <Component> = MAT and <ResultQualifier> = NC and <Result> is one of PK6, PK5, PK4, PK3, PK2, PK1, EM or A	Our records indicate that this pupil is working below the standard and a result is expected - it must be one of PK6, PK5, PK4, PK3, PK2, PK1, EM, A

*'Test Status' is an internal field used to flag the test status of a pupil. In the case of sequence number 1036 and 1037, these errors can only be presented to the user once the data is loaded into the PAG.

5. Resubmission guidance

When resubmissions are required, the serial number in the header must be incremented by the provider's software. Note that a resubmission will overwrite the data contained in the previous submission but will not remove existing data that is not included in the resubmission.

6. Valid values

Valid item values must be in the list or range specified in [CBDS](#), subject to the exceptions and restrictions below.

6.1 Local authority codes

Local authority codes for this collection only cover local authorities in England.

Coverage also excludes the following local authority codes:

- 001, 003, 167
- codes starting with 6 and 7, except 702 (Service Children's Education, which is valid)
- XXX, MMM and NA

6.2 Assessment parameters

The following combinations of subject, component, assessment method and result type are required, as appropriate.

For KS2 teacher assessment:

- KS2-2024-ENG-WRI-TA-NC
- KS2-2023-SCI-SCI-TA-NC

For KS2 pre-key stage and engagement model:

- KS2-2024-ENG-REA-TA-NC
- KS2-2024-ENG-WRI-TA-NC
- KS2-2024-MAT-MAT-TA-NC

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