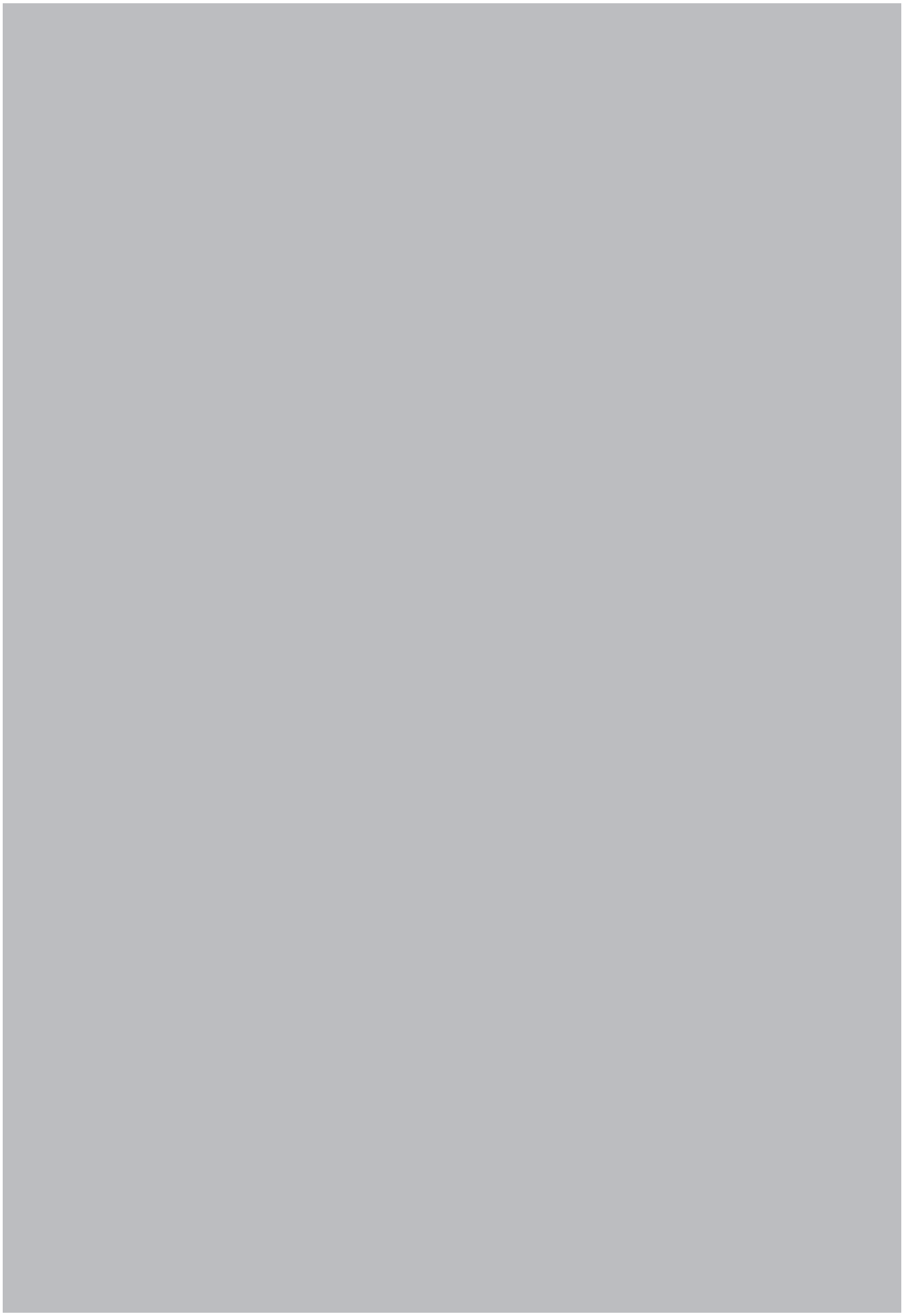
Key Stage 2

SCIENCE

Modified large print

Test ST012P

Modified large print test materials have an additional front cover for packaging purposes. Test administrators should ensure that this additional cover is removed before the pupil starts the test.



Key Stage 2

SCIENCE

Modified large print

Test ST012P

First name _____

Middle name _____

Last name _____

Date of birth Day _____ Month _____ Year _____

School name _____

DfE number _____

Note to markers:
This paper should be marked using the MODIFIED LARGE PRINT mark scheme amendments – MLP.

2014-403

BLANK PAGE

TIME ALLOWED

You have 25 minutes for this test, plus your additional time allowance.

INSTRUCTIONS

Write all your answers on this question paper.

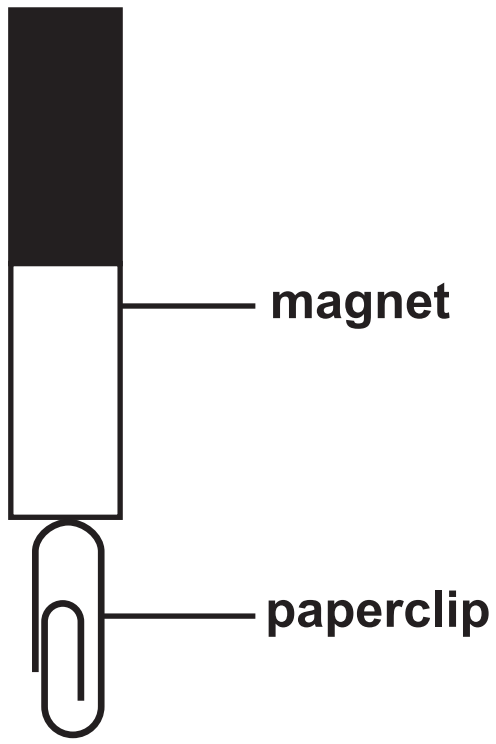
For some questions, you may need to draw an answer instead of writing one.

1. Magnetic forces

(a) Ali has four different magnets and some paperclips.

The paperclips are attracted to the magnets.

Draw one arrow on the diagram to show the direction of the magnet's force on the paperclip. [1 mark]



(b) Name the force on the paperclip that pulls in the opposite direction to the magnet. [1 mark]

_____

(c) **Ali wants to find the strongest magnet.**

He adds paperclips to a magnet one at a time so they make a chain.

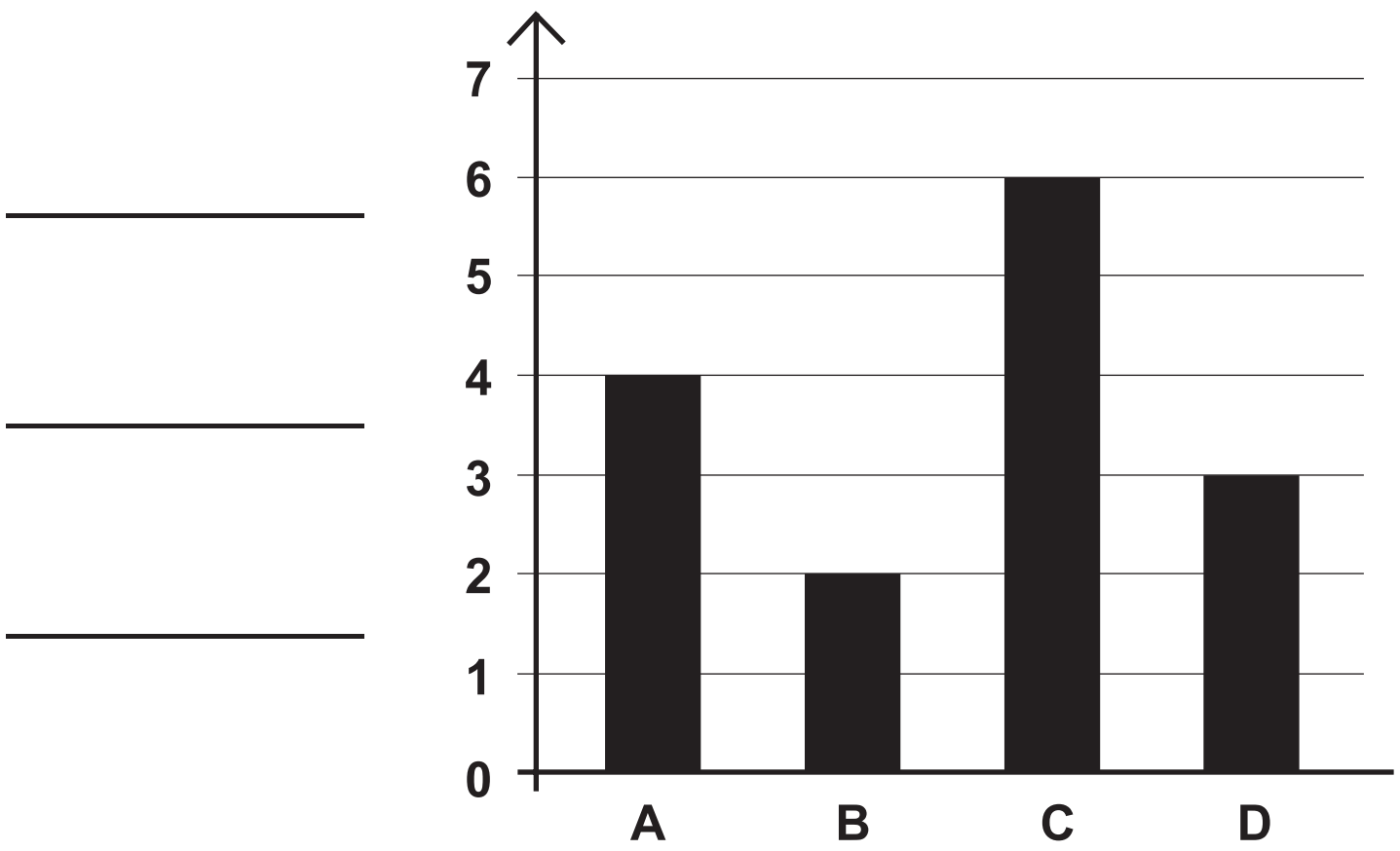
He stops when no more paperclips stick.

He repeats this with the other three magnets.

How will Ali know which magnet is the strongest? [1 mark]

(d) **The graph below shows Ali's results.**
One axis on the graph has been labelled.

Write the label for the other axis. [1 mark]



Magnet

(e) **Ali moves magnet A towards magnet B.**
Magnet B moves away from magnet A even though Ali does not touch magnet B.

Why did magnet B move away from magnet A? [1 mark]

(f) **Ali tries different ways of putting the magnets together.**

Tick one box on each row of the table to show if the magnets move together, move apart or do not move. [1 mark]

The first one has been done for you.

Magnets	Move together	Move apart	Do not move
	✓		
			
			
			

2. Electricity investigation

(a) Lena has this equipment:

1 switch

6 wires

2 large cells (batteries)

1 small cell (battery)

1 bulb

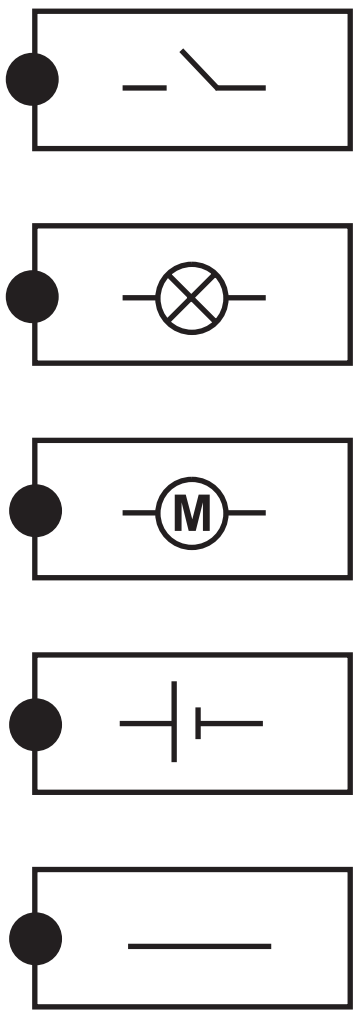
Tick three boxes to show which questions Lena could investigate using only the equipment given above. [2 marks]

Tick three boxes.

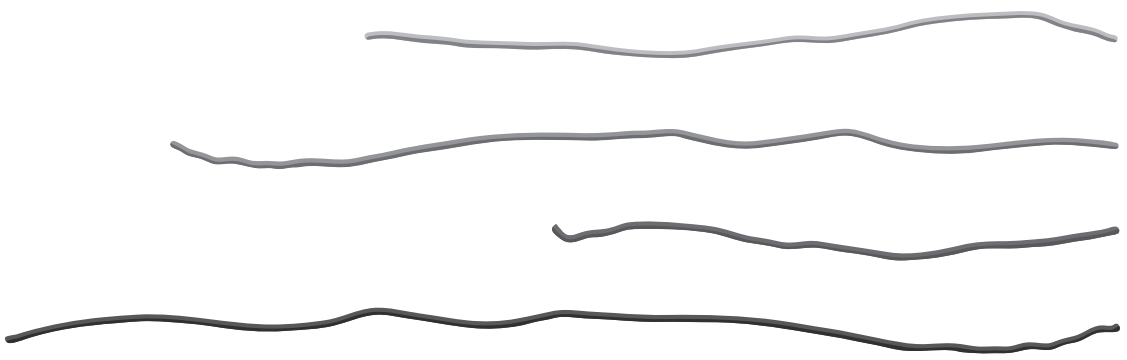
- ☐ **Do different cells affect the brightness of a bulb?**
- ☐ **How many bulbs can be lit by one cell?**
- ☐ **Does the number of cells affect the brightness of a bulb?**
- ☐ **Does the number of switches affect the brightness of a bulb?**
- ☐ **Does the direction of cells affect the brightness of a bulb?**

(b) Draw **four** lines to match the electrical components to their symbols. [1 mark]

Electrical component	Symbol
bulb	
switch	
wire	
cell	



(c) **Lena collected these wires.**
The wires are made of different metals.



Lena says, 'I want to know if the wires made of different metals will change the brightness of the bulb in the circuit.'

What must Lena do to the wires to make her test fair? [1 mark]

(d) **Lena makes her test fair.**

Tick two boxes to show the two pieces of evidence Lena should collect for her results. [1 mark]

Tick two boxes.

- ☐ **how quickly the bulb lights up**
- ☐ **how bright the bulb is**
- ☐ **how many wires there are**
- ☐ **what metals the wires are made of**

3. The solar system

(a) Joe is finding out about the solar system.

He writes four statements about the Sun.

Write true or false next to each statement about the Sun.
[2 marks]

	True or false?
The Sun is a light source.	_____
The Sun orbits the Earth.	_____
The Sun is smaller than the Earth.	_____
The Sun is a circle.	_____

(b) Joe finds out that days and years take different amounts of time on different planets.

Planet	Time for one day (Earth days)	Time for one year (Earth days)
Mercury	59	88
Venus	243	225
Earth	1	365
Mars	1	687
Jupiter	0·4	4329

Look at the table.

(i) Which planet has the shortest day? [1 mark]

(ii) Which planet orbits the Sun quickest? [1 mark]

(c) Joe says, ‘The planets with shorter days have shorter years.’

Look at the table opposite.

Do the planets with shorter days have shorter years?
Tick one box.

yes ☐ no ☐

Use the information in the table to explain your answer. [1 mark]

(d) All of the planets in our solar system have days and nights.

What movement in space causes day and night on Earth?
[1 mark]

4. Investigating grip

(a) Andy and Jun have different ways of testing how well different shoes grip.

Andy's plan

1) Ask someone to run around in the playground.

2) Time how long it is before they fall over.

3) Do the test again with different shoes.

Jun's plan

1) Put the shoe on a table and tie string to it.

2) Add a weight to the other end of the string and let it hang over the edge of the table.

3) See how much weight it takes to move each shoe.

Complete the table below to show the units that Andy and Jun could use to measure their results. [2 marks]

What will be measured?	What is the unit of measurement?
how much **time** it takes to fall over	
how much **weight** it takes to move the shoe	

(b) Andy and Jun both plan to make their tests fair.

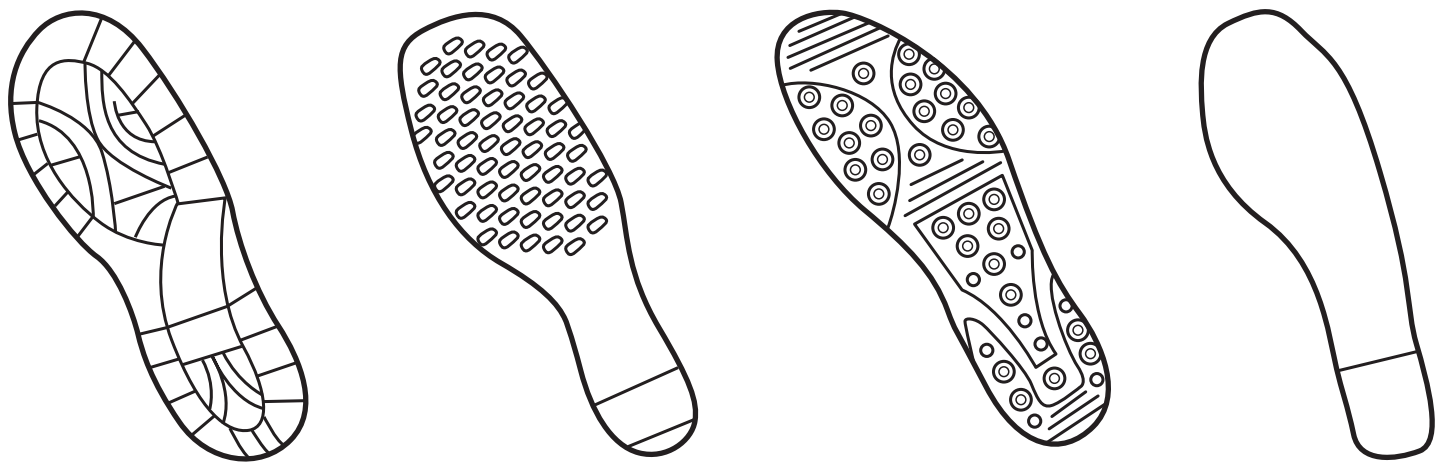
Suggest one reason why Jun's plan is better than Andy's plan. [1 mark]

Jun's plan is better because _____

_____

_____

(c) They decide to use Jun's plan to test some shoes.



Shoe A **Shoe B** **Shoe C** **Shoe D**

Jun predicts that shoe D will have the least grip.
Look at the shoes.

Explain why shoe D is likely to have the least grip. [1 mark]

_____

_____

(d) **Look at the table of results.**

Shoe	A	B	C	D
Weight needed to move the shoe (units)	250	100	125	25

Do the results support Jun's prediction that shoe D will have the least grip?

yes ☐ **no** ☐

Explain how the results support or do not support Jun's prediction. [1 mark]

END OF TEST

BLANK PAGE

2014-403/F