



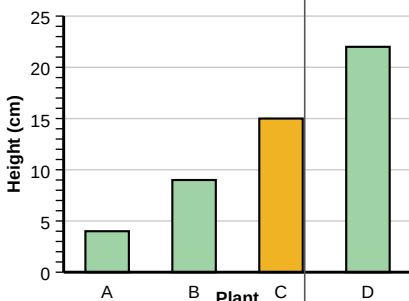
MARK SCHEME

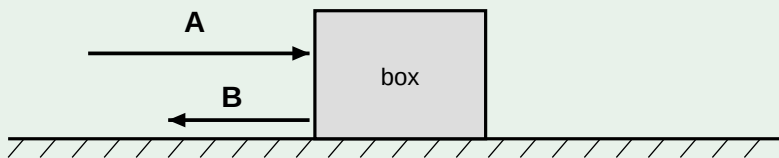
Primary - Stage 3 - Paper 2 - 50 marks

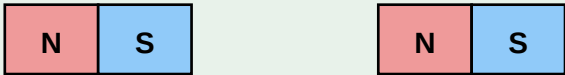
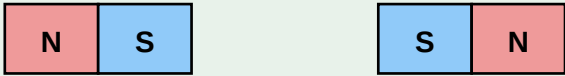
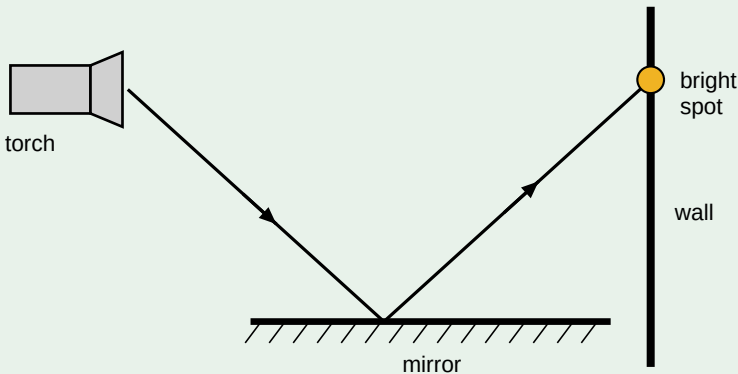
Marking principles

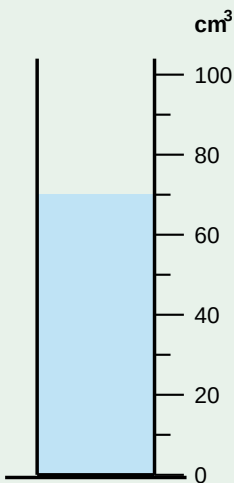
- Award each mark independently. Marks in the mark scheme are all 1-mark points unless shown otherwise.
- Accept** = a correct alternative that must be credited. **Reject** = an answer that must not be credited. **Ignore** = extra information that is neither credited nor penalised.
- Spelling must be recognisable as the correct scientific word. Phonetic spelling is accepted where the meaning is clear.
- Use a tick for a correct response and a cross for an incorrect one. Where a question asks for one answer and two are given, mark the first unless one contradicts the other.

Q	Question	Answer	Marks	Guide (partial credit and guidance)
1(a)	Give two jobs of the human skeleton.	supports the body / gives the body shape protects organs (heart, lungs, brain) allows movement (with muscles) makes blood cells	1 + 1	Award 1 mark for each correct job. Accept "keeps us upright". Reject "holds blood".
1(b)	Which part of the skeleton protects the heart and lungs?	ribs / rib cage	1	Accept ribcage. Reject "chest" on its own.
1(c)	Muscles are joined to bones. What do muscles do when they get shorter?	pull on the bones / move the bones / make the bones move	1	Accept "pull the bone". Reject "muscles push".
2(a)	Write the numbers 2, 3 and 4 in the boxes to show the correct order of the life cycle.	A new plant grows from the seed: 4 Pollen is carried to another flower: 1 (given) The seed is carried away: 3 A seed forms inside the flower: 2	2	2 marks for all three numbers correct. 1 mark for one number correct.
2(b)	Give one way that seeds can be carried away from the parent plant.	wind / water / animals (eating fruit) / animal fur / seed case bursts open	1	Accept "stick to animals". Reject "birds plant them" on its own.
2(c)	A sycamore seed has a "wing". How does the wing help the seed?	it spins / it floats in the air / the wind carries it a long way	1	Accept "it helps it fly". Reject "it helps it grow".
2(d)	Why is it good for a plant when its seeds land far from the parent plant?	less competition for light / water / space / nutrients (minerals)	1	Accept "there is more room to grow". Reject "so it has more seeds".
3(a)	Tick one box in each row to show if the animal has a backbone or no backbone.	goldfish: has a backbone butterfly: no backbone horse: has a backbone snail: no backbone	2	2 marks for all four rows correct. 1 mark for three rows correct. Tick in one box per row only.
3(b)	What is the name for animals that have a backbone?	vertebrates	1	Accept vertebrate. Reject "mammals".

Q	Question	Answer	Marks	Guide (partial credit and guidance)															
3(c)	Which animal in the table is an insect?	butterfly	1	Reject snail.															
4	Priya investigates how the amount of light affects the height of bean plants. Results: A, 0 hours, 4 cm. B, 4 hours, 9 cm. C, 8 hours, 15 cm. D, 12 hours, 22 cm.																		
	<table><tr><th>Plant</th><th>Hours of light each day</th><th>Height after two weeks (cm)</th></tr><tr><td>A</td><td>0</td><td>4</td></tr><tr><td>B</td><td>4</td><td>9</td></tr><tr><td>C</td><td>8</td><td>15</td></tr><tr><td>D</td><td>12</td><td>22</td></tr></table>	Plant	Hours of light each day	Height after two weeks (cm)	A	0	4	B	4	9	C	8	15	D	12	22			
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A	0	4																	
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D	12	22																	
4(a)	What is the one thing Priya changes in her investigation?	the (number of) hours of light (each day) / the amount of light	1	Reject “the plants” and “the height”.															
4(b)	What does Priya measure?	the height of the plants / how tall the plants grow	1	Accept “the height”. Reject “the light”.															
4(c)	Give one thing Priya must keep the same to make it a fair test.	amount of water / type of plant / size of pot / type of soil / temperature / length of time (two weeks)	1	Reject “the light” and “the height”.															
4(d)	Complete the bar chart. Draw the bar for plant C.	bar for C drawn to 15 cm (see chart) 	1	Bar must reach 15 cm (allow 14.5 to 15.5 cm) and be the same width as the other bars.															
4(e)	What do Priya's results show?	the more light the plants get, the taller they grow / plants with more light grew taller	1	Accept any correct pattern linking more light to more growth. Reject “plant D grew the most” on its own.															
4(f)	Priya grows another plant with 6 hours of light each day. Circle the height this plant is most likely to be after two weeks.	12 cm	1	Circle on 12 cm only.															
5	The list shows four materials. glass steel rubber wool																		
5(a)	Which material from the list is transparent?	glass	1	Accept clear glass.															
5(b)	Which material from the list is magnetic?	steel	1	Reject “metal” on its own.															
5(c)	Rubber is used to make the soles of shoes. Give one property of rubber that makes it a good material for shoe soles.	flexible / bendy / waterproof / grips the ground / hard-wearing / does not wear out quickly	1	Accept any sensible property. Reject “it is cheap”.															

Q	Question	Answer	Marks	Guide (partial credit and guidance)
5(d)	Wool is used to make winter jumpers. Why is wool a good material for this?	it is a good insulator / keeps heat in / keeps you warm / stops heat escaping	1	Accept "it is warm". Reject "it is soft" on its own.
5(e)	Explain why glass is not a good material for shoe soles.	it is hard / not flexible / it breaks (easily) / it is brittle / slippery	1	Accept any sensible reason. Reject "it is heavy" on its own.
6	Jamal pours 100 cm ³ of water onto 100 g of each soil and measures the water that drains through in one minute. Results: sand 85 cm ³ , garden soil 50 cm ³ , clay 15 cm ³ .			
	Soil	Water that drained through in one minute (cm ³)		
	sand	85		
	garden soil	50		
	clay	15		
6(a)	Which soil lets the most water drain through?	sand	1	
6(b)	Jamal wants a soil that holds the most water for plant roots. Which soil should he choose?	clay	1	Reject sand.
6(c)	Give one thing, other than pieces of rock, that is found in soil.	air / water / dead plants (and animals) / humus / living things (such as worms)	1	Reject "dirt" and "mud".
6(d)	Give one thing Jamal must keep the same to make it a fair test.	amount (volume) of water / mass of soil / time (one minute) / same funnel or container	1	Reject "the soil".
6(e)	Granite is a hard rock. Give one reason why granite is a good material for building a house.	it is hard / strong / lasts a long time / does not wear away easily / waterproof	1	Reject "it is a rock".
7	Mia pushes a box along the floor. Force A is Mia's hand pushing the box forwards. Force B acts against the movement. 			
7(a)	Is force A a push or a pull?	push	1	
7(b)	Name force B.	friction	1	Accept "friction between the box and the floor".
7(c)	Mia pushes the box over a rough carpet instead. What happens to force B?	it gets bigger / increases / there is more friction	1	Accept stronger / greater.
7(d)	Mia wants the box to move faster. What must she do to force A?	make it bigger / push harder	1	Accept "use more force".

Q	Question	Answer	Marks	Guide (partial credit and guidance)
7(e)	Give one way that friction is useful.	shoes / tyres grip the ground / brakes slow a bike / helps us to walk / lets us hold things	1	Accept any sensible example.
8	Diagram A: N and S poles face each other. Diagram B: S and S poles face each other. A  B 			
8(a)	What do the magnets in diagram A do? Tick one box.	pull together	1	Tick in the first box only.
8(b)	What do the magnets in diagram B do?	push apart / repel	1	Reject "move" on its own.
8(c)	Circle the two objects that a magnet will pick up.	iron nail and steel paperclip	1	Both circles needed for the mark.
8(d)	Name one way that people use magnets at home.	fridge magnet / cupboard door catch / magnetic toys / magnetic knife holder / compass	1	Accept any sensible use.
8(e)	Jamal says that all metals are magnetic. Give one metal that is not magnetic.	copper / aluminium / gold / silver / zinc / brass	1	Reject iron, steel, nickel and cobalt.
9	Aisha shines a torch at a mirror. Light bounces off the mirror and makes a bright spot on the wall. 			
9(a)	What is the name for light bouncing off a surface?	reflection	1	Accept reflecting / reflected.
9(b)	Name one material that is a good reflector of light.	mirror / shiny metal / aluminium foil / polished surface	1	Accept any shiny surface.
9(c)	Aisha can see a book on a table. The book does not make its own light. Explain how Aisha sees the book.	light from a source (lamp / Sun) reflects off the book and enters her eyes	1	Must link light bouncing off the book to the eyes. Reject "the book gives out light".

Q	Question	Answer	Marks	Guide (partial credit and guidance)
9(d)	Cyclists wear reflective strips on their clothes at night. Why?	light from car headlights reflects back so drivers can see them	1	Accept "so they can be seen". Reject "so they are bright".
10(a)	Name the star at the centre of our solar system.	Sun	1	
10(b)	Why can we see the Moon in the night sky?	it reflects light from the Sun	1	Reject "the Moon makes its own light".
10(c)	How long does the Earth take to travel once around the Sun?	1 year / 365 days (accept $365\frac{1}{4}$ days)	1	Accept 12 months. Reject 24 hours.
10(d)	Name one planet in our solar system other than Earth.	Mercury / Venus / Mars / Jupiter / Saturn / Uranus / Neptune	1	Reject Moon, Sun and Pluto.
11	The water level in the measuring cylinder is at 70 cm³ (the scale shows 0 to 100 cm³). 			
11(a)	What is the volume of water in the measuring cylinder?	70 (cm ³)	1	Unit not needed. Accept 70 ml.
11(b)	Samira pours in another 20 cm ³ of water. What is the new volume of water?	90 (cm ³)	1	Unit not needed. Accept 90 ml.
11(c)	Samira reads the scale with her eyes level with the surface of the water. Why does she do this?	to read the scale accurately / to get a correct reading / so the reading is not too high or too low	1	Reject "to see better" on its own.
	Total		50	

Paper blueprint (generated alongside the paper)

Every question is tagged to a strand and topic so teachers can check coverage before printing.

Q	Strand	Topic	Marks
1	Biology	Humans: skeleton and muscles	4
2	Biology	Plants: life cycle, pollination and seed dispersal	5
3	Biology	Animals: animals with and without backbones	4
4	Scientific enquiry	Plants and light: variables, bar charts, conclusions, predictions	6
5	Chemistry	Materials: properties and uses	5
6	Chemistry	Rocks and soils: properties of soil, fair tests, rock uses	5
7	Physics	Forces: pushes, pulls and friction	5
8	Physics	Magnets: attraction, repulsion and magnetic materials	5
9	Physics	Light: reflection and reflectors	4
10	Earth and space	Sun, Moon and Earth: orbits and reflected light	4
11	Scientific enquiry	Measuring volume: reading a scale	3

Strand	Marks	% of paper
Biology	13	26%
Chemistry	10	20%
Physics	14	28%
Earth and space	4	8%
Scientific enquiry	9	18%
Total	50	100%