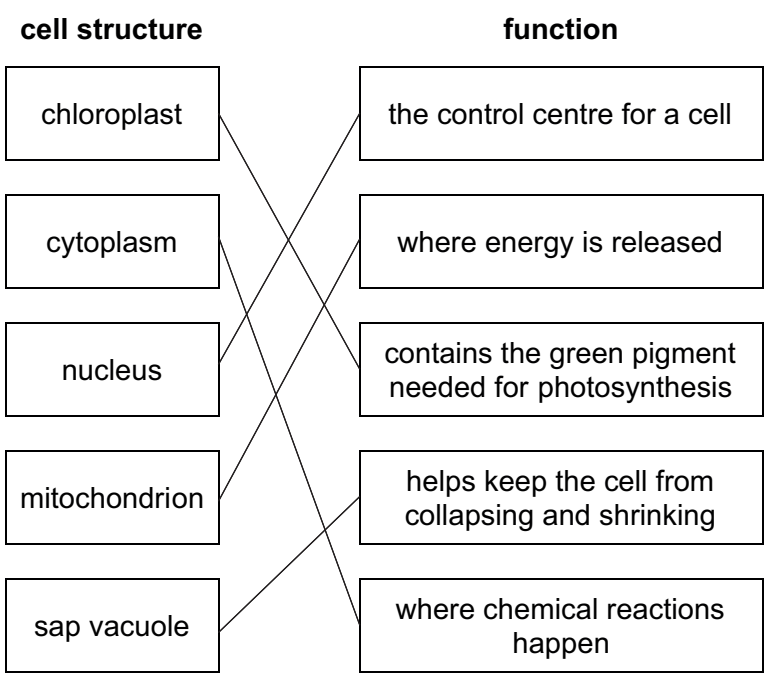
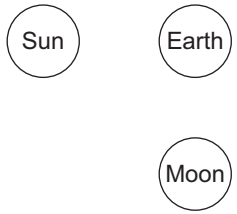
Question	Answer	Marks	Further Information
1(a)		**3**	**all five** correct = 3 marks **three** or **four** correct = 2 marks **one** or **two** correct = 1 mark **Note** if **two** lines from one cell structure and **one** line is incorrect = 0 marks for that cell structure
1(b)	cell wall chloroplast	**2**	each correct answer = 1 mark **Accept** (sap) vacuole

Question	Answer	Marks	Further Information
2(a)	gravity	**1**	**Accept** gravitational
2(b)	(idea that) gravitational effect from Sun and Moon is added together so it is greater	**1**	**Accept** pull **or** force for gravitational effect
2(c)	Sun **and** Moon at right angles to the Earth	**1**	**Accept** any orientation, as long as the angle from Sun – Earth – Moon is approximately a right angle, e.g.  **Ignore** relative sizes of Earth, Sun and Moon
2(d)	(idea that) the movement has a regular pattern	**1**	**Accept** (idea that) knowing the relative positions of the Sun and Moon help to predict tide heights
2(e)	(idea that) other factors/variables affect the actual tide height	**1**	**Accept** an example of a suitable factor, e.g. air pressure, wind speed, wind direction **Ignore** models may be inaccurate

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Further Information</th></tr>
<tr><td>3(a)</td><td>
<table>
<tr><th rowspan="2">substance</th><th colspan="5">particle model</th></tr>
<tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th></tr>
<tr><td>steel (an alloy)</td><td>✓</td><td></td><td></td><td></td><td></td></tr>
<tr><td>air</td><td></td><td></td><td>✓</td><td></td><td></td></tr>
<tr><td>pure liquid water</td><td></td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td>vacuum</td><td></td><td></td><td></td><td>(✓)</td><td></td></tr>
</table>
</td><td>3</td><td>each correct tick = 1 mark

more than one particle model ticked for a substance = 0 marks for that substance

Accept any indication of the correct answer, e.g. crosses, but ticking takes precedence</td></tr>
<tr><td>3(b)</td><td>(idea of) devoid of any matter</td><td>1</td><td>Accept (idea of) no particles in a vacuum</td></tr>
<tr><td>3(c)</td><td>a mixture containing a metal and another element</td><td>1</td><td>Accept a mixture of metals</td></tr>
<tr><td>3(d)</td><td>alloys have different or better properties</td><td>1</td><td>Accept specified properties,
e.g. more resistant to rusting or corrosion, harder, stronger</td></tr>
</table>

Question	Answer	Marks	Further Information
4	A: holly B: oak C: spruce D: walnut E: maple	**3**	**all five** correct = 3 marks **three** or **four** correct = 2 marks **one** or **two** correct = 1 mark

Question	Answer	Marks	Further Information
5(a)	chemical heat (and) sound electrical	**3**	**all four** correct = 3 marks **three** correct = 2 marks **one** or **two** correct = 1 mark **Accept** heat and sound in either order
5(b)	dissipated	**1**	**Ignore** transferred

Question	Answer	Marks	Further Information
6	(test) for carbon dioxide add limewater (observation) goes milky **or** gives white precipitate (test) for oxygen (insert) glowing splint (into test-tube) (observation) which relights	**4**	each correct answer = 1 mark **Accept** goes cloudy **Note** observation mark is dependent on the correct test

Question	Answer	Marks	Further Information
7(a)	**any three from** bell vibrates air particles vibrate air particles move closer together and further apart in the same direction as the direction of travel	**3**	each correct answer = 1 mark **Accept** any part of the ear vibrates
7(b)	sound does not travel in a vacuum	**1**	**Accept** there are no particles to vibrate

Question	Answer	Marks	Further Information
8(a)	ruler	**1**	**Accept** rule **or** metre rule(r) **or** tape measure
8(b)	0.5 (cm)	**1**	**Accept** answer written by the question, but answer in the table takes precedence
8(c)	(idea that) ice melting on land (creates run-off that) adds more water to the sea	**1**	

Question	Answer	Marks	Further Information
9(a)	(idea of) fair test **or** results comparable **or** shoes are different heights	**1**	
9(b)	not safe **or** she might fall	**1**	
9(c)(i)	(idea that) she should record all heights in the same unit	**1**	
9(c)(ii)	no ticked (no marks) **and** **any two from** no information on gender of learners in table only 5 students have been measured not enough data for a reliable conclusion	**2**	if yes ticked = 0 marks for the question if neither box ticked, award marks for correct answers each correct answer = 1 mark

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Further Information</th></tr>
<tr><td>10(a)</td><td>
<table>
<tr><th>solution</th><th>Is the solution acidic, alkaline or neutral?</th></tr>
<tr><td>J</td><td>alkaline</td></tr>
<tr><td>K</td><td>neutral</td></tr>
<tr><td>L</td><td>alkaline</td></tr>
<tr><td>M</td><td>acidic</td></tr>
</table>
</td><td>3</td><td>all four correct = 3 marks

two or three correct = 2 marks

one correct = 1 mark</td></tr>
<tr><td>10(b)</td><td>(add) Universal Indicator and (observe that it) has the same colour</td><td>1</td><td></td></tr>
</table>

Question	Answer	Marks	Further Information
11(a)	battery (of cells)	**1**	**Note** cell(s) alone is **not** sufficient
11(b)	(idea that) it will light up if there is a current **or** it will light up if the material is a conductor	**1**	**Accept ora**
11(c)	(conductors) aluminium **and** copper (explanation) they allow electron flow	**2**	**both** conductors correct in either order = 1 mark correct explanation = 1 mark **Accept** (idea that) they allow current/electricity to pass through them **or** they are both metals
11(d)	makes investigation more reliable **or** allows her to spot anomalies	**1**	**Ignore** so that she can calculate an average **or** reference to precision **Do not accept** fair testing **or** for accuracy

Question	Answer	Marks	Further Information
12	**any two from** evaporation condensation precipitation	**2**	each correct answer = 1 mark **Accept** other forms of precipitation e,g. rain **or** snow **Do not accept** water run-off