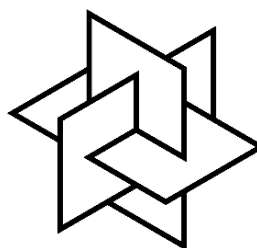


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CE AT 13+

**SCIENCE**



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Examinations Board

Foundation Level

Specimen Paper Mark Scheme

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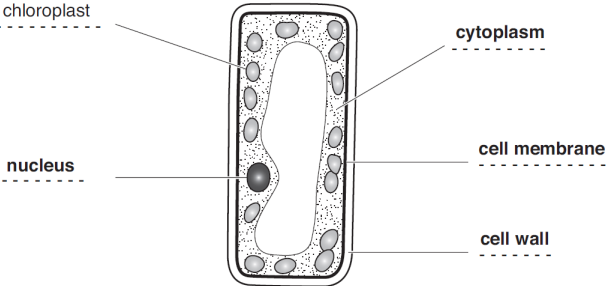
Date

**Information**

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Q.	Answer	Mark	Additional Guidance
1.	a) pollen grains b) neutralisation c) lunar eclipse d) calcium e) C f) Newton g) sodium h) C	8	
2.	a) <div>  <p>The diagram shows a rectangular plant cell. Inside, there are several oval chloroplasts and a large, dark, spherical nucleus. The cell is filled with a granular cytoplasm. The outer boundary is the cell wall, and just inside it is the cell membrane.</p> </div>	2	award ½ mark for each correct label
	b) i) controls cell activities	1	
	ii) gives cell shape/strength	1	
	c) absorb energy from light make food in photosynthesis	2	
3.	a) rise up, expands, move down, contracts	4	
	b) 0 100	2	
	c) i) the plastic bottle had split/bulged	1	
	ii) water expands when it freezes	1	
4.	a) streamlined shape lowers friction/drag/air resistance	2	
	b) $7000 \div 1400$ $= 5$	2	
	c) i) true	1	
	ii) false	1	
	d) $4000 \div 80$ $= 50$	2	

Q.	Answer	Mark	Additional Guidance
5.	a) they all have backbones	1	
	b) <b>C:</b> has thin moist skin/reproduces in water <b>D:</b> has feathers/lays hard shelled eggs <b>E:</b> has scales/fins/gills <b>B:</b> has fur/hair <b>A:</b> has dry scales/lays leathery eggs	5	1 mark for each correct line
	c) i) numbers are very low/could become extinct	1	
	ii) e.g. habitat loss, increase in predators, disease, loss of food supply	2	two sensible reasons, depending on animal chosen
6.	a) i) do not look directly at burning magnesium do not touch hot apparatus or burning magnesium wear safety glasses	1	any one sensible suggestion
	ii) oxygen	1	
	b) i) circled point below	1	
	ii) straight line through origin and other four points	1	
	iii) 5.0 g (must match lines on graph)	2	1 mark for working on graph
	iv) 1.5 g (must match lines on graph)	2	1 mark for working on graph

Q.	Answer	Mark	Additional Guidance
7. a)	<p><b>when breathing in:</b>  the intercostal muscles between the <b>ribs</b> contract  the diaphragm muscle <b>contracts</b> causing it to move <b>downwards</b>  the volume within the chest <b>increases</b> so air is drawn into the <b>lungs</b></p> <p><b>when breathing out:</b>  the intercostal muscles <b>relax</b> so the ribcage moves in  the diaphragm muscle relaxes so it moves <b>upwards</b>  so the air is forced out from the lungs because the volume in the chest <b>decreases</b></p>	8	accept consequential errors from previous paragraphs
b)	by using an asthma inhaler	1	
c)	smoking/pollution/lung cancer/emphysema/bronchitis	1	any one sensible suggestion
8. a)	increase number of turns in coil increase current	2	
b)	lifting and dropping cars in a scrap yard, relays, electric bells	1	any sensible suggestion
c)	<p>the North-seeking pole of a plotting compass or other magnet will be:</p> <p>repelled by the North-seeking pole of the electromagnet</p> <p>attracted to the South-seeking pole of the electromagnet</p>	2	or words to this effect
d)	iron core labelled on diagram	1	

<b>Q.</b>	<b>Answer</b>	<b>Mark</b>	<b>Additional Guidance</b>
9. a)	i) sulfur	<b>1</b>	
	ii) non-metals do not conduct electricity (except graphite) and are never magnetic	<b>2</b>	
	b) use magnet iron filings are attracted to magnet, powdered sulfur is left	<b>2</b>	allow sensible alternative
	c) i) red glow/change in appearance	<b>2</b>	both needed
	ii) iron sulfide	<b>1</b>	
	d) product has different appearance/ properties from mixture  product is not magnetic  product does not conduct electricity  whereas mixture will show these properties	<b>2</b>	any two suggestions
10. a)	the Sun	<b>1</b>	
	b) i) kinetic energy (store)	<b>1</b>	
	ii) electrical energy (pathway)	<b>1</b>	
	c) advantage: non-polluting/always available  disadvantage: varies with height of waves/ expensive to build/ecological impact	<b>2</b>	one sensible suggestion for each
	d) i) energy that is being replaced within a lifetime	<b>2</b>	
	ii) wind/HEP/geothermal/solar/biomass	<b>2</b>	any two suggestions
<b>Total</b>		<b>80</b>	