Natural Sciences and Technology · Grade 5

Memorandum · Term 2

TOTAL
54
MARKS

Marking guidelines

1. Award the full mark for a correct answer, even if the learner words it differently.
2. Accept any scientifically correct answer, including one not given in the memorandum.
3. Where a question asks for two or more items, award one mark per correct item.
4. For diagrams, award the mark if the label points at the correct part, even with a spelling error.
5. Do not deduct marks for spelling unless the word takes on a different scientific meaning.

Question	Answer	Marks	Marking note
QUESTION 1 · Multiple choice · 4 marks			
1.1	a. An iron nail	**1**	
1.2	a. They are mined from the Earth	**1**	
1.3	c. Glass	**1**	
1.4	a. A tin can	**1**	
QUESTION 2 · Matching · 4 marks			
2.1	1 = B (raw material); 2 = D (conductor); 3 = E (processed material); 4 = A (rust)	**4**	*1 mark each.*
QUESTION 3 · Matter and materials · 9 marks			
3.1	A raincoat = waterproof; A window pane = transparent; A bridge cable = strong	**3**	*1 mark each.*
3.2	Any two: it must be strong; it must be easy to clean; it must be light enough to move; it must not splinter; it must last a long time.	**2**	*1 mark each.*
3.3	Any two: baskets; hats; mats (sleeping mats); thatched roofs; brooms.	**2**	*Any two. 1 mark each.*
3.4	For example galvanised steel or treated wood — it is strong and does not rust or rot easily in the rain. Plastic is also accepted if the reason is valid.	**2**	*1 mark for the material, 1 mark for a valid property.*

Question	Answer	Marks	Marking note
QUESTION 4 · Metals and non-metals · 10 marks			
4.1	Iron = metal; Plastic = non-metal; Copper = metal; Wood = non-metal	**4**	*1 mark each.*
4.2	They are shiny; they conduct heat and electricity; they are strong; they can be bent and shaped; they ring when you hit them.	**3**	*1 mark each.*
4.3	The metal conducts heat to the food so that it cooks. The handle is an insulator, so it does not get hot and you do not burn your hand.	**2**	*1 mark for the metal, 1 for the handle.*
4.4	Paint it; put oil or grease on it; keep it dry; coat it with a layer of zinc (galvanise).	**1**	
QUESTION 5 · Technology: structures and materials · 7 marks			
5.1	A = frame structure; B = shell structure; C = solid structure	**3**	*1 mark each.*
5.2	The curved shape spreads the force over the whole shell instead of concentrating it in one place. That is why a thin shell can carry a surprising weight.	**2**	*1 mark for the curved shape, 1 mark for spreading the force.*
5.3	Fold the paper into a concertina (corrugations); roll it into tubes; fold it into a V or U shape; layer several sheets on top of each other.	**2**	*Any two. 1 mark each.*
QUESTION 6 · Technology: the design process · 9 marks			
6.1	The tap is too high for young children, so they cannot safely get water themselves.	**2**	*1 mark for the problem, 1 for a complete sentence.*
6.2	It must be safe — no climbing; a six-year-old must be able to reach it; it must not waste water; it must be able to stand outside; it must be cheap to build.	**3**	*1 mark each.*
6.3	Any clear sketch with three labelled parts. 1 mark for the sketch, 2 for the labels.	**3**	
6.4	Let a Grade 1 learner try it on their own and see whether they can get water without help.	**1**	

Question	Answer	Marks	Marking note
QUESTION 7 · Processing materials · 11 marks			
7.1	Mixing and setting = concrete, plaster or mortar; Mixing and cooking = bread or porridge; Mixing and cooling = jelly or ice cream; Mixing, drying and/or firing = bricks or pottery	**4**	*1 mark each. Also accept jelly for Mixing and setting. The same product may not earn marks for two methods.*
7.2	Concrete. It is used for floors, foundations, poles, roads and bridges.	**2**	*1 mark for concrete, 1 for a use.*
7.3	Wire and cables — metal conducts electricity; pots — metal conducts heat; beams and poles — metal is strong; tins — metal can be bent into shape.	**3**	*1 mark per use with the property.*
7.4	The wrong material breaks, melts or is unsafe. For example: a pot handle is made of plastic, because metal would get too hot to hold.	**2**	*1 mark for the reason, 1 for the example.*

Total **54 marks**



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