Natural Sciences and Technology · Grade 5

Memorandum · Term 4

TOTAL
43
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	c. Everywhere, even under the sea	**1**	
1.2	b. Limestone	**1**	
1.3	b. Sedimentary rock	**1**	
1.4	c. The remains of a plant or animal from long ago	**1**	
QUESTION 2 · Matching · 4 marks			
2.1	1 = D (planet); 2 = C (weathering); 3 = A (orbit); 4 = E (sun)	**4**	*1 mark each.*
QUESTION 3 · The Earth and its surface · 10 marks			
3.1	The Sun in the middle (1); the Earth drawn on a closed round or oval path around the Sun (1); the Sun and the Earth labelled, with an arrow along the path (1).	**3**	*Do not require the word orbit.*
3.2	On its own axis = 24 hours (one day). Around the Sun = about 365 days (one year).	**2**	*1 mark each.*
3.3	About 365 times (1). One spin takes one day (24 hours), and one trip around the Sun takes about 365 days (1).	**2**	*Mark with follow-through from the learner's 3.2 answers.*

Question	Answer	Marks	Marking note
3.4	A = topsoil; B = subsoil; C = rock (also accept bedrock)	**3**	*1 mark each.*
QUESTION 4 · Soil, rocks and fossils · 10 marks			
4.1	Sand; clay; loam	**3**	*1 mark each.*
4.2	Loam. It holds enough water without becoming waterlogged, and it has lots of nutrients.	**2**	*1 mark for loam, 1 for the reason.*
4.3	Layers of sand, mud and shells settle on top of each other over a long time. The weight of the top layers presses the bottom layers together until they harden.	**2**	*1 mark for the layers, 1 for the pressing over time.*
4.4	A plant or animal dies and is quickly covered by mud or sand. Over millions of years the hard parts are replaced by minerals and it turns to stone.	**2**	*1 mark for being covered by mud or sand; 1 mark for the layers hardening into rock over a very long time (also accept: hard parts replaced by minerals).*
4.5	Any one: dinosaurs (e.g. Massospondylus); the coelacanth; early humans (e.g. Mrs Ples, Little Foot); mammal-like reptiles from the Karoo.	**1**	*Accept any reasonable South African fossil animal.*
QUESTION 5 · Investigation: soil and water · 9 marks			
5.1	a. The kind of soil. b. Any one: the amount of soil; the amount of water (200 mℓ); the time (10 minutes); the same kind of funnel, cloth or jar. c. How much water dripped through (in mℓ).	**3**	*1 mark each.*
5.2	Three bars: A = 150 mℓ, B = 40 mℓ, C = 90 mℓ (1). Horizontal axis: soil (A, B, C); vertical axis: water that dripped through (mℓ) (1).	**2**	*1 mark for the bars, 1 mark for both axes labelled.*
5.3	Soil B (1). The least water dripped through it (only 40 mℓ), so it kept about 160 mℓ of the 200 mℓ (1).	**2**	
5.4	Clay soil (1). The fine grains pack closely together, so water cannot drip through easily and the soil holds the water (1).	**2**	
QUESTION 6 · The Earth and the soil · 6 marks			
6.1	The crust.	**1**	
6.2	Any two: air (oxygen); water; sunlight.	**2**	*1 mark each. Do not accept soil.*

Question	Answer	Marks	Marking note
6.3	Any three: air; water; humus (the remains of dead plants and animals); tiny living things (e.g. earthworms, insects, bacteria).	**3**	*1 mark each.*

Total **43 marks**



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