Natural Sciences and Technology · Grade 5

Memorandum · Term 3

TOTAL
42
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 · 5 marks			
1.1	b. Keep electrical appliances away from water	**1**	
1.2	a. it stores energy that our bodies use	**1**	
1.3	a. Coal	**1**	
1.4	a. A burning match	**1**	
1.5	b. A canoe	**1**	
QUESTION 2 · Matching · 4 marks			
2.1	1 = B (fuel); 2 = D (axle); 3 = E (circuit); 4 = A (oxygen)	**4**	*1 mark each. C (spring) is left over.*
QUESTION 3 · Short questions · 7 marks			
3.1	Catapult = stretched elastic band; toy aeroplane = twisted elastic band; click pen = compressed spring; pogo stick = compressed spring	**4**	*1 mark each.*
3.2	Any three: candles or paraffin stoves that fall over or are left alone; children playing with matches; overloaded plugs or sockets; food left cooking on the stove; burning rubbish or veld; faulty wiring.	**3**	*Any three. 1 mark each.*

Question	Answer	Marks	Marking note
QUESTION 4 · Burning fuels and fire safety · 10 marks			
4.1	a. The block of wood (1), because it had to be held in the flame the longest, 40 seconds (1). b. Heat (1) and light (1).	**4**	*In b, do not accept sound or movement.*
4.2	Plants use sunlight to make food through photosynthesis. We eat the plants, or we eat the animals that ate the plants. The energy therefore moves from the Sun to the plant to us.	**3**	*1 mark for photosynthesis, 1 mark for the plant, 1 mark for the transfer to us.*
4.3	Any three: get out quickly; stay low, under the smoke; shout to warn others; call the fire brigade (10177, or 112 from a cellphone); do not go back inside; if your clothes catch fire: stop, drop and roll.	**3**	*Any three. 1 mark each.*
QUESTION 5 · Electric circuits · 8 marks			
5.1	A = cell (battery); B = light bulb; C = switch	**3**	*1 mark each.*
5.2	Power station, then pylons and power lines, then the substation, then the electricity box, then the wall socket and plug, then the kettle, with the path going back to the power station.	**3**	*1 mark for the correct order; 1 mark for all parts labelled and joined by lines; 1 mark for showing the path back to the power station (a complete circuit).*
5.3	a. In the cells (batteries). b. The energy stored in the cells is used up (the cells go flat).	**2**	
QUESTION 6 · Stored energy and moving things · 8 marks			
6.1	Paraffin = paraffin stove, lamp or heater; petrol = engines of cars, taxis or lawnmowers; gas = gas stove, gas braai or gas heater.	**3**	*1 mark each.*
6.2	Pushing the clown down squashes (compresses) the spring and stores energy in it (1). When the lid opens, the spring is released and the stored energy changes into movement energy, so the clown jumps up (1).	**2**	
6.3	Danger: fire, or poisonous smoke and gas (carbon monoxide). Safe: open a window; never leave it unattended; keep it away from curtains.	**2**	*1 mark for the danger, 1 for the safe way.*

Question	Answer	Marks	Marking note
6.4	Any one: make the hole exactly in the centre of each wheel; put the axle through a straw so that it can turn freely; make the wheels the same size; fix the wheels firmly to the axle.	**1**	

Total **42 marks**



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