Natural Sciences and Technology · Grade 4

Memorandum · Term 3

TOTAL
57
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	a. The Sun	**1**	
1.2	b. Wood	**1**	
1.3	c. You pluck it	**1**	
1.4	a. Sound energy	**1**	
1.5	b. Vibrate	**1**	
QUESTION 2 · Matching · 4 marks			
2.1	1 = D (energy chain); 2 = C (energy transfer); 3 = A (noise pollution); 4 = E (pitch)	**4**	*1 mark each.*
QUESTION 3 · Short questions · 6 marks			
3.1	Any three: food; wood; coal; petrol, diesel or paraffin; natural gas; candle wax; a battery. 1 mark each.	**3**	*Any three reasonable answers. 1 mark each.*
3.2	Drum = hit; Pan flute = blow; Thumb piano = pluck. 1 mark each.	**3**	*1 mark each.*

Question	Answer	Marks	Marking note
QUESTION 4 · Energy and energy sources · 8 marks			
4.1	From the Sun. Plants use sunlight to make food, and we eat the plants or the animals that eat the plants.	**2**	*1 mark for the Sun, 1 mark for the explanation through plants.*
4.2	Lights in the classroom; the bell ringing; computers and projectors; the kettle in the staff room; the pump at the tap.	**2**	*Any two. 1 mark each.*
4.3	Food gives us energy (1) to move, grow, keep warm and stay alive (1).	**2**	*1 mark for 'food gives energy', 1 mark for what the energy is used for.*
4.4	Any two: movement; heat; light; sound. 1 mark each.	**2**	*Any two. 1 mark each.*
QUESTION 5 · Volume and pitch · 6 marks			
5.1	loud; soft	**2**	
5.2	high; low	**2**	
5.3	Hit it harder.	**1**	
5.4	Volume.	**1**	
QUESTION 6 · Sound · 9 marks			
6.1	It must VIBRATE. The vibration travels through the air as sound.	**2**	*1 mark for vibrate, 1 for the vibration that travels.*
6.2	A guitar — the strings vibrate. A drum — the skin on top vibrates. A flute — the air inside vibrates.	**2**	*1 mark per instrument WITH the correct part.*
6.3	Any two: water; wood; metal; plastic; glass; the ground. 1 mark each.	**2**	*Any two materials other than air. 1 mark each.*
6.4	a. The same bottles and the same spoon — and he taps equally hard each time. b. The amount of water in each bottle. c. The sound each bottle makes (higher or lower).	**3**	*1 mark each. This is a controlled investigation: only ONE factor may change.*
QUESTION 7 · Energy transfer and conversion · 9 marks			
7.1	Car = movement energy (kinetic energy); Gas heater = heat energy; Electric kettle = heat energy; Drum = sound energy. Mark the main useful output. Also accept: car — heat or sound; gas heater — light; kettle — sound.	**4**	*1 mark each.*

Question	Answer	Marks	Marking note
7.2	Input: electricity (from a battery or the plug) (1). Output: sound (1).	**2**	*1 mark for the input (electricity), 1 mark for the output (sound).*
7.3	Input: stored energy in the candle wax (the fuel) (1). Output: light and heat (1).	**2**	*1 mark for the input (stored energy in the wax), 1 mark for the output (accept light, heat or both).*
7.4	Speaking more softly in the corridors; a chime instead of a loud alarm; headphones instead of speakers; planting trees to muffle sound.	**1**	
QUESTION 8 · Sequencing: the energy chain · 6 marks			
8.1	The cow eats the grass = 3; The person drinks the cow's milk = 4; The Sun shines = 1; The grass grows = 2. 1 mark each.	**4**	*1 mark per correct position.*
8.2	At the Sun. Plants capture the Sun's energy to make food, and all other living things get their energy directly or indirectly from plants.	**2**	*1 mark for the Sun, 1 for the explanation.*
QUESTION 9 · Input energy of machines · 4 marks			
9.1	Bicycle = the cyclist's body (energy from food); Car = petrol; Torch = battery; Windmill = the wind	**4**	*1 mark each.*

Total **57 marks**



Free quizzes

Finished this test? Keep practising online!

More than 12 000 free questions for Grades 4 to 7, in every subject and aligned to CAPS. After every answer your child gets a short explanation. No registration needed, and it works on a phone.

meerkatskool.co.za

Scan with your phone to start right away

A small request from us

Thank you for supporting MeerkatSkool! We are a small South African business, and every paper is put together with great care.

This test and memo are a free sample: feel free to share them with other parents and teachers. Ask us about the full booklet: meerkatskool.co.za or WhatsApp 066 462 7629.

Thank you!
The MeerkatSkool team

Free quizzes
meerkatskool.co.za

Email
info@meerkatskool.co.za

WhatsApp and calls
066 462 7629

Help us improve

Found a mistake in this test? WhatsApp us straight away. We fix it within 24 hours and send you the new version.

Scan to WhatsApp us · 066 462 7629