Natural Sciences and Technology · Grade 6

Energy, Electricity and the Solar System

Term 3–4 | 5 questions | CAPS-aligned

TOTAL 44 MARKS

NAME AND SURNAME _____ CLASS _____ DATE _____

Instructions

1. This question paper consists of TWO sections. Answer all the questions.
2. Answer all the questions on the question paper itself, in the spaces provided.
3. Read each question carefully before you begin writing.
4. Write neatly and legibly. Work that cannot be read cannot be marked.
5. You may use a pencil and a ruler for drawings and diagrams.

Question	Content of the question	Marks	Obtained
1	Multiple choice questions	6	
2	Short questions	9	
3	Electric circuits	10	
4	Energy generation	8	
5	The Solar System	11	
	Total	**44**	
	Percentage		%

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Section A — Energy, electricity and the solar system

1 Multiple choice questions — 6 marks

Choose the correct answer and circle its letter.

1.1 Which planet has the biggest, brightest rings? **(1)**

(a) Saturn (b) Mars (c) Mercury

1.2 Which one of these is a CONDUCTOR of electricity? **(1)**

(a) A glass marble (b) A steel nail (c) A wooden peg

1.3 In South Africa coal is mainly used: **(1)**

(a) to make solar panels (b) to build roads (c) as fuel in power stations

1.4 How long does the Moon take to revolve once around the Earth? **(1)**

(a) About 28 days (b) About 24 hours (c) About 365 days

1.5 Which one of these is a ROCKY planet? **(1)**

(a) Jupiter (b) Mars (c) Neptune

1.6 A device in a circuit that changes electricity into MOVEMENT is: **(1)**

(a) a cell (b) a switch (c) a motor

2 Short questions — 9 marks

2.1 Write next to each appliance whether it changes electricity mainly into HEAT, LIGHT, SOUND or MOVEMENT. **(4)**

Appliance	Main output energy
A toaster	
A doorbell	
A torch	
An electric drill	

2.2 Fill in the missing word in each sentence. **(3)**

a. A _____ is a complete, unbroken path for electricity.

b. Coal formed from the remains of _____ that lived millions of years ago.

c. One complete rotation of the Earth on its own axis takes about _____ hours.

2.3 A kettle's label says 2200 W and a radio's label says 15 W. Which one costs more to use for one hour? Explain why. **(2)**

3 Electric circuits

10 marks

3.1 Write the name of the part of a circuit next to its job. **(3)**

Job	Part
It is the source of energy in the circuit	
It carries the electricity from one part to the next	
It changes electricity into sound	

3.2 Draw a circuit diagram of a circuit with TWO cells, ONE bulb and an OPEN switch. Use the correct symbols. **(3)**

3.3 Electrical wires are made of copper on the inside and are covered with plastic on the outside. Explain why each material is used. **(2)**

3.4 Thandi's torch does not work. Name TWO things that could be wrong with its circuit. **(2)**

4 Energy generation

8 marks

4.1 Write the steps in the correct order to show how a coal-fired power station makes electricity. Write only the letters. **(4)**

A The steam turns a turbine.

B Coal is burnt to boil water and make steam.

C The generator makes electricity.

D The turbine turns a generator.

____ ____ ____ ____

4.2 Many families in South Africa are putting solar panels on their roofs. Name TWO advantages and TWO disadvantages of solar panels. **(4)**

Section B Earth and space

5 The Solar System

11 marks

5.1 Write ROCKY or GAS next to each planet. **(3)**

Planet	Rocky or gas
Venus	
Saturn	
Uranus	

5.2 Answer the questions about the Solar System. **(3)**

a. Name ONE dwarf planet. (1)

b. Where in the Solar System is the asteroid belt? (1)

c. How is a dwarf planet different from a planet such as the Earth? (1)

5.3 Name TWO ways in which the Moon is different from the Earth. **(2)**

5.4 Thabo shines a torch on a globe in a dark room. He turns the globe slowly. **(3)**

a. What does the torch stand for? (1)

b. Explain how this model shows day and night on Earth. (2)

Total **44 marks**



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