



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

AMAJUBA DISTRICT

GRADE 6

NATURAL SCIENCES & TECHNOLOGY

November Control Test

2022

Time: $1\frac{1}{2}$ hour

Marks: 40

General instructions and information

1. Read all the **instructions** carefully.
2. Answer all the questions **on** the question paper, in the space provided.
3. You must answer **all** the questions
4. Write neatly and eligibly

LEARNERS NAME: _____

CLASS: _____

NB. This question paper consists of **6 pages** and **11 questions**.

QUESTION 1 (Energy and change)

Circle the letter of the correct answer.

1.1 What is a source of electrical energy?

- A Conducting wire.
- B A cell or battery.
- C Light bulb.
- D Circuit.

(1)

1.2 Which energy transformation is **incorrect** for the following appliances?

- A A light bulb changes electrical energy to light energy.
- B A motor changes electrical energy to movement energy.
- C A buzzer changes sound energy to electrical energy
- D A heater changes electrical energy to heat energy.

(1)

1.3 The following is **NOT** one of the three types of fossil fuels:

- A Biogas.
- B Natural gas.
- C Oil.
- D Coal.

(1)

[3]

QUESTION 2 (Electric circuits)

2.1 Draw a circuit diagram using the following components:

- Three cells.
- Open switch.
- A bulb.



(3)

- 2.2 Predict what will happen if you close the switch in the circuit drawn in 2.1 above. (2)

[5]

QUESTION 3 (Electrical conductors and insulators)

- 3.1 What is the difference between an electrical conductor and insulator? (2)

- 3.2 Give the name or the symbol of the metal that is used in the electrical wire. (1)

- 3.3 Study the diagram below that shows the owl sitting on the pole and answer the following question:



- Provide a brief discussion on why does the owl not get an electric shock from the powerlines. (2)

[5]

QUESTION 4 (Systems to solve problems)

- 4.1 List two electrical devices that use energy from a battery. (2)

- 4.2 List two electrical devices that use energy from a mains supply. (2)

4.3 Why does a screwdriver have a plastic handle? (1)

[5]

QUESTION 5 (Mains electricity)

5.1 Comparing appliances and their use of electrical energy. Study the two appliances listed below and answer the questions that follow:

Appliance 1 - Television (2 000W)

Appliance 2 - Washing machine (4 500W)

5.1.1 Record in a table the appliance, wattage rating and the output energy for each appliance. (2)

Name of Appliance	Wattage Rating	Output Energy

5.1.2 Which appliance has the lowest wattage rating? (1)

5.1.3 Why do you think the appliance with the highest wattage rating uses so much electrical energy?

(2)

5.2 Give one example of a renewable energy resource. (1)

[6]

QUESTION 6

Circle the letter of the correct answer.

6.1 Which planet is closest to the Sun?

- A Jupiter
- B Mercury
- C Neptune
- D Venus

(1)

6.2 How many cameras does 'Curiosity' rover have?

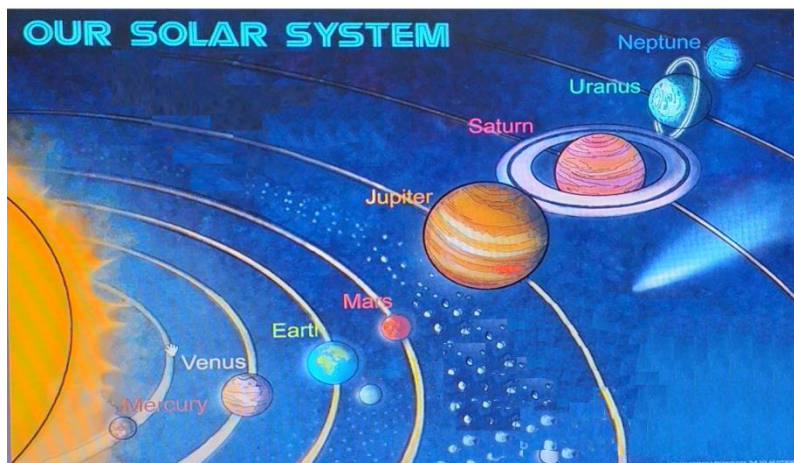
- A 13
- B 15
- C 17
- D 19

(1)

[2]

QUESTION 7 (The Solar System)

Look at the following diagram and answer the questions below:



7.1 Which planet do you think is the coldest? Give a reason for your answer.

(2)

7.2 Which planet is the largest in the solar system? _____

(1)

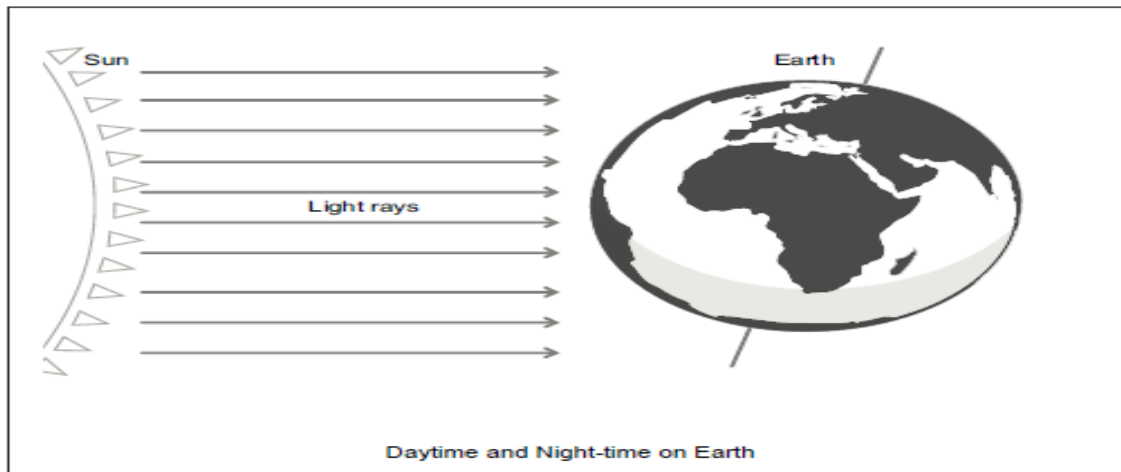
7.3 Which of the following factors does the Moon have: air, water, wind and rain? _____

(1)

[4]

QUESTION 8 (Movements of the Earth and Planet)

Study the diagram below which represents the daytime and night-time on Earth to answer the questions that follow:



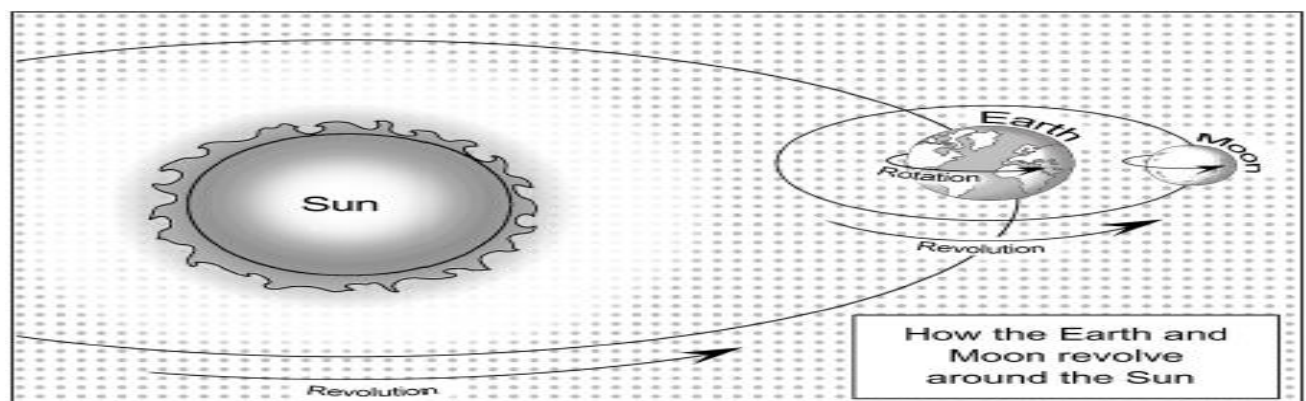
8.1 How long does it take for the Earth to rotate on its axis once? (1)

8.2 Which side of the Earth will be in darkness? (1)

[2]

QUESTION 9 (The Movement of the Moon)

Study the diagram below that demonstrate how the Earth revolves around the Sun and Moon revolves around the Earth to answer the questions that follow:



9.1 How long does it take for the Moon to revolve around the Earth? (1)

9.2 Why do we always see the same side of the Moon? (1)

[2]

QUESTION 10 (Systems for looking into space)

10.1 What does telescope do?

(1)

10.2 Astronomers build their telescope far away from cities. Think and provide a reason in your own opinion why do they do this?

(1)

[2]

QUESTION 11 (Systems to explore the Moon and Mars)

Study the diagram below that demonstrate how Astronauts used rover on the Moon during the Apollo 17 mission and answer the following questions:



The part that looks like an umbrella is an aerial that picked up radio messages from Earth. It looks a bit like a satellite dish you see on some houses for television.

11.1 The rover was made of very light materials. Why did the rover have to be light?

(2)

11.2 What is the main difference between vehicles used on the Moon and vehicles used on Mars to explore the surfaces? Hint: This has to do with whether people have visited the Moon or Mars.

(2)

[4]

