TOM NEWBY SCHOOL EXAMINATION

Subject	**Natural Science**	**Examiner**	**Mr Hudson, Mrs Fourie**
Date	**22 November 2018**	**Total marks**	**60**
Grade	**7**	**Duration**	**1 ½ Hours**
		Moderator	**Mrs Fourie, Ms Mpesu**
Special instructions/ Equipment	**1. Answer all the questions on the answer sheet provided.** **2. Read and answer ALL questions thoroughly.** **3. Write neatly and legibly in blue pen.** **4. Use a pencil for any drawings.** **5. Good luck! Think before you INK!**		
This assessment has been compiled using notes and information contained in the Tom Newby School resource material. The marking memorandum has been compiled accordingly. While alternative responses will be given due acknowledgement, the official memorandum will be considered a priority document to ensure uniformity of marking.			

Name:	Surname:	Class:

SECTION A

ENERGY AND CHANGE AND PLANET EARTH AND BEYOND

QUESTION	**1**	**2**	**3**	**4**	**5**	**6**	**7**
LEARNER'S MARK							
POSSIBLE MARK	**5**	**5**	**5**	**10**	**10**	**14**	**11**

QUESTION 1- MULTIPLE CHOICE

Read each statement or question carefully, choose the correct answer form the options provided and fill in the correct alphabet letter in the column provided. **(5)**

1. Which of the following is an example of a renewable source of energy? (1)

   a) Uranium
   b) Hydropower
   c) Coal
   d) Petrol

2. The energy processed by a moving ten pin bowling ball is… (1)

   a) potential energy
   b) chemical energy
   c) heat energy
   d) kinetic energy

3. A revolution is… (1)

a) a spinning movement around an axis
b) The tilt of the hemisphere towards the Sun
c) A fixed path an object travels in space travels
d) Movement of an object in space around another object.

4. When wood burns, the _____ potential energy of the wood is released. (1)

a) gravitational
b) elastic
c) chemical
d) potential

5. The energy of the Sun is transferred to Earth by… (1)

a) radiation
b) conduction
c) absorption
d) convection

1	2	3	4	5

QUESTION 2 –TRUE AND FALSE

Say whether the following is **TRUE** or **FALSE.** **(5)**

1. Johannes Kepler used Mathematics and physics to describe an orbit accurately.

_____

2. A lunar month is from one waning crescent to the next.

_____

3. Copper and aluminium are excellent conductors of heat.

_____

4. When an athlete drinks a Play energy drink, his body digests it and this causes a chemical reaction.

_____

5. Thermal energy is energy produced by heat.

_____

QUESTION 3 – MATCH THE COLUMNS

Match the terms in Column A with the correct descriptions in Column B and write down the correct letter in Column C. . **(5)**

COLUMN A	COLUMN B	COLUMN C
1.Biofuels	A. The line dividing the lit half of the Earth from the dark half.	
2. Joule	B. Obtained by burning natural matter, e.g. cow dung.	
3. Insulator	C. All energy is measured in this unit.	
4. Circle of illumination	D. Substances that contain particles that moves quite freely.	
5. Fluids	E. Substances that do not transfer heat energy.	

SECTION B

QUESTION 4 – DIAGRAMS AND SHORT QUESTIONS **(10)**

1. Draw a diagram to show the alignment of the Moon, Earth and Sun at New Moon phase. Label each object clearly. Remember to shade the unlit part of the Earth and the Moon in your diagram. (3)

2. What is the phase of the moon, after New Moon called? (1)

3. Explain the New Moon phase of the moon. (2)

_____

_____

4. How many phases of the moon are there? _____ (1)

5. Name any other phase not mentioned in question 2 and 3, already. (1)

_____

6. Give an explanation of what a moon is and say in which direction the Moon revolves around Earth. (2)

_____

_____

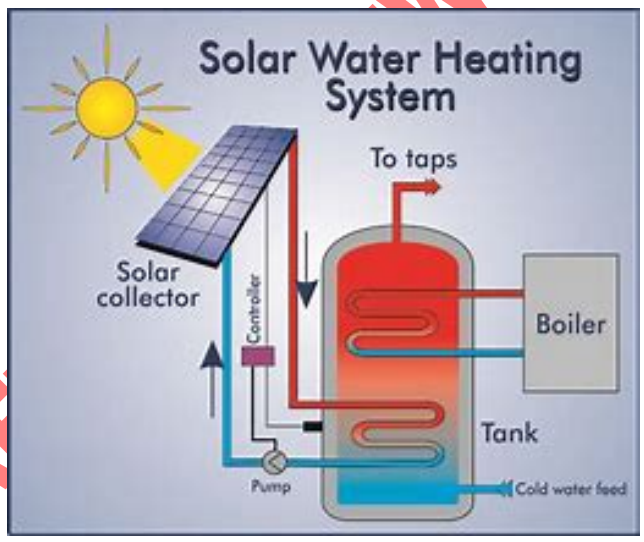
_____

_____

_____

QUESTION 5 – DIAGRAMS AND PICTURES **(10)**

Study the following diagram about a solar water heating system and answer the questions that follow.



1. The main source of heat energy comes from the Sun in the form of _____. (1)

2. A commercial solar collector that heat water are simple _____ _____ with tubes of water inside them. (1)

3. Discuss how a solar water heating system would work, after analysing the above image.

_____

_____

_____

_____

_____

_____. (4)

4. The tubes inside a solar panel / box are painted and made of _____. (1)
5. A solar box is usually black, so that it absorbs _____. (1)
6. Humans have an average body temperature of _____ º C. (1)
7. How do humans keep warm / insulate their bodies? (1)

_____

_____

_____

QUESTION 6 – CLASSIFY THE PICTURES AND ANSWER QUESTIONS (14)

1. Label and classify each of the following energy sources as either renewable or non-renewable. (6)

IMAGE A **IMAGE B** **IMAGE C**

IMAGE A _____ **IMAGE B** _____ **IMAGE C** _____

_____ _____ _____

2. Explain the term non-renewable energy sources. (2)

_____

_____

_____

3. What percentage of our coal does Eskom and Sasol use? (1)

_____

4. Apply what you know about Uranium, by giving four facts about it. (4)

_____

_____

_____

_____

_____

_____

5. Where was Uranium discovered and who discovered it? (1)

_____

_____

_____

QUESTION 7-ENERGY SYSTEMS AND SHORT EXPLANATIONS **(11)**

1. Name the four different energy systems and give an example of each **or** draw a diagram to describe it. (4)

2. What does the law of conservation of energy state? (2)

_____

_____

_____

3. What is conduction? (1)

_____

_____

_____

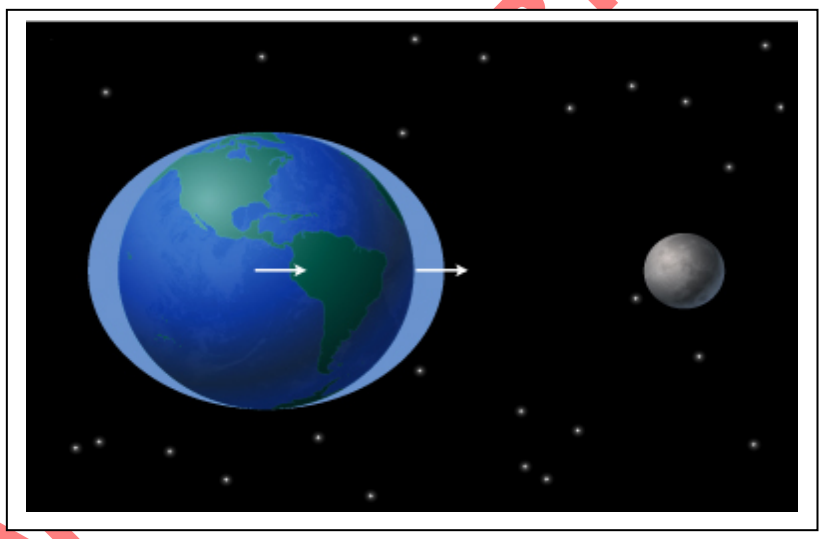
4. Explain how a room is cooled down by an air-conditioner. (2)

_____

_____

_____

5. Look carefully at the picture below and explain what happens to the water on and around Earth. (2)



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Go back and check your answers!

Grand Total: 60