Grade 7 Natural Science

FAT: Energy and change Term 3: TEST

Total: 40 marks

Date: September 2020

Time: 60 minutes

Instructions:

1. Answer all the questions on lined paper
2. Write neatly and number your work correctly.
3. Draw a line after each question.

QUESTION 1:

1. Match the definitions on the left with the correct explanation on the right.

   Only write the number and the letter down.

Example: 1 F

1. Ore	A. Always rises.
2. Potential energy	B. Currents of hot air or liquid caused by heat rising.
3. Thermal system	C. A system that stores and transfers heat.
4. Cold air	D. Energy that is stored.
5. Convection currents	E. A material which transfers heat well.
6. Conductor	F. Energy in moving things.
	G. Rock that contains metal.
	H. Fossil fuels.
	I. Always sinks.

(6 x ½ =3)

QUESTION 2:

2. State which of the following statements are TRUE or FALSE. If the statement is FALSE, rewrite it correctly.

a. Natural gas, coal and oil are all fossil fuels.

b. A renewable energy source cannot be replenished or restored.

c. The transfer of heat always moves from a colder part of the system to a hotter part of the system.

d. An insulator transfers heat well. **(4)**

QUESTION 3:

3. Read the following question carefully and answer them as accurately as possible.

3.1 Define a non-renewable energy source. **(1)**

3.2 Name two examples of a non-renewable energy source. **(1)**

3.3 How are fossil fuels formed? **(1)**

3.4 Name the nuclear power station which is situated near Cape Town. **(1)**

3.5 Do you think solar electricity would be suitable to use in a hospital? Yes/no, and explain why? **(1)**

3.6 Write a paragraph explaining why we should be using more renewable energy sources in South Africa. **(2)**

QUESTION 4:

4. State whether each of the following has **potential** energy or **kinetic** energy.

4.1 

4.2 

(2)

4.3 Differentiate between potential and kinetic energy. **(2)**

4.4 Explain how you can give a book which is going to fall, more kinetic energy. **(1)**

4.5 Explain how you can give a moving soccer ball more kinetic energy. **(1)**

QUESTION 5:

5. This picture shows how energy transfers in a thermal system takes place. Look at the following picture and answer the questions below.

The candle is heating the tin with water inside

5.1 Where does the initial energy for the system come from? **(1)**

5.2 What type of energy is it? **(1)**

5.3 Where is the initial energy transferred to? **(1)**

5.4 What energy changes take place in the system? show the energy changes in a flow diagram. **(1)**

5.5 Define the law of conservation of energy. **(1)**

5.6 Explain what a system is. **(1)**

5.7 Name three types of systems that you learnt about, other than a thermal system. **(3)**

QUESTION 6:

6.1 Draw a flow diagram to show the energy transfers that take place when someone rides a bicycle.

(3)

QUESTION 7:

7.1 Write a paragraph naming and defining the three ways heat can be transferred and explain how it works using an example of each. **(6)**

7.2 Explain why colder air sinks in comparison to warmer air. **(2)**