NAME: **CLASS:** **DATE:**
WORKSHEET
SCIENCE: 7 ENERGY

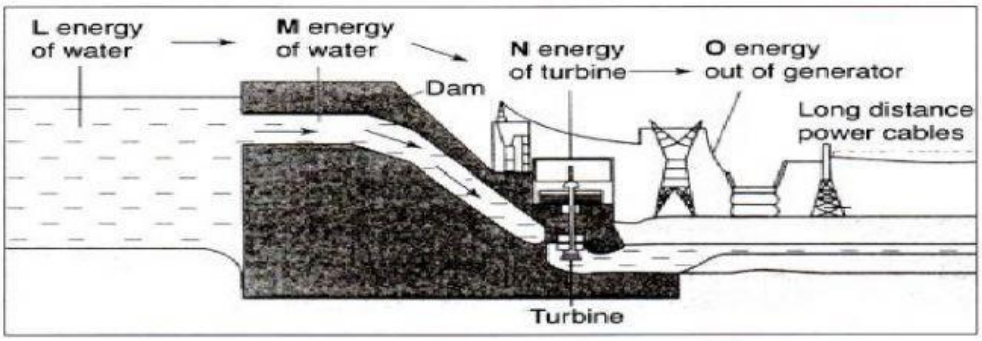
CHAPTER 7: ENERGY

TOPIC 7.1: SOURCES AND FORMS OF ENERGY

1. What is the SI unit of energy?
   A. Joule.
   B. Newton.
   C. Ohm.
   D. Watt.

2. Food is needed to supply our bodies with energy. What type of energy is present in food?
   A. Light energy.
   B. Heat energy.
   C. Electrical energy.
   D. Chemical potential energy.

3. Figure below shows energy changes in a hydroelectricity power station.



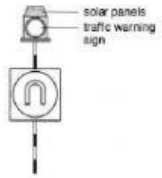
Name the different types of energy shown at L, M, N and O.

	L	M	N	O
A.	Gravitational Potential	Gravitational Potential	Kinetic	Electrical
B.	Gravitational Potential	Kinetic + Gravitational Potential	Kinetic	Electrical
C.	Kinetic	Gravitational Potential	Electrical	Kinetic
D.	Kinetic	Kinetic + Gravitational Potential	Boiling	Kinetic

4. Hamzah lifts a sack of rice from the floor to a table. What form of energy from his body has Hamzah used and what form of energy has the sack of potatoes gained?

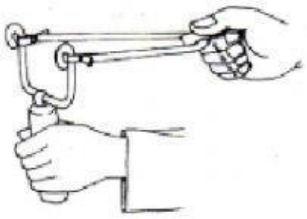
	Forms of energy	
	Used by Hamzah	**Gained by the sack of potatoes**
A.	Chemical potential energy	Kinetic energy
B.	Chemical potential energy	Gravitational potential energy
C.	Gravitational potential energy	Kinetic energy
D.	Gravitational potential energy	Gravitational potential energy

5. Figure below shows a photograph of a traffic warning sign. Solar panels absorb solar energy from the Sun and convert it into electrical energy. The electrical energy is stored in a battery. Name the energy that is stored in the battery.



A. Chemical potential energy.
B. Heat energy.
C. Light energy.
D. Kinetic energy.

6. Figure below shows a student using a slingshot. Which form of energy is possessed by the rubber band before it is released?



A. Chemical potential energy.
B. Elastic potential energy.
C. Gravitational potential energy.
D. Kinetic energy.

TOPIC 7.2: CONVERSION OF ENERGY

1. A dynamo is an energy converter that changes kinetic energy into light energy.
TRUE / FALSE

2. Which of the following processes converts light energy into chemical potential energy?

A. Digestion.
B. Evaporation.
C. Photosynthesis.
D. Reproduction.

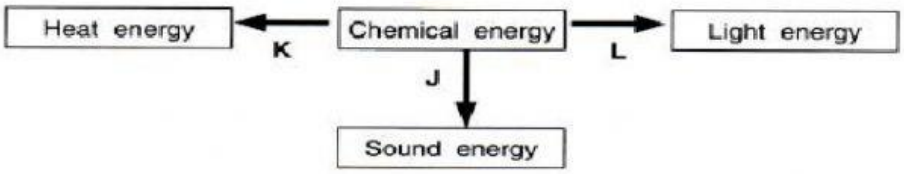
3. Ahmad hit a drum as shown in figure below. What type of energy change is shown?

A. Kinetic energy → heat energy
B. Kinetic energy → sound energy
C. Gravitational potential energy → light energy
D. Chemical potential energy → kinetic energy

4. The touch-screen hand phone in figure below is switched on. Which of the following shows correctly the energy changes taking place in figure above?

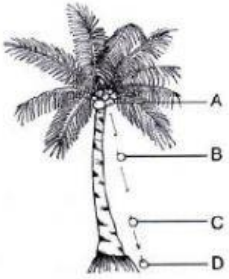
A. Chemical potential energy → electrical energy → light energy.
B. Electrical energy → light energy → heat energy.
C. Kinetic energy → chemical potential energy → sound energy.
D. Light energy → sound energy → kinetic energy.

5. Study figure below carefully. Letters J, K and L indicate appliances that will cause the stated energy change. Identify appliances J, K and L.



	J	K	L
A.	Fan	Torch	Stove
B.	Radio	Stove	Torch
C.	Stove	Fan	Radio
D.	Torch	Radio	Fan

6. Figure below shows a coconut falling from its tree. At which position does the coconut have the highest gravitational potential energy?



7. Figure below shows wind as a form of renewable energy source. Wind energy can be used to generate electricity. Which of the following shows the correct change in stations generated by wind?

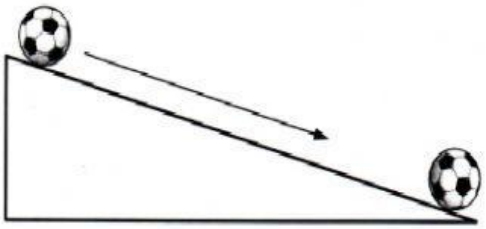
A. Electrical energy → chemical potential energy
B. Electrical energy → kinetic energy
C. Kinetic energy → electrical energy
D. Kinetic energy → chemical potential energy

8. Figure below shows what happens when a matchstick burns. What is the main energy changes that take place when a matchstick burns?

A. Chemical potential energy to heat energy.
B. Chemical potential energy to kinetic energy.
C. Heat energy to light energy.
D. Kinetic energy to chemical potential energy.

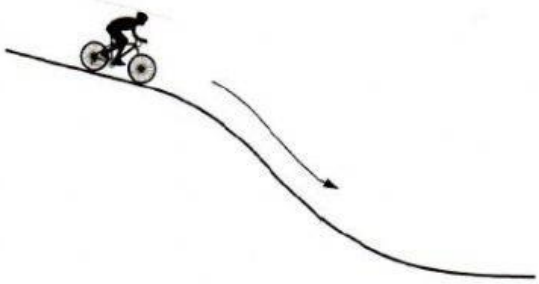
9. A soccer ball rolls down the slope as shown in figure below. Which of the following correctly describes the kinetic energy as well as the potential energy of the ball as it rolls down the slope?

	Kinetic energy	**Gravitational potential energy**
A.	Decreases	Increases
B.	Decreases	Decreases
C.	Increases	Increases
D.	Increases	Decreases

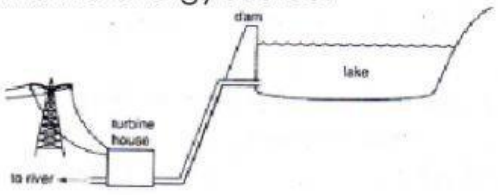


10. A cyclist goes down a slope as shown in figure below. Describe the change in the potential energy and kinetic energy of the cyclist.

	Gravitational potential energy	**Kinetic energy**
A.	Decreases	Decreases
B.	Decreases	Increases
C.	Increases	Increases
D.	Increases	Decreases



11. Figure below shows an alternative energy source.



a) Describe how electricity is generated using the energy source shown in figure above. [2]

_____

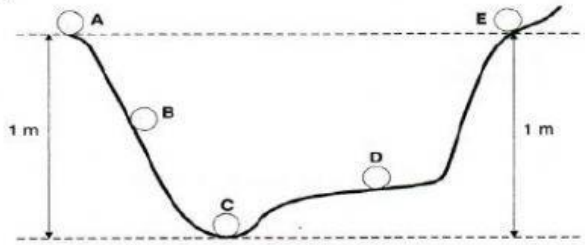
_____

b) What will happen during a dry season when there is very little rainfall to fill up the lake? [2]

_____

_____

12. Figure below shows a smooth aluminium track. A ball bearing is released from rest at point A. It slides down the smooth slope and moves up along the track. (SPE/2012/Q44a)



a) At which point is the gravitational potential energy of the ball bearing highest? [1]

_____

b) At which point is the kinetic energy highest? Give a reason why. [2]

_____

_____

c) State the energy conversion that is taking place as the ball bearing travels from point
C to point **D**. [1]

_____

TOPIC 7.4: ALTERNATIVE SOURCES OF ENERGY

1. Using energy saving bulb is one of the ways to conserve energy at home. **TRUE / FALSE**

2. The following are non-renewable sources of energy except _____.

A. coal.
B. natural gas.
C. petroleum.
D. wind.

3. Which of following combinations are both renewable sources of energy? (SPE/2013/Q19)

   A. Biomass and hydrogen fuel cell.
   B. Coal and hydroelectric energy.
   C. Oil and gas.
   D. Solar and nuclear.

4. Study the information in figure below. What is the type of energy source shown in figure below?

Plant and animal waste, for example cow shed, raw garbage	→ decomposed by bacteria	Biogas

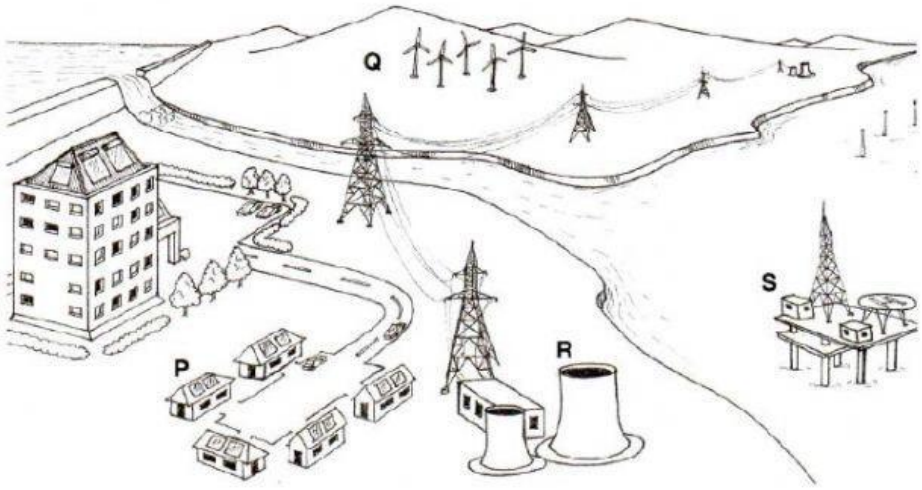
   A. Biomass.
   B. Fossil.
   C. Geothermal
   D. Nuclear.

5. Which of the following is the right way to conserve energy?

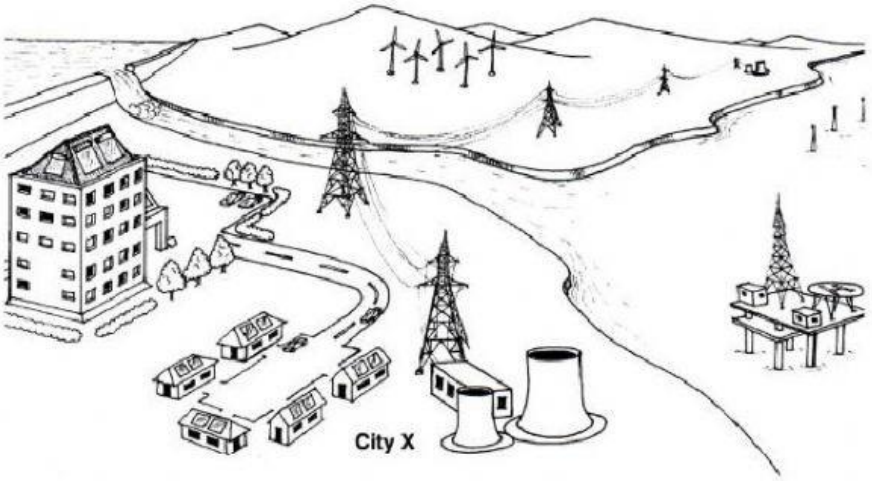
   A. Cooking without putting lid on pan.
   B. Switch on the air conditioner all the time.
   C. Switch on all the lamps in the house.
   D. Turn off lights when leaving an empty room.

6. Figure below shows a city. Which of the following is / are non-renewable source(s) of energy?

   A. P and Q
   B. P only
   C. R and S
   D. R only



7. Study figure below carefully.



a) Identify any two renewable energy sources that are used in City X. [2]

_____ and _____

b) If you are to live in City X, which renewable source are you going to use for your own
home? Give a reason for your answer. [1]

_____

c) In City X, the source of energy from crude oil is an example of a non renewable source
of energy. Give one difference between renewable and non-renewable sources of energy. [1]

_____