

Subject: Integrated science

Topic: Forms of energy and energy change

Level: S.1

Learning objectives:

1. Content

Students should be able to:

Identify forms of energy stored and produced in different ways.

Identify the energy changes which occur in different

Identify the energy converter in energy change processes

2. Language

Students should be able to:

Use passive verbs to describe energy change

S.1 Integrated Science
Energy
Energy changes
Worksheet 2

Name: _____ Class: _____ No.: _____ Date: _____

Energy changes

Energy can be changed from one form to another. This is called *Energy change*.

Activities 1



Group activities, Writing

1. Shake a can of beans.

What do you observe?

Energy change

Kinetic energy $\longrightarrow$ _____ energy

Kinetic energy is changed to _____ energy by shaking the can of beans.

2. Rub your hands quickly for one minute.

How do you feel?

Energy change

Kinetic energy $\longrightarrow$ _____ energy + _____ energy

_____ energy is changed to _____ energy and _____ energy by rubbing the hands.

3. Close the switch of the electric circuit with a light bulb.

What do you observe?

Energy change

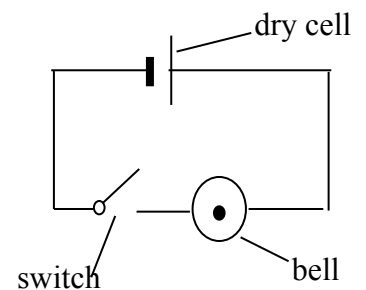
Chemical energy → Electrical energy → _____ + _____
(stored in dry cell) (given out by the dry cell)

_____ energy is changed to _____ energy by the dry cell.

Then _____ energy is changed to _____ energy and _____

energy by the light bulb.

4. Close the switch of the electric circuit with an electric bell.
What do you observe?



Energy change

_____ → _____ → _____
(stored in dry cell) (given out by the dry cell)

The _____ energy _____

5. Wind up the spring of a toy car and put the car on the bench.
What do you observe?

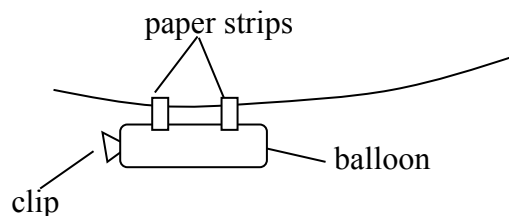
Energy change

_____ → _____
(stored in the spring) (running toy car)

6. A balloon is blown up with air and the opening is clipped.
Remove the clip and release the balloon.
What do you observe?

Energy change

_____ → _____ + _____
(blown up balloon)



7. Use a pair of tongs to hold a magnesium ribbon and burn it in a Bunsen flame.
What do you observe?
(Caution: Don't look at the flame directly because it is so bright that you might hurt your eyes. Wear safety glasses!)

Energy change

_____ → _____ + _____
(stored in magnesium)

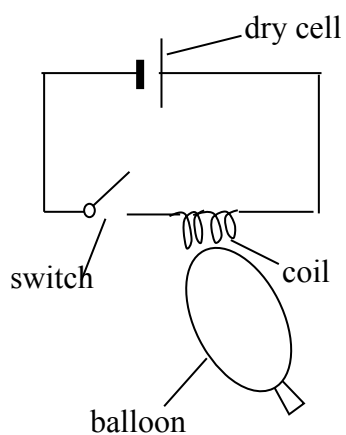
8. Heat the open end of an iron tube for about 40 seconds with a Bunsen flame and then remove the flame. (Demonstration)

What do you observe?

Energy change

_____ → _____

9. Close the switch of the electric circuit with a coil.



What do you observe?

i) dry cells:

Energy change

_____ → _____

ii) coil:

Energy change

_____ → _____

ii) balloon:

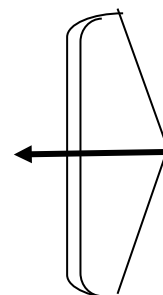
Energy change

_____ → _____ + _____

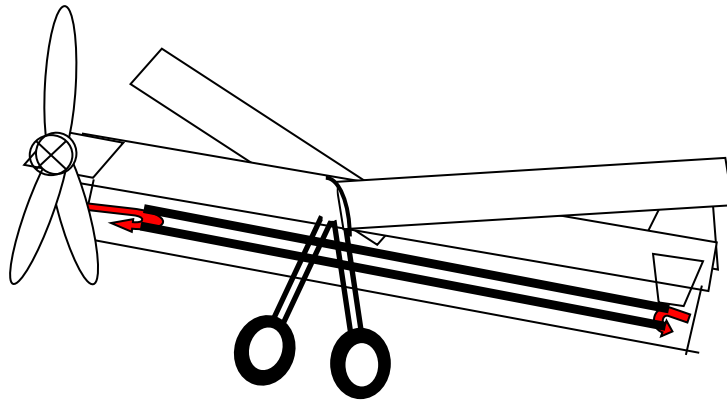
10. Put an arrow on the rubber band of a bow. Pull the rubber band and then release the arrow.
Measure the distance where the arrow lands on the floor from the starting position.
(Caution: Wear safety glasses.)
How does the distance change if you pull it back further?

Energy change

_____ → _____



11. The rubber band plane



- i) Tie a rubber band to the propeller and the tail of a plane.
- ii) Wind up the propeller and measure the distance traveled by the plane.

	A	B
Number of turns wound	50	100
Distance traveled in metres		

What happens to the distance traveled, if more you wind it more?
