



Grade 6





Things around us

Identify matter and energy

Required materials:

Pieces of two bars of same size, Meter ruler, Polythene bags of same size, Coloured water, Balloons, A basin, A glass, A syringe, A thin tube, Two similar torches, threads

Activity 1

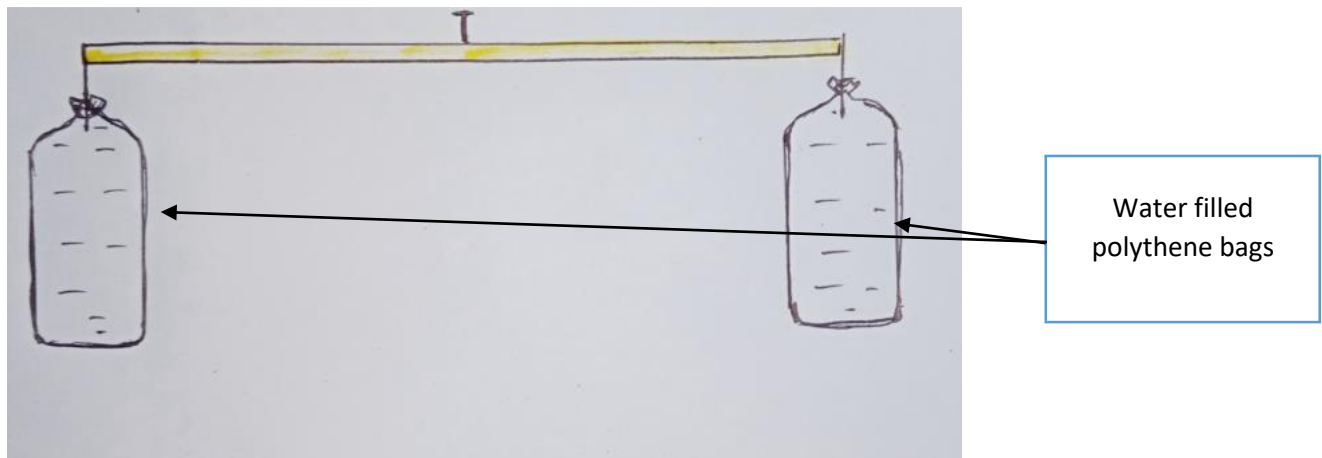


1. Hang two similar soap bars and balance it.
2. Remove one soap bar.
3. Illustrate your observations using a diagram.

✓ Thus, you can understand that soap bar has some weight.



Activity 2



1. Hang the two polythene bags as shown in the figure.
 2. Pierce one polythene bag and remove the water inside.
 3. Illustrate your observations using a diagram.
- ✓ Thus, you can understand that water has some weight.

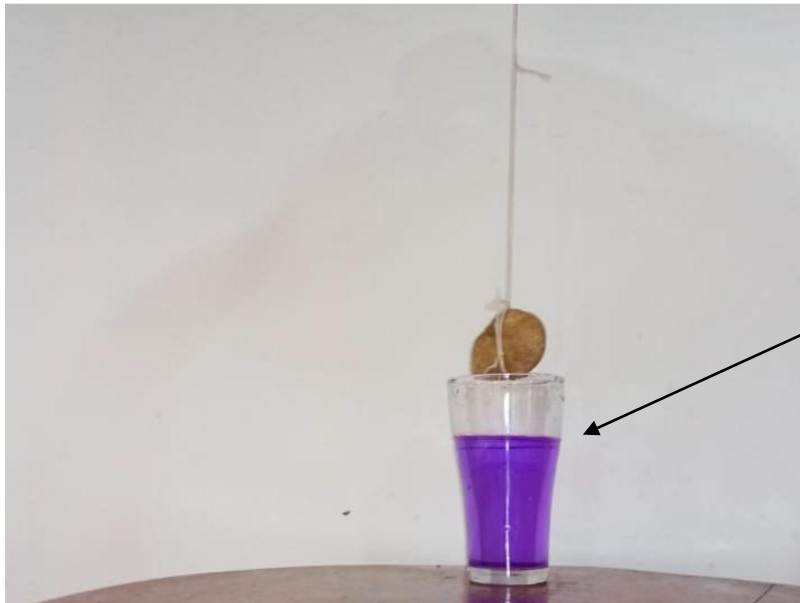
Activity 3



1. Hang two balloons as shown in the figure.
 2. Pierce one balloon and remove the air inside.
 3. Illustrate your observations using a diagram.
- ✓ Thus, you can understand that air has some weight.



Activity 4



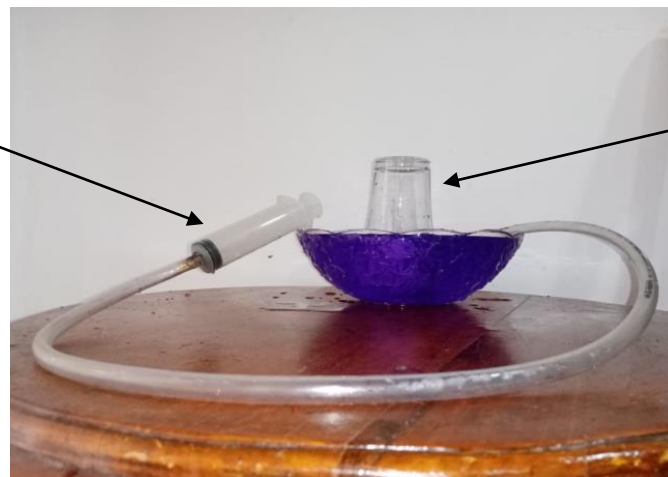
Glass with coloured water. The level of water has marked.

1. Put coloured water into a glass and marked its level.
2. Then, insert a piece of stone into the glass of coloured water.
3. Illustrate the difference between the two instances using a diagram.

✓ Water level rose as the stone occupy space.

Activity 5

Syringe



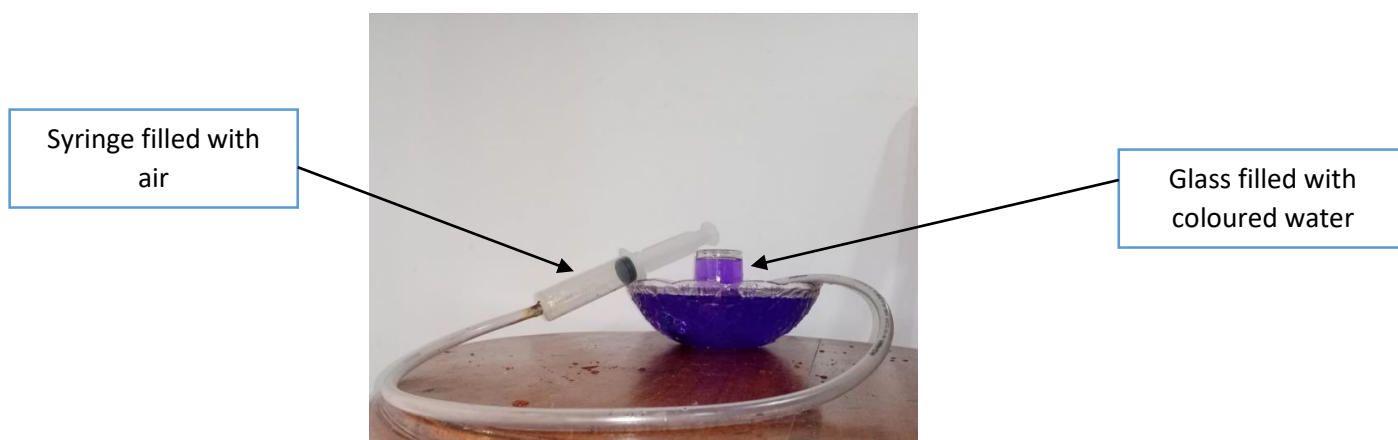
Glass filled with air

1. Get water into a basin and keep the glass upside down vertically in the water basin.
2. Then, insert a tube towards the upper end of the glass and pull the syringe.
3. Illustrate your observations using a diagram.

✓ You will see that removal of air inside the glass entering of water into the glass. Can you see that water occupies space?



Activity 6



1. Set the things as above and insert air into the syringe.
 2. Make sure the glass is completely filled with water.
 3. Insert the air inside the syringe slowly into the glass.
 4. Illustrate the difference in the setups using a diagram.
- ✓ You will notice that removal of water inside the glass and entering of air into it. This is because air occupies space.

Complete the following table after conducting the activities.

Activity	Observations	Conclusions
1		
2		
3		
4		
5		
6		

- ✓ According to the above observations, soap bar, stone, water and air can be considered as matter. Things with a mass and occupy space are known as matter.



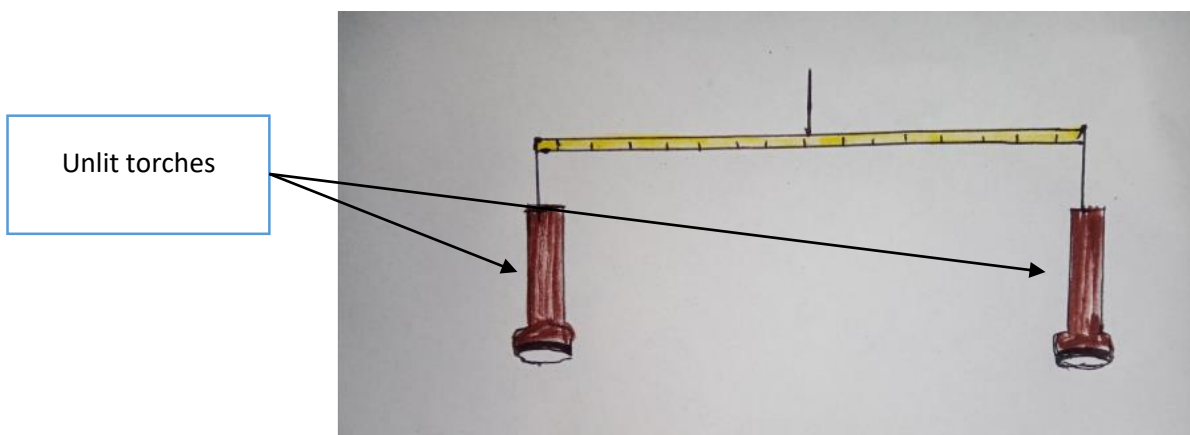
Evaluation

1). Answer the following questions based on the observations and conclusions derived by doing the above activities.

I. What is matter?

II. Write 10 examples for “matter” that you can find at home.

Activity 7



1. Take two similar torches and hang it on a meter ruler.

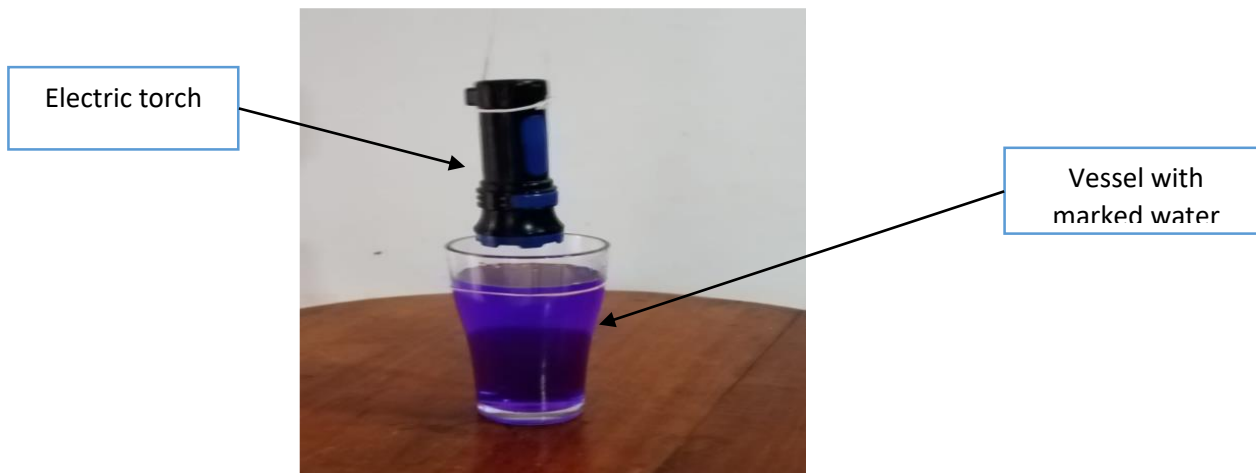
2. Then, light an electric torch.

3. Illustrate your observations using a diagram.

✓ Light is an energy. Can you see that light has no weight?



Activity 8



1. Put water into a vessel and mark its water level.
 2. Then, hold the unlit torch above the vessel.
 3. After that, light the torch and hold it over the vessel.
 4. Did you see any changes in the water level during two instances?
- ✓ Accordingly, can you see that light does not occupies space?

Complete the following table based on the 7 and 8 activities.

Activity	Observations	Conclusions
7		
8		

- ✓ According to the observations, light is an energy. Things that do not have any weight and do not occupy space are known as energy.

Evaluation

1). Answer the following questions based on the observations and conclusions derived by conducting the above activities.

- I. What is energy?
- II. What is the form of energy we used in the above activity?
- III. Write two other forms of energy that you can experience in the environment.
- IV. Write the differences between the following instances.

Matter	Energy



States of matter

Activity 1

Following are some materials that you can find in the environment. Categorize them based on their physical state.

Jaggery, Milk, Charcoal, Sugar, Cotton, Coconut oil, Sand, Bricks, Stones, Rice, Kerosene, Table, Mug, Oxygen, Pen

Solid	Liquid	Gas

Activity 2

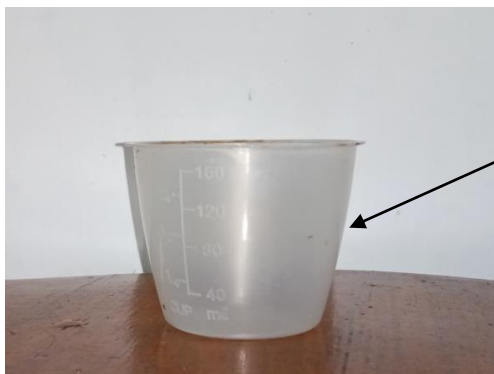
Find equipment such as bottle, box, eraser, plate, book, saucer from home. State the presence of shape and volume of those equipment.

Object	Has a weight	Has a volume

- ✓ These are solid materials. They have definite mass and volume.



Activity 3



Vessel with scale

Using a vessel with a scale obtain following measurements.

Water – 100 ml

Milk – 300 ml

- ✓ Therefore, it can be concluded that liquid matter has a define volume.

Activity 4



Vessels of different shapes

Put 500ml of coloured water into each vessel using the equipment used earlier.

- ✓ Accordingly, it is visible that water takes the shape of the vessel. That means, liquid matter does not have a definite shape.



Activity 5



Dried vessels of different shapes

1. Dry the vessels well and fill them with smoke of joss sticks.

- ✓ Smoke of joss sticks spread throughout the vessel. Smoke of joss sticks means a gaseous matter. Thus, gaseous matter does not have a definite shape and volume.

Evaluation

Complete the following table after conducting the above activities.

Materials	State of matter	Shape	Volume



Identify the properties of matter

Activity 1

Following are some of the materials that you can find from the surrounding.

Iron nails, Ottapalu, Charcoal, Powder, Aluminium, Coir rope, Balloons, Glass, Sand paper, Chalk, cotton, Wheat flour, Granite

1. Touch the things you collected.
2. Hammer slowly to these materials.
3. Pull selected items sideways by hand and release.

NB: Obtain the supervision of an adult when hammering.

At the end of the activity complete the following table.





Activity 2

Identify the instances where the properties of solid matter is used in day-to-day activities.

Complete the following table.

Instance	Material	Property

Summary of the whole lesson

