



STEPPING STONE  
SCHOOL (HIGH)

CLASS: 6

Subject: Physics

Date: 19/06/2020

Topic: Matter (Activity)

Time Limit: 40 min.

*Worksheet No. :12*

*[Copy the questions following the notes and solve them on a sheet of paper date wise.  
Keep the worksheets ready in a file to be submitted on the opening day.]*

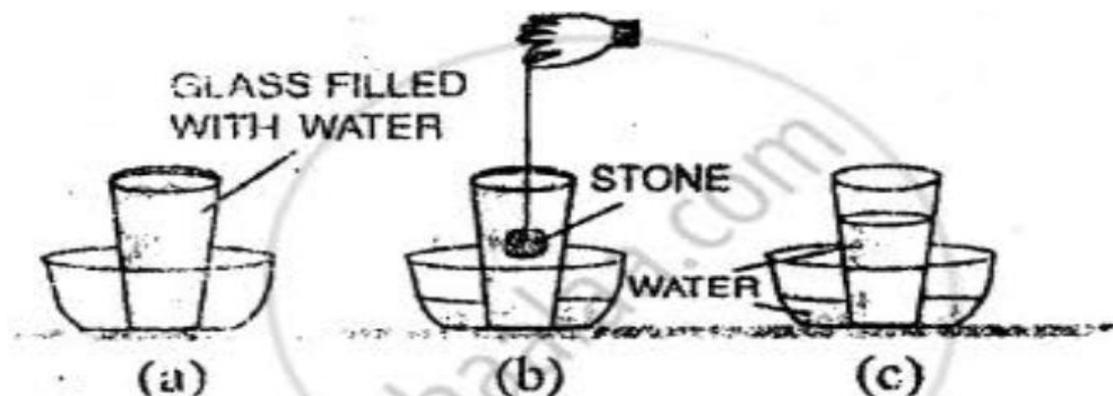
Activity – 1

**Aim: To show that matter occupies space**

**Material required: Glass, water, stone, a piece of thread, A glass bowl.**

**Procedure:**

- **Pour water gently in glass so that it is completely filled.**
- **Tie stone with piece of thread and lower this stone gently into the glass.**
- **Remove the stone from the glass.**



***Both water (liquid) and stone (solid)  
occupy space***

**Observation: When the stone is lowered into the glass filled completely with water, some water overflow from the glass and collect in the bowl.**

**Conclusion: From the above observation, we conclude that matter occupies space. The stone occupies space and hence pushes the water out of the glass. Water is matter too and also occupies space.**

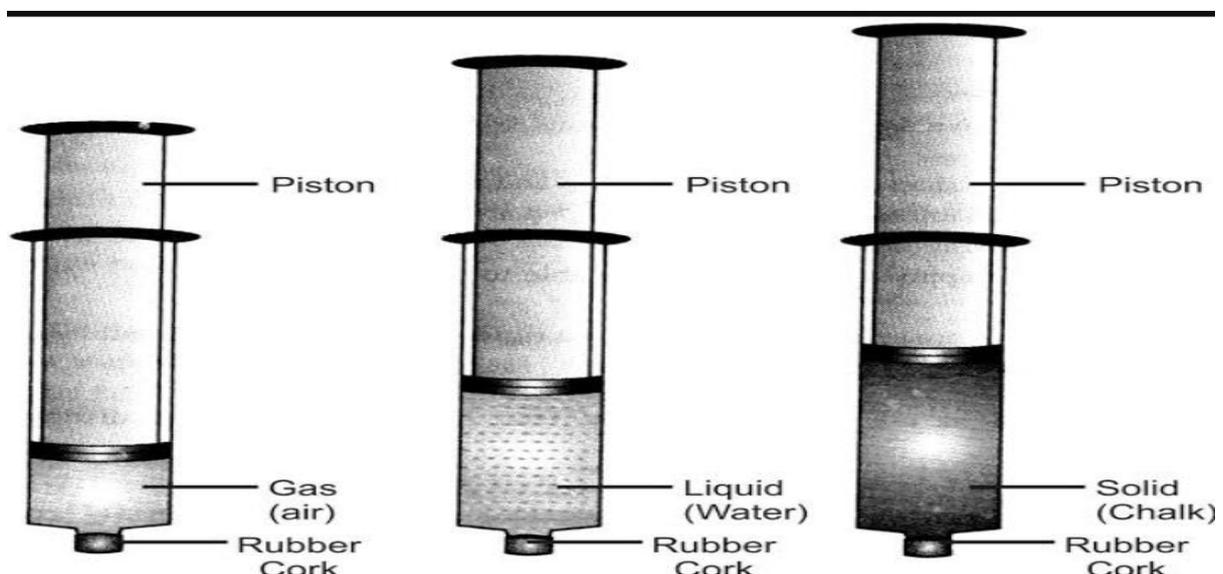
### Activity-2

**Aim: To show that solid cannot be compressed, liquid can be compressed a little but gases can be compressed easily.**

**Material Required: Three syringes, rubber cork, chalk powder, water.**

**Procedure:**

- **Take three syringes and block their nozzles with rubber corks, remove piston from all the syringes**
- **Leave the first syringe empty, fill water in the second and chalk powder in the third.**
- **Insert the piston back into their respective syringes.**
- **Now, try to compress the content by pushing the piston in each syringe.**



**Observation: We will observe that piston can be easily pushed into the syringe that is empty because it contains gas. The piston of the syringe that contains water (liquid) moves in only slightly when pressure is applied. The piston of the syringe containing chalk powder (solid) does not move at all.**

**Conclusion:** From observation it is cleared that gases are highly compressible, liquid are only slightly compressible and solid are incompressible.

### **Activity-3**

**Aim:** To show that liquids have definite volume but no definite shape

**Material Required:** Measuring cylinder, glass, bottle, and bowl

**Procedure:**

**Measure 100 ml of water in measuring cylinder**

**Pour this water into glass, bottle and bowl**



**Observation:** The volume of water in all the three container is same, but in each water took the shape of container into which it is poured.

**Conclusion:** This proves that liquid have a definite volume but no definite shape.

### **Activity-4**

**Aim:** To show that gases (air) have mass and occupy volume.

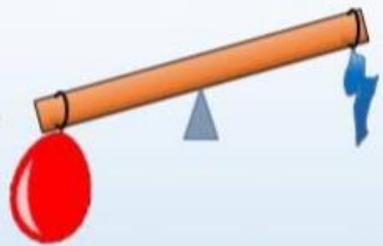
**Material Required:** balloons of equal size of different colour, thread, stick.

### Procedure:



Two balloons (red & blue) of equal sizes having the same amount of air atoms are tied to both ends of the beam balance.

If blue balloon is deflated then the side of beam balance with red balloon weighs down.



Conclusion:

1. The red balloon containing air atoms in it have more mass than blue balloon. Thus it proves air has mass.
2. The space occupied by the deflated blue balloon is less than the red balloon. Thus, it proves air occupies space.

### Questions

Name the following.

- a. The amount of space occupied by matter
- b. The amount of matter contained in a substance
- c. The smallest particle of matter which can exist independently
- d. The space between the molecule of matter
- e. The force of attraction between molecules of a substance.

Write true or false. Correct the false statements.

- a. Matter cannot exist in different states.
- b. The intermolecular force of attraction is the weakest in gases.
- c. Liquid do not have a definite volume but have a definite shape.
- d. Liquids are highly compressible.
- e. The molecules of gases move about in all directions at a high speed.

[Click here for you tube video on compressibility of matter](#)