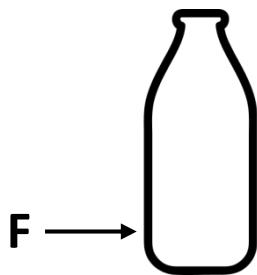


## **Grade 9**

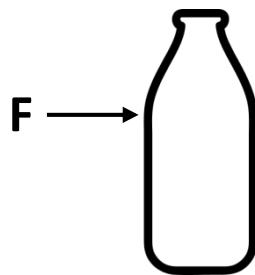
### **Unit 4 - Force and its effects**

1. What is force?
2. What can you do by applying force?
3. The SI unit of measuring force is \_\_\_\_\_.
4. The instrument which can be used to measure force is \_\_\_\_\_.
5. Force has a magnitude as well as a definite direction. Therefore force is a \_\_\_\_\_ quantity.
6. Design an activity to show that force has a magnitude. (Activity 4.1).
7. Design an activity to show that force has a definite direction. (Activity 4.2).
8. What do you mean by point of application of force?
9. What are the observations of the followings :

I.



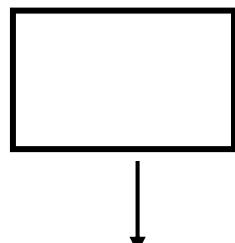
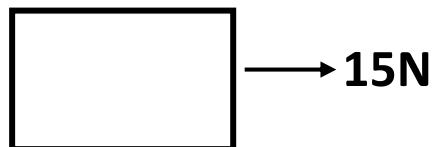
II.



10. How to show the following features in a graphical representation of force.

- I. Magnitude of force
- II. Direction of force
- III. Point of application of force

11. Represent the given forces graphically.



## **Unit 5 - Pressure**

1. What do you mean by pressure?
2. What are the factors affecting for pressure?
3. Design an activity to show the effect of force for pressure (Activity 5.1)

Diagram

Method

Observation

Conclusion: Pressure increases when increasing force

4. Mention the activity 5.2 to prove the effect of force on pressure using the above steps.
5. Design n activity to show the effect of surface area on pressure (Activity 5.3).

Diagram (fig. 5.5)

Method

Observation

Conclusion: Pressure increases when reducing the surface area.

6. Mention the activity 5.4 to prove the effect of surface area on pressure using the above steps.
7. Fill in the blanks using the following equation

$$\text{Pressure (P)} = \frac{\text{Perpendicular force (F)}}{\text{Surface area (A)}}$$

$$P=F/A$$

$$\text{N/m}^2$$

SI unit of pressure=  $\text{Nm}^{-2}$  or Pa

- I. SI unit of measuring pressure is \_\_\_\_\_.
- II. The pressure exert on a surface of  $3\text{m}^2$  when applying 600N perpendicular to it.
- III. The pressure exerted by an object with the surface area of  $5\text{ m}^2$  is 150Pa. Find the weight of that object.

8. Mention 3 instances of increasing pressure and 3 instances of decreasing pressure in our day to day life.