5. In the following situations identify the agent exerting the force and the object on which it acts. State the effect of the force in each case.
(a) Squeezing a piece of lemon between the fingers to extract its juice.
Answer:
Agent exerting the force – Fingers
Object on which force acts – Lemon
Effect of force – Change in shape of lemon

(b) Taking out paste from a toothpaste tube.
Answer:
Agent exerting the force – Fingers
Object on which force acts – toothpaste tube
Effect of force – Change in shape of toothpaste tube.

(c) A load suspended from a spring while its other end is on a hook fixed to a wall.
Answer:
Agent exerting the force – Load
Object on which force acts – Spring
Effect of force – Change in shape of spring.

(d) An athlete making a high jump to clear the bar at a certain height.
Answer:
Agent exerting the force – Muscles of Athlete
Object on which force acts – Athlete
Effect of force – Change of state of motion of athlete

6. A blacksmith hammers a hot piece of iron while making a tool. How does the force due to hammering affect the piece of iron?
Answer:
When a blacksmith hammers a hot piece of iron, he uses his muscular force. This muscular force changes the shape of the iron so that it can be given a desired shape.

7. An inflated balloon was pressed against a wall after it has been rubbed with a piece of synthetic cloth. It was found that the balloon sticks to the wall. What force might be responsible for the attraction between the balloon and the wall?
Answer:
Electrostatic force is responsible for the attraction between the balloon and the wall.

8. Name the forces acting on a plastic bucket containing water held above ground level in your hand. Discuss why the forces acting on the bucket do not bring a change in its state of motion.
Answer:
In this case, muscular force is acting in upward direction and the force of gravity is acting in downward direction. Both forces are acting in opposite directions to each other and hence nullify the effect of each other. Due to this, there is no change in the state of motion of the bucket.

9. A rocket has been fired upwards to launch a satellite in its orbit.

Name the two forces acting on the rocket immediately after leaving the launching pad.
Answer:
The two forces acting on the rocket are the force of gravity, which pulls the rocket towards the ground, and the force of friction due to earth's atmosphere, which opposes its motion.

10. When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to
(a) pressure of water.
(b) gravity of the earth.
(c) shape of rubber bulb
(d) atmospheric pressure
Answer:
(d) atmospheric pressure

********** END **********