

Force and Pressure Class 8 Science NCERT Textbook Questions

Question 1.

Give two examples each of the situations in which you push or pull to change the state of motion of objects.

Answer:

(i) Push: We close drawer by pushing.

We move a wooden box by pushing.

(ii) Pull: We draw water from a well by pulling the rope.

A horse pulls a cart.

Question 2.

Give two examples of situations in which applied force causes a change in the shape of an object.

Answer:

Question 3.

Fill in the blanks in the following statements.

(a) To draw water from a well we have to _____ at the rope.

(b) A charged body _____ an uncharged body towards it.

(c) To move a loaded trolley we have to _____ it.

(d) The north pole of a magnet _____ the north pole of another magnet.

Answer:

(a) pull

(b) attracts

(c) push

(Question 4.

An archer stretches her bow while taking aim at the target. She then releases the arrow, which begins to move towards the target. Based on this information fill up the gaps in the following statements using the following terms:

muscular, contact, non-contact, gravity, friction, shape, attraction

(a) To stretch the bow, the archer applies a force that causes a change in its _____

(b) The force applied by the archer to stretch the bow is an example of _____ force.

(c) The type of force responsible for a change in the state of motion of the arrow is an example of a _____ force.

(d) While the arrow moves towards its target, the forces acting on it are due to _____ and that due to _____ of air.

Answer:

(a) shape

(b) muscular

(c) contact

(d) gravity, friction) repels we apply force on a rubber band to stretch it and on clay to change its

Question 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.
- (b) Taking out paste from a toothpaste tube.
- (c) A load suspended from a spring while its other end is on a hook fixed to a wall.
- (d) An athlete making a high jump to clear the bar at a certain height.

Agents are fingers, object is lemon, effect of force changes the shape of lemon.

(b) Agents are fingers of the person squeezing the tube, object is toothpaste tube and effect of the force can be observed as the paste coming out of the tube (change in shape).

(c) Agent is the load suspended, object is the spring and effort can be seen in the form of elongation of spring on suspension of load (change in shape).

(d) Agent is muscles of athlete, object is athlete himself and effect of the force changes the

Question 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?

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The force due to hammering causes the change in the shape of the iron and iron can be moulded in the shape of the required tool. Question 6.

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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:

Question 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:

Forces acting on bucket are as follows:

- (i) Muscular force of arms acting upward.
- (ii) Force of gravity acting downward.

Both the forces do not bring any change in the state of motion because both of them are acting in opposite directions. Question 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 forces that act when a rocket leaves launching pad are as follows:

(i) Gravitational force of the earth (downward)

(ii) Frictional force of air (in opposite direction equal and opposite directions and thus they

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(ii) Question 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:

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