

CBSE NCERT Solutions for Class 8 Science Chapter 11

Back of Chapter Questions

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

Solution:

There are so many real-life examples of push and pull,
Here are some examples of push:

1. A car, at rest, is pushed to move which changes its state of motion.
2. The ground staff pushes a roller in the ground to level the surface. In this situation the state of motion of roller get changed.

Here are some examples of pull:

1. The Door is pulled to open the room which changes the state of motion of the door.
 2. Grape is pulled from a bunch of grapes to pluck it, which changes state of motion of grape.
2. Give two examples of situations in which applied force causes a change in the shape of an object.

Solution:

1. Squeezing an orange changes the shape of orange.
 2. A ball of dough is rolled which changes the shape of ball of dough.
3. Fill in the blanks in the following statements.

- (A) To draw water from a well we have to _____ 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.

Solution:

- (a) To draw water from a well we have to **pull** the rope.

To draw water from a well we have to pull at the rope for the upward motion of water.

- (b) A charged body **attracts** an uncharged body towards it.
A charged property has property to attract uncharged body towards it.
- (c) To move a loaded trolley we have to **either push or pull** it.

To change the state of motion of trolley, we must apply some force. By pushing or pulling the loaded trolley, we can change the state of motion of pulley.

(d) The north pole of a magnet **repels** the north pole of another magnet. Same polarity poles of magnets repel each other.

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).

Solution:

- (a) To stretch the bow, the archer applies a force that causes a change in its **shape**.

When bow is stretched, muscular force acts and which changes the shape.

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

Muscular force helps the archer to stretch the bow.

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

Contact force changes the state of motion of the arrow.

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

As archer releases the arrow, friction force and gravitation force acts on the arrow.

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.?

Solution:

- (a) Muscular force is applied by fingers on the lemon to squeeze it to extract the juice. Muscular force changes the shape of lemon.
 - (b) Muscular force is applied on the toothpaste tube to extract paste from tube. Muscular force changes the shape of toothpaste tube.
 - (c) Spring got extended by gravitational force due to suspended load which changes the shape of spring.
 - (d) Athlete exerts muscular force on ground by his feet which help to jump the bar and it changes the state of motion.
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?

Solution:

When a blacksmith hammers a hot piece of iron, he/she exerts muscular force while hammering. Due to that muscular force, shape of iron piece could be changed.

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?

Solution:

When inflated balloon is rubbed with synthetic cloth, it gets charged and charged body attracts uncharged body. Inflated ball will stick the wall while pressing it against wall. The force between ball and wall is an electrostatic force.

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.

Solution:

When the bucket is hold above the ground, two forces acts on it. Muscular force acts in upward direction and gravitational force acts in downward direction, both forces are of same magnitude but opposite in direction. There is net zero force on bucket so there won't be any change in state of motion.

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?

Solution:

The Rocket is launched in the direction against gravity so gravitational force will act towards the earth and other force of friction will be there due to earth's atmosphere against the direction of 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.

Solution:(d)

As air in the dropper escapes from the bulb, water gets filled in the bulb due to atmospheric pressure on water surface. Atmospheric pressure applies force on water surface.