NCERT SOLUTIONS
CLASS VIII SCIENCE
CHAPTER-11 FORCE AND PRESSURE

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Question-1

In which situations, do you need to pull or push to change the state of motion of an object? Give two examples.

Answer-

Following are the pull force examples:

a) In order to open a drawer, we have to pull it. This action changes the state of motion of the drawer.

b) To draw water from the well, the rope is pulled. This action changes the state of motion of the bucket.

Following are the examples of push force:

a) A football is pushed by the foot of a player. This action changes the state of motion of the ball.

b) In order to change the place of the heavy box from one room to another, we have to push it. This action changes the motion of the box.

Question-2

In which situation, does the applied force change the shape of an object? Give two examples.

Answer-

The forces which change the shape of an object are as follows:

i) By pressing the clay between the hands, it deforms.

ii) The shape of the plastic bottle changes by squeezing it.

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Question-3

Fill in the blanks with the appropriate words:

a) We need to _____the loaded trolley in order to move it.

b) We need to _____the rope to draw water from the well.

c) The north pole of the magnet_____the north pole of another magnet.

d) A charged body_____an uncharged body.

Answer-

a) We have to **either push or pull** the loaded trolley in order to move it.

b) We have to **pull** the rope to draw water from the well.

c) The north pole of the magnet **repels** the north pole of another magnet.

d) A charged body **attracts** an uncharged body.

Question-4

While taking the aim at the target, an archer stretches her bow. She then releases the arrow which begins to move towards the target. In the given information, fill in the blanks using the words given below.

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

a) force is the force which the archer applies to stretch the bow.

b) To stretch the bow, the archer applies a force that causes a change in its_____.

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c) While the arrow moves towards its target, the force acting on it is because of_____and which is due to _____of air.

d) _____ force is an example of changing the state of motion of the arrow.

Answer-

a) **Muscular** force is the force which the archer applies to stretch the bow.

b) To stretch the bow the archer applies a force that causes a change in its **Shape**.

c) While arrow moves towards its target, the force acting on it because of **gravity** and which is due to the **friction** of air.

d) **Contact** force is an example of changing the state of motion of the arrow.

Question-5

In the following situation, identify the object on which the force is acting and the object exerting the force. State the effects of the force in it.

a) Tooth paste is taken out from the tube.

b) To clear the bar at a certain height, an athlete making a high jump.

c) To extract the juice of lemon, it is to be squeezed between the fingers.

Answer-

a) To take out paste from the toothpaste tube we use our muscular force. This muscular force acting on the toothpaste tube leads to a change of its shapepe.

b) The feet of the athlete exert the muscular force on the ground, which pushes the ground. This allows him to jump over the bar. As a result, his state of motion gets changed.

c) We make a muscular force to extract the juice of the lemon by squeezing it. As a result, the shape of the lemon gets changed.

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Question-6

While making a tool, a blacksmith hammers a hot piece of iron. How does the force due to hammering affects the piece of iron?

Answer-

A blacksmith uses his muscular force while hammering a hot piece of iron. The muscular force changes the shape of the iron so that it can be given the desired shape.

Question-7

When an inflated balloon is rubbed with a piece of synthetic cloth and pressed against a wall, then it sticks to the wall. Find the force responsible for the attraction between the wall and balloon.

Answer-

When an inflated balloon rubbed with a piece of synthetic cloth, it becomes charged. A charged body attracts an uncharged body. When this charged balloon is pressed against a wall, it sticks to the wall. Thus, the electrostatic force acts between the charged balloon and the wall.

Question-8

Which force is acting on a plastic bucket containing water held above ground level in your hand? Why does the force acting

on the bucket not bring a change in its state of motion? Discuss.

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Answer-

For holding the bucket of water above the ground, we use muscular force. This muscular force acts against the force of gravity that pulls the bucket towards the ground. The two forces are equal in magnitude but opposite in direction. Therefore, the net force on the bucket is zero. Hence, there is no change in the state of motion.

Question-9

Name the forces acting on the rocket if the rocket is launched upward to launch a satellite into its orbit.

Answer-

The force of gravity is the one which acts on the rocket to pull it towards the ground and the other one is the force of friction due to earth's atmosphere, which opposes its motion.

Question-10

The bulb of a dropper, when pressed with its nozzle, is kept in water. Then the air in the dropper is seen to escape in the form of bubbles. The water gets filled in the dropper when we release the pressure on the bulb. The rise of water in the dropper is due to:

a) Atmospheric pressure

b) Gravity of the earth

Answer-

a) Due to the atmospheric pressure, there is a rise of water in the dropper.

When all the air escapes from the nozzle, the atmospheric pressure, which is acting on the water, forces the water to fill the nozzle of the dropper.

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