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### Exercise

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

Answer:

Two examples of push force are as follows:

- A heavy box at rest is pushed to move it from one room to another. This changes the state of motion of the box.
- A player pushes a football using his foot. This changes the state of motion of the ball.

Two examples of pull force are as follows:

- Rope is pulled to draw water from a well. This changes the state of motion of the water bucket.
- A drawer is pulled to open it. This changes the state of motion of the drawer.

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

Answer:

Two examples of forces that cause a change in the shape of an object are as follows:

- Making of bread from dough
- Deformation of clay by pressing it between the hands.

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) To draw water from a well we have to pull at the rope.  
(b) A charged body attracts an uncharged body towards it.  
(c) To move a loaded trolley we have to push or pull it.  
(d) The north pole of a magnet repels the north pole of another magnet.

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

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

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

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

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