

Board –CBSE

Class –8th

Topic – friction

1. You spill a bucket of soapy water on a marble floor accidentally. Would it make it easier or more difficult for you to walk on the floor? Why?

Ans. It would be more difficult to walk on the floor with soapy water because there is little friction between the floor and the feet when we walk on a soapy floor, so it becomes difficult to walk.

1. Explain why sportsmen use shoes with spikes.

Ans. Sportsmen use shoes with spikes to increase the friction. In this way, the sportsmen can run faster.

1. Iqbal has to push a lighter box, and Seema has to push a heavier box on the same floor. Who will have to apply a larger force, and why?

Ans. Seema will have to apply more force because the box's weight increases, and the friction increases. For a heavier box, the ridges of the surfaces get interlocked more.

1. Explain why sliding friction is less than static friction.

Ans. Sliding friction is less than static friction because it comes into play once the body has started sliding. To make the body slide, more force is required to overcome the irregularities in the body's surface.

1. Explain why objects moving in fluids must have special shapes.

Ans. Fluids also exert a frictional force on the body moving through them. Therefore the shape of the body is streamlined to overcome the frictional force of fluids and to move smoothly through them.

1. Why does the force of friction exist?

Ans. Friction is caused by the irregularities on the two surfaces in contact.

2. Give examples to show that friction is both a friend and a foe.

Ans. Friction is a friend in the following ways - it helps us walk, write on the blackboard, and apply the brakes of a car. Friction is a foe in the following ways. For example, it causes wear and tear of machinery and shoes; it produces heat .

8. How has nature shaped the body of fishes to minimize air resistance?

Ans. The shape of the fish is streamlined to minimize water resistance so that they do not lose much energy while swimming.

9. Give three harmful effects of friction.

- Friction generates heat, e.g., between the parts of machinery.
- Friction causes wear and tear of the rubbing surfaces, e.g., soles of shoes wear out
- Friction reduces the speed of the body and increases the consumption of energy.

10. Give five examples to show that friction is increased deliberately.

Ans.

- Athletes wear spiked shoes to help them run fast.
- Mountaineers wear spiked shoes while walking on snow.
- The types of vehicles are grooved.
- The roads are made rough.
- The blackboard is made rough.