



LITTERA PUBLIC SCHOOL

CLASS VIII

CHAPTER 12

SCIENCE

FRICTION

Friction Force

The force acting along the two surfaces in contact which opposes the motion or the tendency of motion of one body over the other is known as the force of friction or frictional force. It acts on both the surfaces in contact.

Factors Affecting Friction

Friction depends on the following:

1. Nature of surfaces in contact -
2. Mass of object in contact

Types of friction

1. Static friction - Static friction is the friction acting when one body is not moving over other body but there is a tendency to move.
2. Sliding friction - Sliding friction is the friction acting when one body is moving over other body. Sliding friction is also known as kinetic friction
3. Rolling friction - Rolling friction acts when body rolls over another rough body.

Friction due to liquid and gases

When a solid moves in a liquid or gas its surface experiences a frictional force. This frictional force exerted by fluids is also known as drag.

The shape of the body around which fluid (liquid or gas) can easily flow, offering minimum friction is called as streamlined flow.

Advantages of friction

- Friction between our feet and the ground helps us to walk without slipping.
- The friction between treaded tyres and the rough surfaces of the road enables vehicles to move safely in the road.
- Friction between a pencil or a pen and a paper helps us to write.
- Friction enables us to light a matchstick, sew clothes, tie a knot or fix a nail on the wall.

Disadvantages of friction

- Friction wears out the rubbing surfaces like ball bearing of machines, soles of shoes.
- It causes wastage of energy.
- It generates heat, due to which it causes damage to machine parts.

Increasing friction

- Treaded tyres of vehicles have designs and patterns with grooves on their surface to give a good grip on the surface.
- Sand and gravel is thrown on slippery ground during rainy season.
- Soles of shoes are made with grooves to increase friction.

Decreasing friction

- Oil is poured on the hinges of a door to move it smoothly.

- Grease or lubricants is used between the moving parts of machine to reduce friction.
- Fine powder is sprinkle on the carrom board to reduce friction.