

Name: _____ Date: _____

Friction

Q1. Give examples to show that friction is both a friend and a foe.

Ans. _____

Q2. Four children were asked to arrange forces due to rolling, static and sliding frictions in a decreasing order. Their arrangements are given below.
Choose the correct arrangement.
(a) Rolling, static, sliding
(b) Rolling, sliding, static
(c) Static, sliding, rolling
(d) Sliding, static, rolling

Ans. _____

Q3. Alida runs her toy car on dry marble floor, wet marble floor, newspaper and towel spread on the floor. The force of friction acting on the car on different surfaces in increasing order will be:
(a) Wet marble floor, dry marble floor, newspaper and towel.
(b) Newspaper, towel, dry marble floor, wet marble floor.
(c) Towel, newspaper, dry marble floor, wet marble floor.
(d) Wet marble floor, dry marble floor, towel, newspaper.

Ans. _____

Q4. 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. _____

Friction

Q1. Give examples to show that friction is both a friend and a foe.

Ans. Advantages of friction:

- i. Friction enables us to walk.
- ii. Friction enables us to write with pen or pencil.

Disadvantages of friction:

- i. Friction wears away the soles of our shoes.
- ii. The tyres of vehicles wear out gradually due to friction.

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Choose the correct arrangement.

- (a) Rolling, static, sliding
- (b) Rolling, sliding, static
- (c) Static, sliding, rolling
- (d) Sliding, static, rolling

Ans. Static, sliding, rolling

Q3. Alida runs her toy car on dry marble floor, wet marble floor, newspaper and towel spread on the floor. The force of friction acting on the car on different surfaces in increasing order will be:

- (a) Wet marble floor, dry marble floor, newspaper and towel.
- (b) Newspaper, towel, dry marble floor, wet marble floor.
- (c) Towel, newspaper, dry marble floor, wet marble floor.
- (d) Wet marble floor, dry marble floor, towel, newspaper.

Ans. (a) Wet marble floor, dry marble floor, newspaper and towel.

Q4. 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. We are able to walk because of the friction present between our feet and the ground. In order to walk, we push the ground in the backward direction with our feet. The force of friction pushes it in the forward direction and allows us to walk. The force of friction between the ground and feet decreases when there is soapy water spilled on the floor. Hence, it becomes difficult to walk on the soapy floor.