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### Exercise

1. Fill in the blanks.

- (a) Friction opposes the \_\_\_\_\_ between the surfaces in contact with each other.
- (b) Friction depends on the \_\_\_\_\_ of surfaces.
- (c) Friction produces \_\_\_\_\_.
- (d) Sprinkling of powder on the carrom board \_\_\_\_\_ friction.
- (e) Sliding friction is \_\_\_\_\_ than the static friction.

Answer:

- (a) Friction opposes the motion between the surfaces in contact with each other.
- (b) Friction depends on the nature of surfaces.
- (c) Friction produces heat.
- (d) Sprinkling of powder on the carrom board reduces friction.
- (e) Sliding friction is less than the static friction.

2. 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
- Answer: (c) static, sliding, rolling

3. 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

Answer: (a) wet marble floor, dry marble floor, newspaper and towel.

4. Suppose your writing desk is tilted a little. A book kept on it starts sliding down. Show the direction of frictional force acting on it.

Answer:

Frictional force is acting opposite to the movement of the book i.e. upwards.

5. 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?

Answer:

It would make it more difficult for us to walk on a soapy floor because layer of soap makes floor smooth. The coating of soapy water reduces the friction and the foot can not make a proper grip on the floor and it starts getting to slip on the floor.

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