

Friction

Questions

1. Why is rolling friction less than the sliding friction? Also give any two methods through which friction can be reduced?
2. Explain why wheels are so useful?
3. Why are ball bearings used in a bicycle wheel?
4. Explain disadvantage of friction in between parts of the machine
5. What is the relationship among
 - a) Magnitude of friction and weight of the body
 - b) Friction and the nature of the surface
 - c) Friction and area of the surface in contact
6. Friction is a necessary evil. Justify
7. What is stream lining?
8. List three methods of reducing friction.
9. What is the frictional force exerted by fluid is called?
10. Arrange different types of friction in increasing order
11. Arrange the following surfaces in the increasing order of friction
 - a) Water b) sand c) air d) marble
12. Explain why it is easier to drag a mat on floor when no body is sitting on it but much more difficult to drag the same mat when a person is sitting on it.
13. When a pencil is released from a certain point on an inclined wooden board, it travels a distance of 35 cm on floor A before it comes to rest. When the same pencil is released from the same point it travels 20 cm on floor. which has greater friction?
14. What kind of friction is required to come to rest?

15. What are the factors affecting friction?
16. What is the cause of friction?
17. A car is moving towards north, what will be the direction of the friction?
18. What kind of friction comes to rest
 - a) When a block of wood kept on the table moves slowly
 - b) When a block of wood kept on table just tends to slip
 - c) When a block of wood kept on cylindrical iron rods moves?
19. Why does a matchstick light when we strike it on a rough surface?
20. What prevent you from slipping every time you take a step forward?
21. Explain why oil and grease is applied to those parts of machine which are in motion?
22. Three ways to increase friction

Give reason

1. Anita observed that porters place a roll of cloth on their heads
2. The handles of motorcycles are covered with towel materials or a rubber sheet with spikes. Why?
3. Why it is difficult to move a cycle with brakes on? Why are ball bearings used in a bicycle wheel?
4. Skiers do not sink in snow
5. What is the use of ball bearings in machines
6. Why do athlete apply a coarse substance to their hands?
- 7.

Friction is necessary for us

Friction is evil for us

8. Why are grooves provided in the sole of shoes?

9. Why are treads made in the surface of tyres?
10. The shape of the air craft is streamlined
11. Why do we sprinkle a small amount of talcum powder on a carom board?

Differences

1. Sliding and static friction

Fill up the blanks

1. Friction depends on the..... of the surface
2. is used to measure force acting on an object
3. Lubricants are used to The friction
4. Frictional force exerted by fluid is called.....