Understanding Friction

Physics · Answer Key · 23 Questions

1. What causes friction between two surfaces in contact?

A) The smoothness of the surfaces
B) The interlocking of tiny hills and valleys on the surfaces
C) The applied force
D) The weight of the object

2. Which of the following is an example of friction opposing motion?

A) A ball rolling on the ground and coming to rest
B) A car moving forward
C) A person pushing a wall
D) A magnet attracting a metal object

3. What is the opposing force that comes into play when an object tends to move but does not start moving?

A) Kinetic friction
B) Sliding friction
C) Static friction
D) Rolling friction

4. What is the maximum value of static friction called?

A) Kinetic friction
B) Limiting friction
C) Sliding friction
D) Rolling friction

5. When an object is actually moving over the surface of another object, what type of friction is acting?

A) Static friction
B) Limiting friction
C) Kinetic friction
D) Fluid friction

6. What are the two types of kinetic friction?

A) Static and limiting friction
B) Sliding friction and rolling friction
C) Fluid friction and air friction
D) Surface friction and internal friction

7. Which type of friction is generally less: sliding friction or rolling friction?

A) Sliding friction
B) Rolling friction
C) They are equal
D) It depends on the surface

8. What device is used to measure the force of friction?

A) Thermometer
B) Barometer
C) Spring balance
D) Magnifying glass

9. Which factor influences the force of friction?

A) The color of the surfaces
B) The temperature of the surfaces
C) The nature of the surfaces in contact
D) The time of day

10. How does the weight of an object affect friction on a horizontal surface?

A) More weight means less friction
B) More weight means more friction
C) Weight has no effect on friction
D) Weight only affects static friction

11. What is fluid friction?

A) Friction between solid surfaces
B) Friction exerted by liquids and gases on moving objects
C) Friction caused by air resistance
D) Friction experienced by a rolling object

12. Why are the bodies of fishes and birds streamlined?

A) To increase friction
B) To decrease friction with water or air
C) To make them float
D) To make them more visible

13. Which of the following is an advantage of friction?

A) It causes wear and tear
B) It leads to loss of energy
C) It helps us to walk
D) It generates heat

14. How can friction be increased?

A) By polishing the surfaces
B) By making the surfaces rough
C) By using lubricants
D) By using rollers

15. What is the purpose of making grooves in the tires of vehicles?

A) To decrease friction
B) To increase friction for better grip
C) To make the tires lighter
D) To reduce fuel consumption

16. What are lubricants?

A) Substances that increase friction
B) Substances that decrease friction
C) Substances that increase wear and tear
D) Substances that generate heat

17. Which of the following is a dry lubricant?

A) Grease
B) Oil
C) Talcum powder
D) Water

18. How do ball bearings reduce friction?

A) By increasing surface roughness
B) By converting sliding friction into rolling friction
C) By creating more interlocking
D) By applying a lubricant

19. Why is friction considered a 'necessary evil'?

A) Because it is always harmful
B) Because it is always beneficial
C) Because it has both useful and harmful effects
D) Because it cannot be controlled

20. What happens when a matchstick is struck against a rough surface?

A) It becomes smoother
B) The friction raises its temperature to ignite
C) It slides easily
D) It creates less heat

21. The interlocking of two surfaces opposes the:

A) Weight of the object
B) Applied force
C) Motion of one object over another
D) Surface area

22. Rough surfaces have _____ friction compared to smooth surfaces.

A) less
B) more
C) equal
D) no

23. When you stop pedaling a bicycle, it slows down due to:

A) Inertia
B) Gravity
C) Friction
D) Air resistance