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CLASS VIII FORCE AND FRICTION ASSIGNMENT

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1.Explain Why, it is easier to drag a mat on floor when nobody is sitting on it but much more difficult to drag the same mat when a person is sitting on it.

2 What are the factors affecting friction? Explain with examples.

3 What is the cause of friction? Explain with the help of labeled diagram.

4 Which type of surfaces produce {a} least friction, and {b} too much friction?

5 What is the direction of force of friction acting on a moving object?

6 A car is moving towards North. What will be the direction of force of friction acting on this car due to surface of road?

7 When a pencil cell 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 cell is released from the same point on the same inclined board, it travels a distance of 20 cm on floor B before coming to rest. Which floor, A or B, offers greater friction? Give reason for your answer.

8 What kind of friction comes into play:

(a) When a block of wood kept on table moves slowly?

(b) When a block of wood kept on table just tends to move (or slip)

(c) When a block of wood kept on cylindrical iron rods moves?

9 Out of sliding friction, static friction & rolling friction:

(a) Which one is the smallest? (b) Which one is the largest?

10 Explain why, sliding friction is less than static friction.

11 What is meant by ‘rolling friction’?

12 Why does a man slip when he steps on a banana peel thrown on the road?

13 Explain why:

(a) a pencil will write on paper but not on glass

(b) The handles of motor cycle are covered with a rubber sheet with spikes.(c) The

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soles of our shoes wear out gradually.

(d) Tyres of car wear out gradually.

14 Why does a matchstick light when we strike it on a rough surface?

15 Why do brake pads of bicycles have to be replaced quite often?

16 What prevents you from slipping every time you take a step forward?

17 What happens when you rub your hands vigorously for a few seconds? Why does this happen?

18 What enables us to fix a nail in a wall & knot to be tied?

19 How does bicycle stop when its brakes are applied? 20 What makes the steps of foot over-bridges at Railway stations to wear out slowly?

21 State two advantages & two disadvantages of friction.

22 Why do gymnasts apply a coarse substance to their hands?

23 Why do kabaddi players rub their hands with dry soil?

24 Why are grooves provided in the soles of shoes?

25 Why are treads made in the surface of tyres?

26 Explain why, oil or grease is applied to those parts of machine which are in motion.

27 Fill in the blanks:

(a) Sprinkling of powder on the carom board ……. Friction.

(b) Ball bearings reduce friction because they ……rather than slide.

28 Two men tried to push a heavy box & could succeed. Finally wheels were fitted to the box & now a single man could move it. Justify.

29 What is the special name of frictional force exerted by fluids (like air or water)?

30 What are the factors that affect the fluid friction?

31 What is the name of ‘special shape’ which is given to objects moving through fluids to reduce drag?

32 Why are cars, airplanes & rockets streamlined?