

**BalikaVidyapithLakhisarai(811311)**

**Class :- 4                      Subject - EVS**

**Based On NCERT**

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## **Friction**

### **USES OF FRICTION**

Friction is very useful to us. If there had been no friction, we would not be able to walk on the road. When we walk, friction develops between our feet and the ground as they touch each other. We then walk normally.

Let us learn more about the uses of friction in our daily life.

- Friction helps us to walk without slipping. It is very difficult to walk on slippery surfaces such as snow because the friction between our shoes or feet and these surfaces is very little. One may slip on a banana skin as friction between the banana skin and the ground becomes negligible.
- If an object starts moving, it will never stop if there is no friction.



Slipping on banana skin

Had there been no friction between the tyres of the automobiles and the road they could not be started or stopped or turned to change the direction of motion. You could not fix a nail on the wall or tie a knot without friction. Without friction, no building could be constructed.

- Cars and buses are able to move safely on the road because of friction between the treaded tyres and the surface of the road.



Treaded tyre of a bus



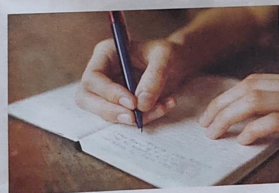
Brakes on a bicycle

- Brakes in cars or bicycles work because of friction. When brakes are applied, the shoes of the brakes rub against the wheels. The friction between them reduces the speed.

- Friction helps in lighting a matchstick by rubbing it against the matchbox.



Rubbing a matchstick



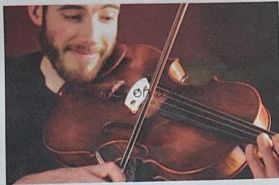
Writing with a pen

- You would not be able to write on paper without friction between the pencil or pen and paper. Your teacher cannot write on the blackboard without friction.

Friction between the soles of our shoes and the ground prevents us from slipping while walking.



Grooved soles of shoes



Strings on a violin produces sound due to friction

Friction produces sound, for example, friction between the violin string and its bow produces sound.

**1. Write two uses of friction.**

**Answer = 1. Friction helps in lighting a matchstick by rubbing it against the matchbox.**

**2. Friction produce sound, for example, friction between the violin string and its bow produces sound .**

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**Jyoti**