

THEME: MATTER AND ENERGY

TOPIC: SIMPLE MACHINES AND FRICTION

LESSON 1: Friction

What is friction?

- **Friction** is the force that opposes motion of bodies/objects in contact.
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Give any three factors that affect friction

- Nature of the surface/object
- Weight of an object
- Smoothness and roughness of an object

State any two properties of friction

- Friction produces heat
- Friction exist between surfaces/bodies in contact
- Friction increase on rough surfaces and reduce on smooth surfaces.
- The greater the load, the greater the friction force

Application/advantages of friction/ Friction as a useful force

- Friction helps in writing
- Friction helps in sharpening tools
- Friction helps in climbing trees
- Friction helps in lighting matches on a matchbox.
- Friction helps in erasing with rubbers/erasers.
- Friction helps in washing clothes
- Friction helps in chewing food.
- Friction helps in grinding/pounding
- Friction helps in braking/stopping cars.
- Friction helps in walking

Ways of increasing friction

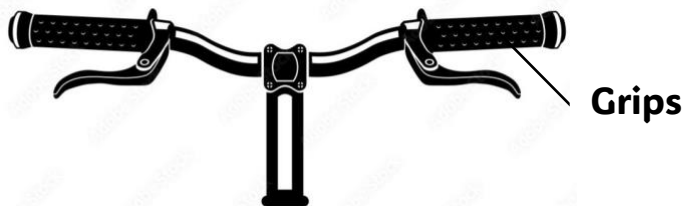
- Putting treads car tyres and shoe soles.



- Tarmacking roads
- Putting spikes on sports boots.



- Putting grips on handlebars and steering wheels.



- Making surfaces rough
- Putting small stones on roads.
- Putting murrum on roads.

Disadvantages of friction/ friction as a nuisance force

- Friction causes unnecessary heat
- Friction produces unnecessary noise
- Friction retards work/ Friction makes work hard
- Friction reduces efficiency of machines
- Friction causes wear and tear of objects.

