

# Friction

# Friction- The force that opposes motion

- Opposes means goes against.
- Units are measured in newtons

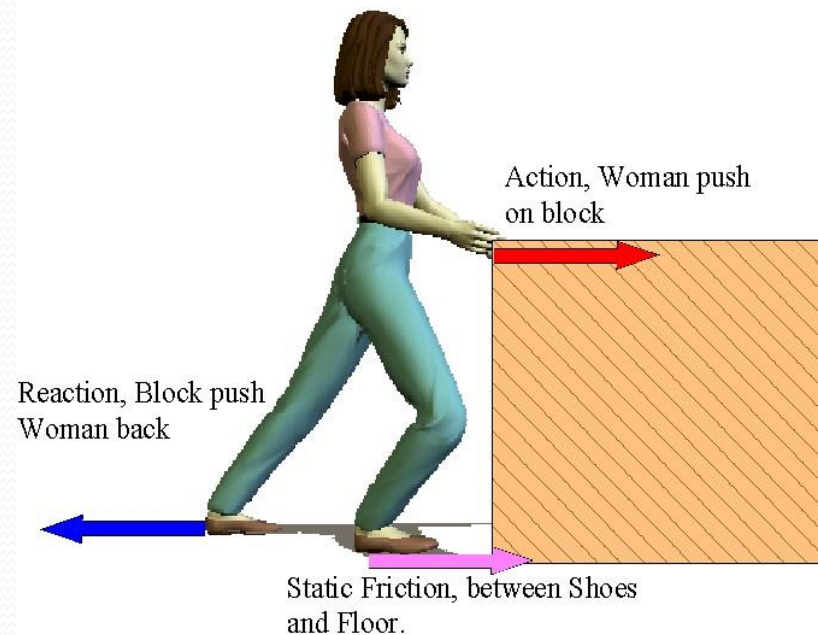
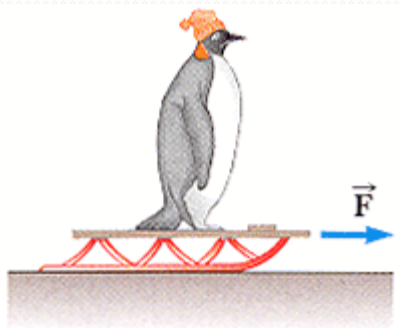


# 4 types of friction



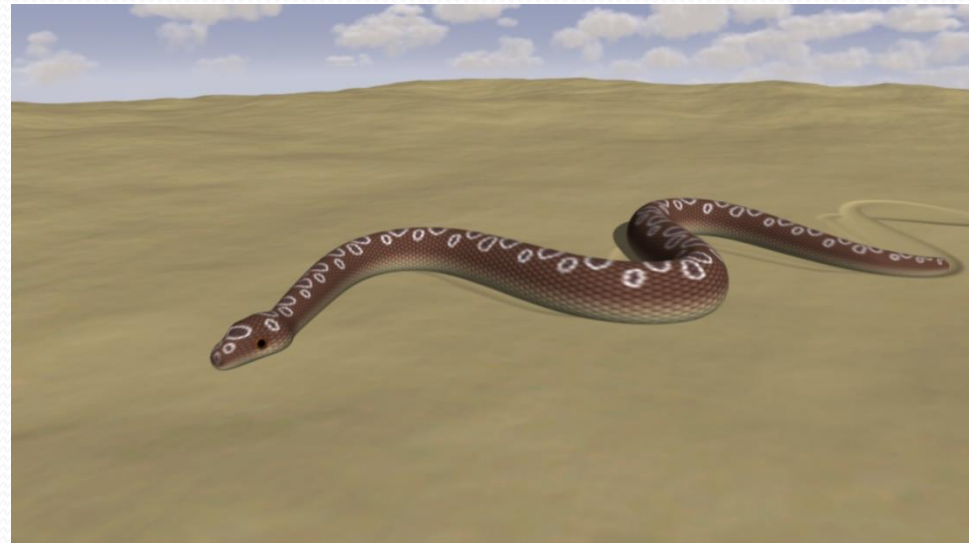
# 1. Static Friction

- Friction that keeps a non moving object in place.
- Always acts in the opposite direction to the force.



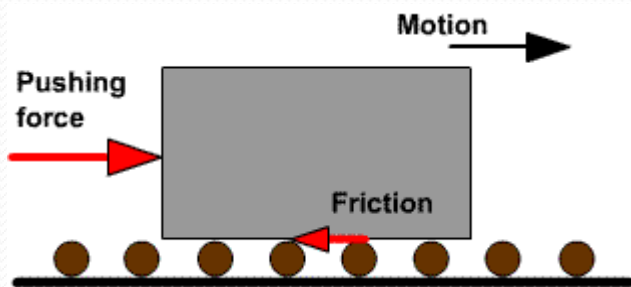
## 2. Sliding friction

- Force that acts on an object that is sliding across a surface.
- Sliding friction is always less than static friction therefore it is easier to keep an object moving than to start it moving



# 3. Rolling friction

- Force that acts on rolling objects.
- This is why we use ball bearings and wheels.
- This replaces sliding friction.





## 4. Fluid friction

- Force that acts against motion in a liquid or a gas.
- Faster the motion the greater the friction.



# Where does the energy go?

- Since energy can not be created or destroyed, the energy is transferred into heat.





# Factors that affect friction

- 1. Surface area



- 2. Surface texture



- 3. Lubricants, oil, and grease

