2.4 Frictional Force

Whenever an object is in motion along a surface, the surface exerts a force upon the object. This is called the **frictional force.**

- The Smoother a surface is, the Lesser the friction

Two main types of friction:

1) Static friction.
2) Kinetic friction. (Dynamic friction)

Static friction

This is the force that opposes the initiation of motion between two surfaces that are in Contact but none of the objects are in motion.
If you place a block on the table and try to push it very lightly, it will resist that motion because of the frictional force operating in the direction opposite the applied force of your Push
Static friction will increase until the applied force magnitude exceeds the maximum static frictional force and the object begins to accelerate

This frictional force is proportional to the normal force. The heavier the object, the greater the normal force and the greater the friction force This is because as the weight of the object increases, the harder the surface which it presses down will increase the number of contact points between the object and the Surface.

Kinetic Friction

Kinetic friction also known as dynamic friction refers to the force that opposes motion/movement of two surfaces that are in contact and sliding past each other. It comes into action when the object is in motion already

- It opposes the motion to slow or stop the motion of the object.

- The size of Kinetic friction depends on the material of the Surface in contact. Smoother surfaces resist Kinetic friction by a small amount while rough surfaces support Kinetic friction.

- The force of Kinetic friction is less than the force of static friction because it takes more! force to overcome static friction to initiate motion.
- Kinetic friction opposes the direction of motion.