*Friction: Static & Kinetic*

There are two types of friction:

A **static frictional** force exists when you start to move an object from rest. The static frictional force will grow to match the applied force exerted on the object. The static frictional force will grow up to a certain point, at which the applied force will overcome the frictional force, and the object will begin to move.

A **kinetic frictional** force exists when an object is already in motion. When a block is sliding across a surface, or skates are gliding across ice, kinetic friction exists.

Static friction is always a larger force than kinetic friction (between two materials). When static friction has been overcome, it is easier to keep an object moving, than it was to begin moving the object in the first place. The formula to calculate the force of friction is below:

*Ff*  *FN*

where: -**Ff** is the force of friction (in Newtons, N)

- ** is the coefficient of friction. This is unique for different combinations of surfaces. It needs to be referenced from a textbook or other source.

-**FN** is the normal force (in Newtons, N)

Unit analysis