

Force - push or pull

Newton - measurement of force

Net force - more than one force combined.

- same direction - added

- opposite direction -  
Subtracted!

balanced force - 

Unbalanced force - 

...

Friction - rubbing of two surfaces

Static friction - No Movement

Sliding friction - Sliding over surface

Rolling friction - rolling over surface

Fluid friction - moving through fluid  
(includes air!)

**Gravity** - force that pulls things together

**Mass** - amount of matter in an object

**Weight** - the amount that mass is accelerated due to gravity

**air resistance** fluid friction of objects falling through air

**terminal velocity** the force of air resistance = the weight of object

# 1st Law of motion:

- resting stays resting
  - moving stays moving
- } inertia

↑ mass → ↑ inertia

2nd Law:  $F = MA$

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3rd Law

$$F \rightarrow = \leftarrow F$$

$$MV_b = MV_a$$

Momentum  
 $MV \rightarrow \frac{kg \cdot m}{s}$

b = before  
 a = after

# Conservation of Momentum

