

Variable: **Force (F)** S.I. Unit: **Newtons N (kg m/s<sup>2</sup>)**

Vector? **Yes**

What does **Force** mean?

A **Force** is a push or a pull. The force stops when the push or pull stops. Forces don't linger.

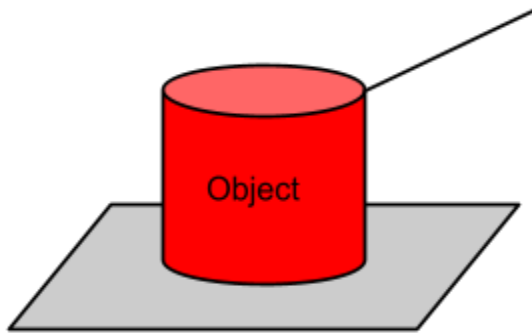
There are many different types of **forces** we will deal with like:

*Force of gravity, Normal force, Spring force, Tension, Kinetic and Static friction, etc.*

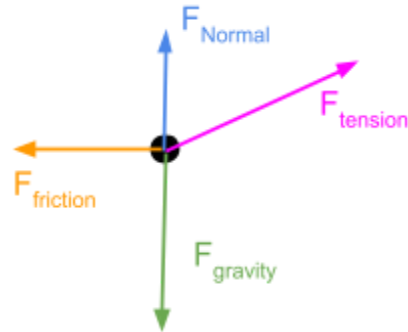
The **net force** is the vector total of all the forces acting on an object (using vector addition)

**F** = there will be many different formulas for many different types of forces

Forces are represented with a **Free Body Diagram**



Focus only ON the **object** in question



Treat the **object** as a single dot, and draw and label ALL forces acting ON the **object**

Forces must be drawn from the center of the dot and emanate outwards from the dot

Are there any conditions that must be met in order for those formulas to be true?

There will be. See individual concept fact sheets for particular forces.

Describe scenarios where a **Force** would be,

Positive (+)	<b>x component</b> is + if the force points right <b>y component</b> is + if the force points up
Negative (-)	<b>x component</b> is - if the force points left <b>y component</b> is - if the force points down
Zero (0)	If the force is zero (zero push or pull on an object)

