2/26/16 Acceleration

Velocity = Changing Displacement over some Period of Time.

$v = \frac{d}{t}$ How fast is My Displacement Changing?

ACCELERATION: How Quickly is My Velocity Changing?

1) SPEEDING UP (a, v Are in The Same Direction)

2) SLOWING DOWN (a, v Are In Opposite Directions)

3) CHANGING DIRECTIONS (a is Perpendicular To v)

$$\text{Acceleration} = \frac{\text{Change in Velocity}}{\text{Amount of Time}}$$

Final Velocity

$$a = \frac{v - v_0}{t}$$

v_0 — Initial Velocity

- Things That Accelerate Quickly Aren't Necessarily Moving Fast.
- Things That Accelerate Slowly Aren't Necessarily Moving Slowly.

IF YOU KNOW TABLE FOR ACCELERATION

IF YOU KNOW ... (STEP 1)	AND YOU NEED... (STEP 2)	USE THIS EQUATION:	UNITS
v, v_0, t	a	$a = \frac{(v - v_0)}{t}$	$\frac{\frac{m}{s}}{s}$ OR $\frac{m}{s^2}$ + DIRECTION
a, v_0, t	v	$v = v_0 + (a \cdot t)$	m/s + DIRECTION
a, v, t	v_0	$v_0 = v - (a \cdot t)$	m/s + DIRECTION
a, v_0, v	t	$t = \frac{(v - v_0)}{a}$	SEC No DIRECTION