Forces Notes from 1-5-16 and 1-6-16

Force

A force is a push or a pull half of an interaction

Examples
- pulling a door
- pushing a door/kicking
- shopping cart
- pushing pencil
- throwing
- gravity
- air resistance/friction
- nucleus
- tension

Supporting force: \( F_N \)

Drawing Forces

Force Vectors = Force arrows = arrows that represent forces

- The direction of the arrow is the direction of the force
- The length of the arrow is the magnitude (size) of the force

Always draw the force vector from the center of the object
Normal Force is larger than the force of gravity because it causes the ball to bounce up.

Frictionless Elevator

- Forces
  - Gravity - \( F_g \)
  - Tension - \( F_T \)
  - Air Pressure - \( P_{air} \)
  - Rail Holding Up - \( F_{holding} \)
  - Friction

Free body diagram - a diagram of the forces acting on an object.