

November 22, 2013

Newton's 2nd Law of Motion

- Recall Newton's 1st Law: Objects move in straight lines or not at all because of Inertia.
- Kick a ball and ask what is happening?
 - It is neither at rest
 - Or moving in a straight line
- Why?
- What are Forces?
 - www.physicsclassroom.com
 - Write the definition found there
 - Forces are pushes or pulls upon an object resulting from the objects interaction with another object.
 - There are two types of forces:
 - Contact forces
 - Field forces (Action at a distance)

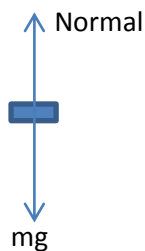
- Different types of Forces

- Weight:

- This is the force that is a result of Gravity. Sometimes it is called a gravitational force. This force changes based upon where you are.
 - $W=mg$ What are the units?--Newtons
 - One possible question is “Just how much do you weigh?”
 - Do some examples
 - Draw force diagrams
 - Weight always acts straight down.

- Normal Force.

- What happens to you when you are sitting in your desk?
 - Draw a force diagram.



- Why is it called the Normal Force?

- Friction

- Friction Forces ALWAYS oppose motion

- Tension

- Tensions are caused by pulling on an object. Typically with a rope, string, cable, etc.

- Lift
 - Lift occurs when moving through a fluid.
 - Just what is a Fluid?
 - Anything that flows
 - Water
 - Air
 - Liquids
- Thrust
 - Anything that pushes an object
 - Motors, engines, etc.
- To help us in understanding forces, we always draw pictures and label the forces that are acting on the object. These pictures are called **Force Diagrams**.

Assignment: Force Diagram Worksheet