**Newton’s First Law of Motion (Free –Body Diagrams)**

**Using the link on Google classroom read the section on Graphs of Motion and fill in the blanks on the following worksheet.**

<http://physics.info/newton-first/>

1. What is a Free Body Diagram? Who uses these diagrams?
2. Newton's first law of motion (also known as the law of inertia) states that…



1. In general, inertia is resistance to change.  
   In mechanics, inertia is resistance to change in velocity (resistance to acceleration)
2. In general, a force is an interaction that causes a change.  
   In mechanics, a force is an interaction that causes a change in velocity (an interaction that causes acceleration)
3. Draw a free body diagram for the following.

A book lying on a level table. A wrecking ball hanging vertically from a cable.

A helicopter hovering in place. A child pushing a wagon on level ground.