Force Notes

- Isaac Newton was a scientist who studied the motion of objects
    - He was the first one to describe how forces affect objects
    - Discovered the 3 Laws of Motion
- A **force** is a push or a pull
    - You exert a force anytime you push or pull anything
- Force is a vector quantity, so the direction of the force is important
    - We can use vector arrows to show the forces acting on an object
- Forces are measured using the unit **Newton (N)**
- When more than 1 force acts on an object they are either **balanced** or **unbalanced**
    - **Balanced forces**-equal forces in opposite directions
        - Do not cause the object to move

    - **Unbalanced forces-**one force is larger than the other
        - Cause an object to move in the direction of the larger force

- **Newton's First Law**-also called the Law of Inertia
    - Objects at rest tend to stay at rest
    - Objects in motion tend to stay in motion
    - Unless acted upon by an unbalanced force
    - **Inertia** is the tendency of an object to resist changes in its motion
        - Amount of Inertia depends on **mass**
            - Larger mass, larger inertia
            - Smaller mass, smaller inertia
        - To move an object, you have to exert a force that is larger than the inertia