UNIT IV Objectives

What you should know when all is said and done

By the time you finish all labs, worksheets and related activities, you should be able to:

1. Describe and give examples of Newton's 1st Law.
   Newton's 1st Law: An object at rest or moving at constant velocity continues its current motion unless acted upon by an outside agent (force).

2. Given a diagram or a written description of the forces acting on an object.:
   a. draw a force diagram for the object
   b. resolve the forces into **x** and **y** components, then find the vector sum of the forces.
   c. state whether the velocity of the object is constant or changing.

3. Given a diagram or description of an object in equilibrium, including the forces acting on the object, determine the magnitude and direction of the "missing" force required to keep the object from accelerating.

4. State Newton's 3rd Law; apply it in situations in which you are trying to determine all the forces acting on an object.
   All forces come in pairs; paired forces are equal in magnitude, opposite in direction and act on separate bodies. $F_{AB} = -F_{BA}$