**Combining Forces Notes**

**What is a Force?**

A force is a or a .

Like and acceleration, a force is described by its

 and by the in which it acts.

What was the name we gave these arrows?

The of a force is measured in the SI unit called the

 .

Named after Sir Isaac Newton. You exert about one newton of force when you lift a small lemon.

**Combining Forces**

Often, more than a single acts on an object at one time.

The combination of all forces acting on an object is called the . The determines whether an object and also in which it moves.

When forces act in the , the net force can be found by the strengths of the individual forces.

When forces act in , they also combine to produce a . This time the combine by

 .

Adding a force in one direction to a force in the direction is the same as

The net force always acts in the direction of the

If the opposing forces are of strength, there is net force.

There is in the object’s motion.

**Balanced and Unbalanced Forces**

Whenever there is a net force acting on an object, the forces are

 .

Unbalanced forces can cause an object to , , or .

Unbalanced forces acting on an object result in a and cause a change in the object’s .

 forces acting on one object in directions are called .

Balanced forces acting on an object change the object’s motion.