Name Period Date

**Newton’s 1st Law Notes**

**The Law of Inertia**

**Overview**

How and why objects move as they do has fascinated scientists for thousands of years.

In the early , the Italian astronomer suggested that, once and object is in , no force is needed to keep it .

 is needed only to the motion of an object.

Galileo’s ideas paved the way for . Newton proposed the three basic laws of motion in the late 1600s.

**1st Law of Motion**

Newton’s first law of motion states that an will remain , and an object will continue moving at a , unless it is acted upon by an force.

If an object is , it will not move unless a acts on it.

Examples:

If an object is , it will continue to move at a until a force acts to change either its or .

Examples:

On Earth, and are forces that often change an object’s motion so it is difficult to observe an object continuing to move at a .

**Inertia**

Whether an object is moving or not, it any change to its motion.

This resistance to a change in motion is called .

 is the tendency of any object to resist a change in motion.

Newton’s 1st Law is also called the .

Inertia explains many common events, such as why you move forward in your seat when a car stops suddenly.

When the car stops, keeps you moving forward.

A , such as the pull of a seat belt, is required to your motion.

**Inertia Depends on Mass**

Some objects have inertia than others.

The greater the of an object, the greater its , and the greater the required to change its motion.