



**E-Labs Newton's First Law
Post E-lab Lesson Plan (45-50 minutes)**

I. Introduction

The material contained within this lesson plan is meant to be used as a final assessment of knowledge gained during the pre-lab and e-lab on Newton's First Law.

II. Objective:

Students will use their new knowledge of Newton's First Law to design an experiment proving the existence of inertia.

III. Key Vocabulary:

- Air Resistance- the upward force of air exerted on a falling object.
- Balanced- forces that are equal in size but opposite in direction; these forces result in no change in motion.
- Force- a push or pull exerted on an object; they can be balanced or unbalanced.
- Friction- a force between two surfaces that opposes motion; it depends on the type of surfaces and force between two surfaces.
- Gravity – an attraction force between all masses proportional to the mass of the objects and the distance between them.
- Inertia- the tendency of an object to resist a change in motion; it is directly proportional to the object's mass.
- Mass- the measure of the amount of matter in an object; the more mass an object has, the more inertia it has.
- Unbalanced- forces that are not equal in size and/or direction; these forces result in a change in motion.

IV. Materials:

- "Newton's First Law of Inertia...Prove it!" Worksheet

V. Lesson Sequence:

1. Review with students the information learned in the e-lab. Have students refer to their lab journals, and ask them to discuss what new knowledge they gained over the course of the pre-lab and e-lab lessons.
2. Give each student a "Newton's First Law of Inertia...Prove it!" worksheet and read over the directions with them. Partner students up and allow them to work together to design an experiment that would demonstrate the concept of inertia. It does not have to be an experiment that they actually have the materials for because they will not be conducting the demonstration.
3. Have students share their inertia experiments with the rest of the class, and discuss how it demonstrates Newton's First Law.