

Newton's First Law Lab

(... or is it the second law ... or a combination of both?)

~Academic Physics~

The objective of this lab activity is to study the relationship between mass, inertia and force.

Problem: How does inertia affect the force required to move an object?

Research: Define the terms and laws that apply to this lab.

Hypothesis: _____

Experiment:

Note: I identify the independent variable and the dependent variable.

Materials per group: cup index card four nickels

Procedures:

1. Place the index card over the cup and place one nickel on the index card.
2. Flick the index card out from under the nickel in a manor that the nickel falls into the cup.
3. Repeat step two except add 2 coins, 3 coins, then 4 coins.
4. Record a qualitative statement about your observations in the data chart.

Observations:

No. of coins	Qualitative statement

Analysis and Conclusions – answer neatly with complete sentences:

1. What are the independent variable and dependent variables?
2. At what stage of this experiment does Newton's first law apply?
3. At what point do you observe Newton's third Law?
4. Back to the Newton's second law, when does this occur?
5. How does a change in inertia affect Newton's second Law?