Name_____
Period 1 2 3 4 5 6 7

Newton's 1st Law of Motion

Question #1: If you were to slide a nickel and a dime at a quarter, what would happen to the quarter?
Hypothesis #1: _____
_____

Question #2: If you switched it around and slid a quarter at a nickel, what would happen to the nickel?
Hypothesis #2: _____
_____

Purpose: To demonstrate that objects resist a change in motion (inertia) and how the mass of an object affects the movement.

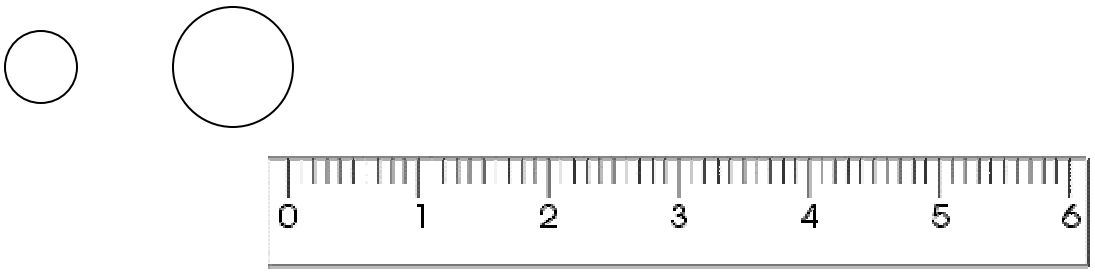
Mass: dime = nickel = quarter =

Newton's 1st Law = A body will remain at rest or in constant motion unless acted upon by some outside force.

Procedure: You will be testing the affects of different coins with different masses on inertia. Set up the ruler and coins using the diagram below.

1. Try colliding a slow moving nickel with a stationary quarter and record the distance that the quarter moves.
2. Now try colliding a medium moving nickel with a stationary quarter and record the distance the quarter moves.
3. Finally collide a fast moving nickel with a stationary quarter and record.
4. Repeat steps 1-3, using a dime as the moving coin and a quarter as the stationary coin. Be sure to record all data.
5. Repeat steps 1-3 using a quarter as the moving coin and a nickel as the stationary coin. Be sure to record all data.

Diagram:



Data:

Shooter coin	Speed (slow, medium, fast)	Target coin	Distance (cm)

Conclusion Questions:

1. Which shooter coin requires the most force to make it move fast? Why?

_____
_____
_____

2. What happened to the distances traveled by the quarter when you used a dime instead of a nickel for the shooter coin? Why?

_____
_____
_____

3. What happened to the distance traveled by the target coin when you changed the target coin from a quarter to a nickel? Why?

_____
_____
_____

4. Predict what you think will happen if you were to use a quarter as the shooter coin and the dime as the target coin? Explain.

_____
_____
_____

5. Describe what would happen if you used a dime as the shooter coin and a silver dollar (mass = 26.7g) as the target coin? Why?

_____
_____
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