

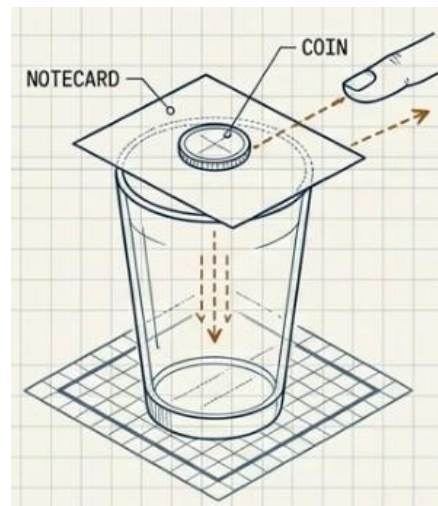
The Inertia Experiment Lab Guide

Objective

Explore the concept of inertia and understand Newton's 3 Laws of Motion through a simple hands-on experiment using a coin, a cup, and a notecard.

Materials

- 1 Coin
- 1 Clear Plastic or Paper Cup
- 1 Notecard (index card)
- Flat surface (table or desk)



Setup Instructions

1. Place the cup upside down on the flat surface.
2. Put the coin on top of the upside-down cup.
3. Lay the notecard flat on top of the coin, covering it completely.

Procedure

1. Hold the notecard firmly with one hand.
2. Quickly flick the notecard horizontally with your finger so that it slides out from under the coin.
3. Observe what happens to the coin and the cup.
4. Repeat the flick a few times to confirm your observations.

Observation Prompts

- What happens to the coin when you flick the notecard?
- Does the coin move with the notecard or stay in place?
- What happens to the cup after the notecard is flicked?

- Did the coin fall straight down or move sideways?
 - How do the forces act on the coin, cup, and notecard during the flick?
 - Can you identify any examples of inertia, acceleration, balanced forces, or unbalanced forces?
 - What action and reaction forces do you observe?
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Science Writing Task: CER (Claim, Evidence, Reasoning)

Write a paragraph using the CER format to explain your observations and connect them to Newton's 3 Laws of Motion.

- **Claim:** State what you observed about the coin, cup, and notecard during the experiment.
- **Evidence:** Describe specific details from your observations that support your claim (e.g., the coin stayed in place while the notecard moved).
- **Reasoning:** Explain how your evidence relates to Newton's 3 Laws of Motion. Include ideas about inertia (1st Law), force and acceleration (2nd Law), and action-reaction pairs (3rd Law).