



Curiosity Guide #309

Inertia

Accompanies Curious Crew, Season 3, Episode 9 (#309)

Spinning Eggs

Investigation #2

Description

Don't get dizzy when you try this egggy experiment!

Materials

- 1 hard-boiled egg
- 1 raw egg
- Permanent marker
- Table

Procedure

- 1) Label the hard-boiled egg with an "O," and the raw egg with an "X."
- 2) Lay the 2 eggs on their sides on the table.
- 3) Spin the egg marked with the "O" on the table.
- 4) Place a finger on the spinning egg.
- 5) Describe what happens.
- 6) Spin the egg marked with an "X."
- 7) Stop the spinning egg with your finger.
- 8) Describe what happens.
- 9) Did the egg keep moving? Why?

My Results

Explanation

The hard-boiled egg will stop moving when touched because the cooked egg and shell are both solid and act as one object. When the egg and shell come to rest, they will stay that way. In the case of the raw egg, the yoke and liquid egg white are spinning inside the solid shell that is spinning, too. When the shell is stopped, the inner yoke and egg white keep swirling. The motion inside the shell causes the shell to continue to spin, too. These are good examples of Newton's First Law of Motion, the Law of Inertia. This law says that an object that is still or at rest will stay at rest, while an object in motion will keep moving unless another force acts on it.

Explore further: Way back in England, in 1687, there lived a man named Sir Isaac Newton. Sir Isaac Newton published a book called *The Mathematical Principles of Natural Philosophy*. Newton described several laws or rules about motion. The first rule describes the law of inertia. Inertia means that an object sitting still will stay that way. An object that is moving will keep moving unless another force acts on it. If you are sitting perfectly still, watching this program right now, gravity is pulling you down. Your normal force is pushing up, and you'll stay sitting still. That is, until another force gets you moving!

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