SCIENCE, TECHNOLOGY, ENGINEERING & MATH



FORCE: Gravity and Motion (6-8)

KEY CONCEPTS:

Sir Isaac Newton's Three Laws of Motion are:

- ➢ Inertia → every object at rest will remain at rest unless an outside force acts upon it.
- For a constant mass \rightarrow FORCE = Mass x Acceleration
- Every force (action) has an equal and opposite reaction.



LITERACY CONNECTION:

National Aeronautics and Space Administration (NASA) has an extensive selection of <u>activities</u> and <u>passages</u> on Newton and his laws.

<u>What are Newton's Laws of Motion?</u> by Denyse O'Leary brings Newton's concepts into relatable scenarios to help youth better understand the world of physics.

ACTIVITY: EGG DROP

Materials: 1 egg, water, 1 empty toilet paper tube, 1 pie tin, 1 large drinking glass

- 1. Fill the glass ¾ with water
- 2. Place a pie tin right side up on top of the glass
- 3. Balance a toilet paper tube up in the middle of the pan
- 4. Place the egg on top of the tube on its side

5. "Karate chop" the pie tin away and watch the egg fall into the glass of water!

NOTE – make room for the tin to fly away safely. Sometimes the egg might break. Maybe use a plastic egg or ping pong ball instead.

What is happening? According to Newton's First Law of Motion, the egg is not moving and it won't move without an outside force (a push or pull) making it move. When you knock the pie tin away, the egg stays in the air until gravity pulls it down into the water.

EXPLORE: Try using an empty paper towel tube instead. Does it still work? Why or why not? Grab a partner and try dropping two eggs into glasses at the same time!

For step-by-step instructions, watch the video at: Egg Drop STEM

This at-home educational activity is from the Literacy Coalition of Palm Beach County's literacy-based Stories & STEM program. Stories & STEM is made possible with support from Prime Time Palm Beach County, Inc., which receives significant funding from the Children's Services Council of Palm Beach County, Inc.

Having fun? Send pictures or video links of you and your Stores & STEM projects to csharkey@literacypbc.org

