



## Challenger's Morning Science Segment:

August 8, 2016

**Topic:** Inertia

**Build:** Coin loop drop

### Credit:

<http://www.scientificamerican.com/article/gravity-bring-science-home/>

### Materials Needed:

Coffee mug / stiff paper / scissors / tape / coin

**How to do the coin loop drop:** First cut a strip  $\frac{1}{2}$ -1 inch wide and over 10 inches long of stiff paper. Tape the ends together to make a loop. Place the loop vertically on the opening of the coffee mug. Next place a coin at the top of the loop directly over the opening of the coffee mug. Now it's time for the physics trick! Place your finger into the center of the loop and very quickly pull the loop to the side. The coin will fall directly into the mug!

**The science [credit: <http://www.scientificamerican.com/article/gravity-bring-science-home/>]:**

This trick isn't a trick at all! It is a demonstration of Sir Isaac Newton's First Law of Motion. The swift motion of the loop overcomes the resistance of friction between the paper and the coin. The coin then demonstrates inertia. Gravity overpowers friction and the coin falls directly down into the cup. The coin stays at rest until acted on by another force---GRAVITY!!!

**This activity ties into the Challenger Learning Center of Maine:** Challenger holds August Single Day STEM camps to finish off summer with days filled with physics, math, engineering and LEGOS! Limited space remains, use the website to register. FMI- [www.astronaut.org](http://www.astronaut.org)