THE LINCOLN HIGH DIVE!

YOU WILL NEED:

- A Lincoln penny (or other small coin)
- A film canister, baby food jar, or other similar size container with an mouth slightly larger than a penny
- A piece of card stock or stiff paper
- Pencil or pen
- Scissors

WHAT TO DO

THE SETUP:

1. Cut the cardstock paper into a long strip about .75 inches (2 cm) wide and form it into a hoop as shown. The paper should be stiff enough to hold the hoop shape on its own and the hoop works best when it is between 3-4 inches (8-10 cm) across.

2. For dramatic effect, fill the film canister with water and place on a level surface.

3. Place the hoop on the film canister as shown and balance the penny on the top of the hoop.

THE DIVE:

Time for Lincoln's big moment! Place a pencil through the center of the hoop and in one swift motion fling the hoop off to the side as pictured. If you do this correctly, the hoop will fly out of the way, and the penny will fall straight down into the canister with a splash. 10 points for Lincoln!

HOW DOES IT WORK?

This is science? You betcha. Part of Newton's first laws says, in general, that an object at rest will remain at rest unless acted upon by an outside force. The energy of your movement with the pencil was passed on to the hoop, making it fly out of the way quickly, but the hoop moved too fast, and there was not enough friction to affect the penny (at rest) on top of the hoop. The penny ended up above the film canister with nothing to hold it up. It was about then that gravity took over, and pulled the coin straight down into the waiting water. Yep, Issac Newton and Abraham Lincoln, together in the name of science…sort of.

MAKE IT AN EXPERIMENT:

The project above is a DEMONSTRATION. To make it a true experiment, you can try to answer these questions:

1. Does the size of the hoop affect the accuracy of the falling coin?

2. Does the shape of the object on the hoop affect the accuracy of the drop?

3. Is the coin affected by how fast you fling the hoop out of the way.