



Author:

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(2018). Rockridge
Press, CA

Adapted from:
pages 142-143



Gravity Drop

Level of Difficulty: EASY

From Beginning to End: 30 minutes+

Content: Math, Engineering & Science

Q: Can you make a drop course that will keep a coin, a ping pong ball, a small pom-pom, or something else rolling for 10 seconds or more?

Topics: Learn about **gravity**, experiment with different **angles**, and get a hands-on lesson in **friction** and **momentum** while building a fun tube slide on the wall.

The Steps:

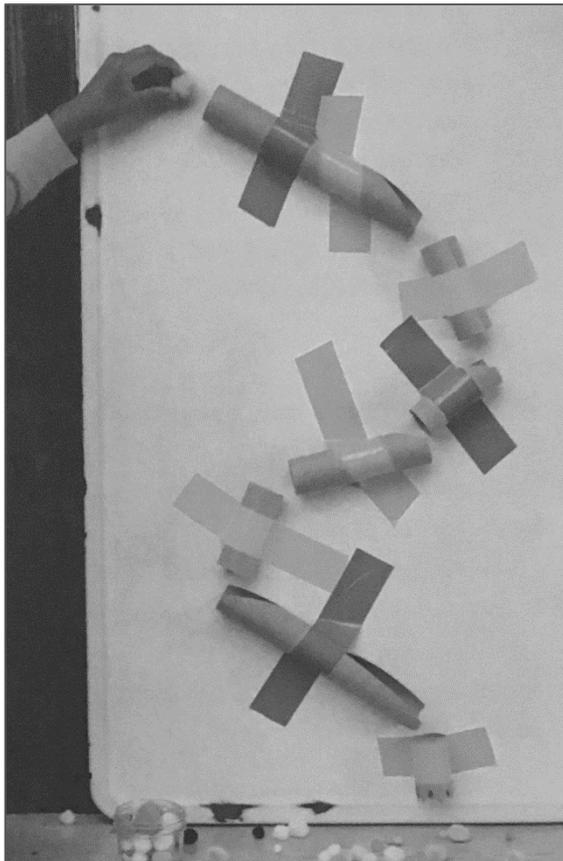
1. Use a pencil & paper to sketch out your design for an amazing gravity drop course.
2. Tape the cardboard tube & recycling items to the wall using the scissor to trim and cut the tubes as necessary.
3. Drop your item through the course and time it with a stopwatch to see how long it takes to get from the top to the bottom. 😊

Materials:

- pencil & paper
- several cardboard tube from paper towels, toilet paper, or wrapping paper
- other recycled items
- wall-safe tape (like masking or blue painter's tape)
- scissors
- timer/stopwatch
- an item, or several, to drop!



Other items you might use: ping pong balls, cut up cereal boxes, construction paper, or other recyclables!



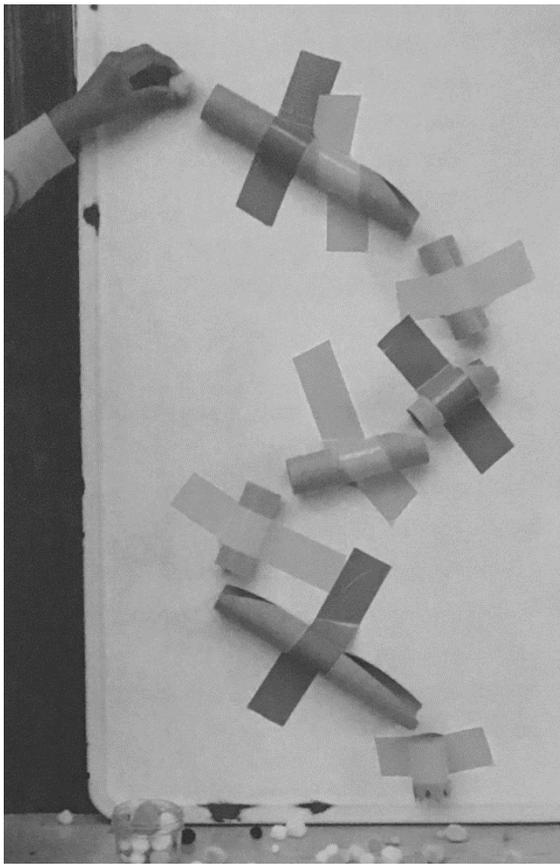
Observations: How long did the item take to get through the course? What can you do to make it go faster? To make it go slower?

Now Try This! Drop heavier or lighter items, like marbles or bouncy balls, through the gravity drop course and compare the results. Are they different? Why?

The Hows and Whys

Gravity is a force that pulls objects on the Earth. Even though gravity constantly pulls the items down, it will travel faster or slower depending on the angles of the cardboard tube. A steeper angle will allow the item to go faster and gain momentum as it rolls through the course.

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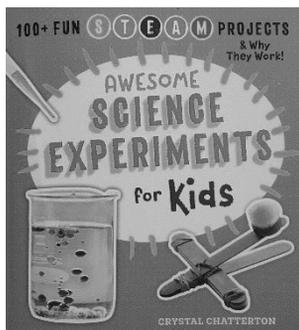


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