



Project Exploration creates transformative learning opportunities for youth underrepresented in the sciences --particularly students of color and girls -- by equipping them with the skills, practices, and mindset needed for a lifelong pursuit of learning. STEM@Home makes activities around science, technology, engineering, and math accessible and fun to do at home. This STEMbook activity, resources, and more are available at www.projectexploration.org/stemathome.

In this activity, you will:

Can you make a pom-pom drop course that will keep the pom-pom rolling for 10 seconds or more? 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.



Supplies Required:

- Pencil and paper
- Several cardboard tubes from paper towels, toilet paper, or wrapping paper
- Wall-safe tape, like masking tape or painter's tape
- Scissors
- Pom-poms
- Stopwatch

Video

What is Gravity? <https://youtu.be/suQDwZcnJdg>

Overview

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



Instructions

1. Use a pencil and paper to sketch out your design for a pom-pom drop course.
2. Tape the cardboard tubes to the wall, using the scissors to trim and cut the tubes as necessary.
3. Drop a pom-pom through the course and time it with a stopwatch to see how long it takes to get from the top to the bottom.
4. Observations How long did the pom-pom take to get through the course? What can you do to make it go faster? To make it go slower?
5. Now Try This! Drop heavier balls, like marbles or bouncy balls, through the pom-pom drop course. Time how long they each take to get through the course and compare the results. Are they different? Why?

Additional Resources

1. Learn more about forces!: <https://youtu.be/rnIHxAYwCbg>
2. Defining Gravity: <https://youtu.be/ljRIB6TuMOU>

Share It Out

Share on social media: Record a video or take a picture of your activity and post the results online using the hashtags:

#PomPomDrop
#ProjectExploration
#StemAtHome

Tag a friend and challenge them to do it, too!

For more activities like this one, go to www.projectexploration.org/stemhome. If you're interested in learning more about Project Exploration and our free events, programs, and activities, please find us on social media and be sure to follow!



Call or text us for help: 312-772-6634



www.projectexploration.org