



▶ [Link to Video](#)

DIY ACTIVITY

MAKE YOUR OWN PAINT PENDULUM GRADES 3-5

OBJECTIVES

- Build a pendulum and record its swinging motion using paint.

PROCEDURE



WATCH THE GENERATION GENIUS PATTERNS OF MOTION AND FRICTION VIDEO AS A GROUP.

1. This is a messy project—please make sure you have an adult's permission before you start. Wear old clothes that can get paint on them to complete this project.
2. Start by covering the table and floor near where you will be working with a drop cloth or old newspaper.
3. Make sure the squeeze bottles you will be using are empty and clean. Cut the base of the bottle off using scissors.
4. Use the hole punch to make two holes near the bottom of the bottle (just above where you removed the base). The holes should be on either side of the bottle.
5. Place the paper you will be painting on a flat surface (table or floor). Place the base of tripod or easel on top of it.
6. Cut a length of yarn 2.5 feet long and feed it through the two holes in the sides of the bottle. Now tie the yarn so that when hung from the center of the tripod or easel, it will hang upside down with its tip just above the paper.
7. Pour paint into the upside down squeeze bottle. If the paint is thick, you may need to mix it with a little water to make it pour easily and flow smoothly out of the small tip of the squeeze bottle.
8. Hang the paint-filled bottle back under the tripod or easel. Carefully open the tip. Gently pull back on and release the bottle. It should swing freely and paint should flow from the bottle to create patterns on the paper as the bottle moves.
9. You can make additional bottles with different colors to add different patterns.
10. Carefully lift the tripod and slide the paper to the side if you need a clean sheet. Allow the paint to dry thoroughly before you pick up the paper.

MATERIALS NEEDED

- Drop cloths and/or old newspaper
- Old clothes
- A few empty bottles with closeable fine tips (like old glue bottles or squeeze bottles)
- Hole puncher
- Yarn
- Scissors
- Tempera or acrylic paint (more than one color)
- Large sheets of paper
- Tripod or easel
- Paper towels or wet wipes

WHAT IS GOING ON HERE?

When the bottle is pulled back and released, it swings. The paint in the bottle flows out continuously leaving a record of its path. By observing the pattern made by the paint, you can see how the swinging pendulum changed direction and magnitude of its motion over time.

FURTHER EXPLORATION

Can you accurately predict the motion of the pendulum? Using a pencil draw the path you predict the pendulum will take on the paper. Pull the pendulum back and see whether the pattern made by the paint matches your prediction. You could also try shortening the yarn suspending the pendulum to see what happens to the pattern. Plan ahead for this to get messy! Can you come up with a way to use multiple pendulums to create multiple patterns at the same time?

 Make sure students are far enough back so paint doesn't get on their faces, resulting in contact with their mouth, eyes, or ears.

