



PROJECT DESCRIPTION

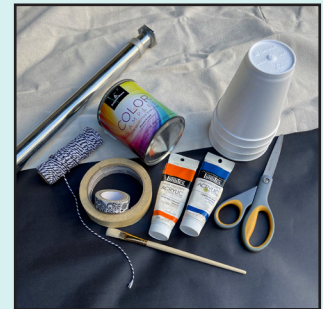
A pendulum is a simple machine that can actually be used to measure time—and at the same *time*, it can also be used to make art! This project uses a simple set up and basic materials to create a striking visualization of a relationship between gravity and time.

RECOMMENDED AGE/SKILL LEVEL

Recommended for ages 6 and up with adult supervision.

MATERIALS

- Acrylic or enamel paint
- Disposable cup(s)
- Scissors
- Ruler
- Tape
- Mixing implement (ie: paint brush)
- String/yarn/twine, etc.
- 2 chairs
- Broom, mop, or pole
- Paper, canvas, or other type of surface
- Drop cloth/newspaper/ plastic
- Disposable gloves



INSTRUCTIONS

- Build a simple pendulum structure:
 - Lay a drop cloth in a nice open space where your work will not be disturbed.
 - Place your chosen paper or material in the center of the dropcloth. We are using a 3'x2' piece of black butcher paper.
 - Place 2 chairs across from each other at either end of the paper.
 - Lay a pole across the chairs wherever it is most stable, making sure it is positioned down the center of the paper.

DESIGN BY PENDULUM TIME

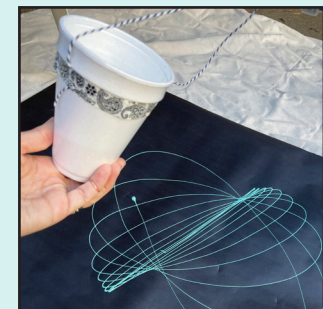
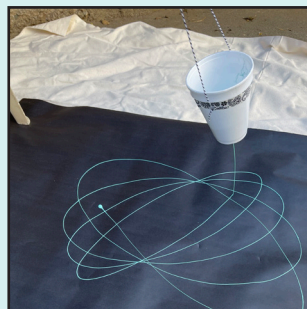
TIP: We used 4 brick fragments to make sure our pole did not shift.

- Puncture a hole through the bottom of a disposable cup.
 - The opening should be approx. 1/4" in diameter.
- Cut a piece of string that is approx. double the distance from the pole to the paper.
- At the center of the pole, wrap the string once, with equal lengths of string now hanging on either side.
- Place a piece of tape over the string on the pole, to keep it from slipping.
- With the empty cup, test the distance between the paper and the bottom of the cup, as well as noting how far different lengths will swing towards the edge of the page.
 - We suggest allowing about 3 - 6" between the cup bottom and paper, at the lowest point.
- Use tape to securely adhere the string ends directly across from each other on either side of the cup.
 - Make sure the cup sits evenly and that there is plenty of tape to hold the cup with the weight of the paint.
- Prepare your paint:

TIP: The viscosity of house paint is ideal for this project. If using tempera or acrylic, use water or an extender to get as close to the desired viscosity as possible.

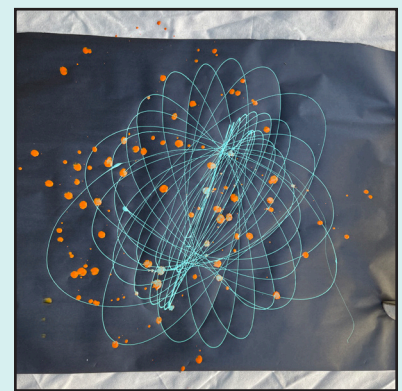
- Place your finger on the hole at the bottom of the cup and begin pouring in paint.

TIP: We suggest wearing gloves to avoid getting paint on your hands. It will definitely get a little messy!



DESIGN BY PENDULUM TIME

- When pouring, hold the cup steady and fill the container with about a cup of paint.
- Hold the cup at an angle and push in an outward circular motion while simultaneously removing your finger from the hole.
- Allow the container to revolve freely—uninterrupted.
- As the swinging slows and paint overwhelmingly begins to fall onto the same parts of your surface, stop the cup by grabbing it and covering the bottom hole.
- If you wish to continue the painting, repeat the process by swinging the cup in a different direction.
 - *OPTIONAL:* Play with trying different colors, mixing different viscosities, and altering the placement of the cup.
- When you are satisfied with the image, remove the cup from the stand and allow the painting to dry.



ADDITIONAL RESOURCES

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