

STEAM Pendulum Painting

Objective: To understand Isaac Newton's 1st Law of Motion, while visually seeing the effect of gravity on a moving object. Create a pattern using a spherical pendulum and predict how variables will change the look of the painting.

Materials:

- Paper
- Place to hang a pendulum
- String
- Metal washer
- One large paperclip
- Paint (mixed with equal parts water)
- Small waxed paper cups
- One sharp pencil
- Newspaper for catching messes
- Sharpie markers
- Watercolor paint



Open the Conversation:

Start by discussing Newton's 1st Law of Motion. Assemble the pendulum and ask students to predict what pattern it will make and what variables could affect it.

Step One:

Find a place to hang your pendulum string so that it is just above a flat surface with a string between 8 and 12 inches long.

Step Two:

Tie washer to your string.

Step Three:

Bend paperclip into a "W" shape and slip it onto the washer.

Finished Project!

National Standards for Visual Arts (2015 Standards):

Anchor Standard #1. Generate and conceptualize artistic ideas and work.

Anchor Standard #2. Organize and develop artistic ideas and work.

Anchor Standard #3. Refine and complete artistic work.

Anchor Standard #10. Synthesize and relate knowledge and personal experiences to make art.

See more at:

<http://www.nationalartsstandards.org/content/national-core-arts-standards-anchor-standards#creating>

Step Four:

Poke a little hole in the bottom of a paper cup with a pencil.

Step Five:

Poke a hole on each side of the top of the cup and slip the paper clip through the holes to make a bucket on your pendulum.

Step Six:

Holding a finger over the hole on the bottom of the cup, grasp the cup and pour a bit of paint in the cup – it should be the consistency of ink.

Step Seven:

When releasing your cup, aim it at a slight curve so that it will travel in a circular direction.

Step Eight:

Once finished, keep the painting flat while drying.

Step Nine:

Plan out a picture to integrate with your spiral background using a cut-out of a drawing or a stencil to trace onto your paper in pencil. Trace with Sharpie for a bold outline.

Step Ten:

Paint in shapes and parts of the background to complete a colorful, complete work of art.

Note: If you have painted with acrylic-based paints, using water color over the paint will not disturb your spirals. If you have used tempera or other non-permanent paint, take care to go around the lines so they do not blur.

