

Rotation Spiral Drawings

Thank you for downloading the science and mathematics activity packet! Below you will find a list of contents with a brief description of each of the items. This activity packet contains all the information (including any handouts) you will need to run this activity in your own classroom or at a science festival.

Please note: some activities might require the need for a facilitator to be present to oversee the activity. Activities that require a facilitator will be clearly noted.

-Community Resources for Science



Rotation Spiral Drawings

ACTIVITY PACKET CONTENTS

1. Organizer Instructions for the person running the activity
 - Print suggestion: 1 for the facilitator
 - Includes information for setup prior to the event (e.g., materials prep)
2. Participant Instructions (tabletop sign/printout)
 - Print suggestion: 1-2 to put in a plastic sign holder



Rotation Spiral Drawings

ORGANIZER INSTRUCTIONS

Grade(s): K-2

Standard connections:

- **CCSS.Math.Practice.MP5** Use appropriate tools strategically
- **CCSS.Math.Practice.MP2** Reason abstractly and quantitatively
- **CCSS.Math.Content.1.G.A.** Reason with shapes and their attributes

Next Generation Science Standards:

- Crosscutting Concepts
 - **Patterns** Patterns in the natural world can be observed, used to describe phenomena, and used as evidence

Objective: Recognize shape attributes and patterns by tracing a two-dimensional shape

Activity overview and background: Student-directed activity that can be completed independently. An adult can read the directions aloud, if needed, and model how to trace and rotate shapes.

A facilitator should monitor the students using push-pins during the activity

Materials:

- 1 sheet of drawing paper
- 1 two-dimensional paper shape
- 1 piece of heavy cardboard
- 1 push-pin
- Pencil or other writing utensil
- Crayons or markers

Setup:

1. Give each student one piece of cardboard, a sheet of paper, and a paper shape
2. Have the student place the shape in the middle of the paper and then pin the paper and shape to the cardboard in the middle of the shape
3. Once students understand instructions, they can start to trace their shapes using pencils



Instructions

1. Place a sheet of drawing paper on heavy cardboard, and then place a geometric shape on the paper
 - Push a push-pin through the center of the shape to hold it in place
2. Trace around the outside of the shape with a pencil
3. Rotate the pinned shape a portion of a turn, and trace again
4. Repeat step 3, rotating shape and tracing as many times as you want!
5. Remove the shape and examine your design. You may want to color it at home

Things to think about:

- *Is there an easy way to find the center of the shapes?*
- *What happens if you put the pin someplace other than the center?*
- *What patterns do you see in your design?*

