

Poking Fun at Science: The Art of Pinholes

Bring art into a colorful mixture with science

Recommended Grade Level: 3rd -12th grades

NGSS Science & Engineering Practices:

- Asking questions and defining problems
- Planning and carrying out investigations
- Designing solutions

Time: 5 minutes prep, 30 minutes activity

Materials and Assembly:

- Please refer to the activity **Poking Fun at Science: The Basic Set-Up** for materials, assembly and basic operation of your device.



Background Information:

Did you do the following activities?

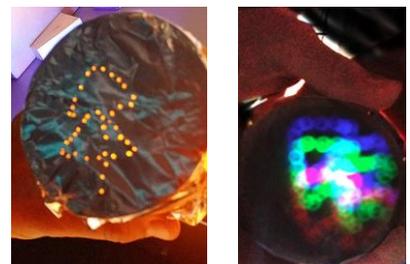
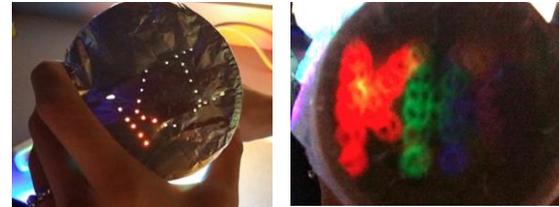
1. **Poking fun at Science: Light Rays and Pinholes**
2. **Poking fun at Science: Math with Pinholes**
3. **Poking fun at Science: Color Mixing**

If you did, you know that pinholes and colored lights are an amazing combination! Images are invert and reversed! Images can be multiplied! Colors can be mixed together! Now, use all you've learned to make some cool art!



To Do and Notice:

1. Make some art!
2. Put a fresh sheet of foil on your viewer.
3. Using your pushpin, poke multiple holes in your foil. Poke out a cool pattern, shape or picture into the foil: maybe try a star, square, circles, letters, a face...etc.
4. Turn on 1, 2 or 3 colored bulbs.
5. What do you see?
6. Walk around the light source, rotate your viewer...etc.
7. Pass your viewing device around and look at what others have created.
8. Go for it! Make some art! Try various techniques and be creative!
 - a. Poke small holes or large holes.
 - b. Poke a single hole or multiple holes.
 - c. Make a pattern or something abstract.
 - d. Try various combinations of lights.
 - e. Use other kinds of materials
 - i. Try other size tubes.
 - ii. Will something other than foil work?



- iii. How about something other than wax paper?
- iv. How about other brands, styles or technologies of light bulbs?
- f. Experiment!

What's Going On?

Art is cool! Using art in science activities helps to promote creativity and student engagement. Making art can lead to experimentation, investigation, discovery, a deeper understanding of science concepts and a sense of ownership.

