

# Monet Kaleidoscope



Lesson adapted from  
Art Makes U Smart

## Grade Level

First/Fourth Grade

## Key Vocabulary

- Impressionism
- Reflection
- Light

## Materials

- Ticonderoga® Yellow #2 Pencil, X13882
- UCreate® Watercolor Paper, P4925
- UCreate® Mixed Media Paper, P4841
- Pacon® Premium Tagboard, P101160
- UCreate® Poster board, P5460-7
- Prang® Markers, X80128
- Lyra® Aquacolor, L5611120
- Creativity Street® Watercolor Brushes, PAC5136
- Prang® Watercolors, 00800
- Art Straws®, PAC9017
- Creativity Street® Rhinestones, PAC3572
- Creativity Street® Plastic Mosaic Shapes, PAC3588
- Creativity Street® Metallic Pony Beads, PAC3549
- Mirror board cut to 1.5" x 4"
- Six pieces of 4" x 4" plastic wrap
- Toilet paper tube
- Scissors
- Tape

## Objective

Students will learn about mirrors and how kaleidoscopes work, and observe different types of reflections based on different input. Students will also learn about Claude Monet's Water Lilies and Impressionism.

## Standards

### NGSS: 1-PS4-3

Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.

### NGSS: 4-PS4-2

Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

## Engagement

1. Share examples of Claude Monet's artwork. A great website featuring Monet's work is: [claudemonet.com/paintings.jsp](http://claudemonet.com/paintings.jsp) Have students make observations about his style. Share that at his home in France, Monet had a garden filled with trees, flowers, and a pond with waterlilies that he loved to paint.



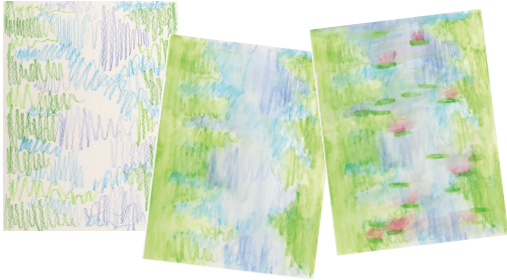
Claude Monet, via Wiki Commons  
[https://upload.wikimedia.org/wikipedia/commons/a/ac/Waterlilies\\_by\\_Claude\\_Monet\\_c\\_1914\\_-\\_Portland\\_Art\\_Museum.JPG](https://upload.wikimedia.org/wikipedia/commons/a/ac/Waterlilies_by_Claude_Monet_c_1914_-_Portland_Art_Museum.JPG)

2. Explain to students they will be creating a kaleidoscope inspired by the Impressionist look of Monet's paintings. Ask student's if they've looked through a kaleidoscope, and ask them to explain how they think it works. If possible, show an example of a kaleidoscope.
3. Ask students to explain how placing different materials in the path of a beam of light can affect how we see the light. For older students, ask students to describe light reflects from objects, and how that dictates how we see things. For example, we see a blue shirt because light is hitting the shirt and reflecting wavelengths to our eyes that indicate a blue color. Explain to students they will be creating kaleidoscope models to help them describe this concept.

## Step 1



## Step 2



## Step 3



## Step 4



## Step 5



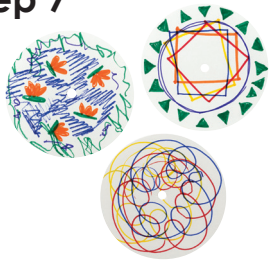
## Step 6



## Activity

1. Give student's three pieces of mirror board (cut down to 1½ inch x 4 inch), and ask them to describe the direction of a beam of light that would hit the mirror. Then, using three pieces of mirror board taped together to form a triangular prism, have students describe the path a beam of light might follow if directed toward one of the mirrors inside the prism. Students should be able to recognize the light will continuously reflect off of the three sides of the triangular prism. Help students understand this is how kaleidoscopes have a continuous reflection of images. Set the triangular prism aside for now.
2. Next, students will create a Monet-inspired kaleidoscope covering using a 6½ inch x 5 inch piece of watercolor paper, Aquacolors, and watercolors. First, using the Aquacolors, have students draw "Impressionistic" wavy lines with blues, greens and purples to create the reflection of trees, plants, and sky in a pond. Have students consider placement of certain colors, such as green at the edges of their paper, indicating the edges of the pond, the blues more toward the center, etc. Use watercolor to apply a blue-green wash over the entire paper, blending the Aquacolors a bit more. Add lily pads and lilies to the painting, and go over it with another light watercolor wash. Set aside to dry.
3. Roll a 6 inch x 2 inch piece of poster board into a toilet paper roll tube. Then, carefully pull out the poster board (keeping the shape of the toilet paper roll) and tape it to stay that size. Repeat this twice more to make three tubes to hold kaleidoscope objects.
4. Wrap one end of the poster board tubes with plastic wrap, and tuck the corners inside the other end of the tubes. Tape the plastic wrap in place.
5. Next, students should fill the three poster board tubes with materials of their choice (rhinestones, plastic mosaic pieces, metallic pony beads, etc). Discuss with students how the properties of the materials may affect the colors and patterns their kaleidoscope creates. For example, opaque items, such as the pony beads, do not allow light to pass through but reflect light, while items such as the mosaic pieces do allow light to pass.
6. Once the tube is filled at least half-way with materials, wrap the open end with more plastic wrap and tape in place. Use translucent tape to cover one end of the tube. This will make one end translucent.

### Step 7



### Step 8



### Step 9



### Step 10



### Step 11

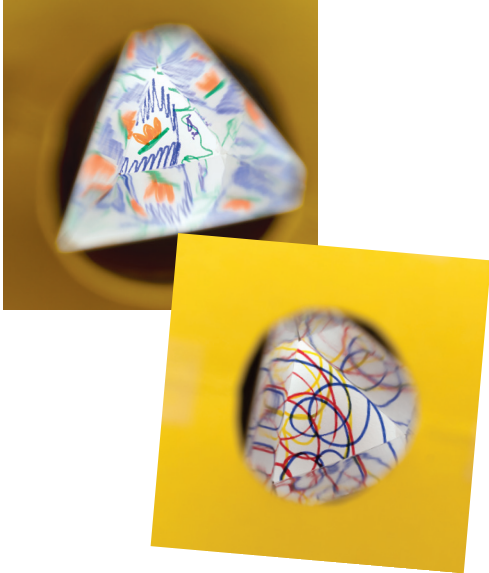


7. Using the heavyweight mixed media paper, each student should cut out three 3 inch circles and use a pencil to poke a hole in the center of each one. The hole should be large enough to fit the Artstraw® through the paper circles. On these circles, students should draw designs to see through their kaleidoscopes. Each circle should look different. For example, one can be an Impressionistic style (like Monet's), one can use geometric shapes, and another could feature swirling lines. Encourage students to get creative and use multiple colors!
8. Next, roll the Monet-inspired watercolor painting (from step two) around the toilet paper tube. Leave about ½ inch of the tube uncovered at the top. Tape the entire seam of the watercolor tube. The watercolor tube should extend about 1 ½ inches beyond the toilet paper tube.
9. Next, each student should cut out a 1 7⁄8 inch circle of colored tag board. Fold this circle in half and cut out a half circle on the folded edge. This is the hole students will be looking through to see into their kaleidoscope, so ensure it is large enough to see through comfortably. Tape the circle to the end of the watercolor paper tube.
10. Tape a 7 inch Artstraw® onto the watercolor tube, covering the seam of the paper. The Artstraw® should overhang the exposed toilet paper tube end.
11. Carefully insert the mirror prism from step one into the tube. If it does not stay in place, add a couple pieces of tape to the top of the mirror prism to hold it in place inside the tube.

## Step 12



## Step 13



## Step 14



12. Place one of the circles that was decorated in step seven on the end of the Artstraw® using the hole that was punched through the center of the circle.
13. Have students look through their kaleidoscope and turn the paper circle while they look. Switch out decorated circles and observe the differences in the reflections.
14. Remove the decorated circles and observe reflections using the small poster board tubes filled with materials. Insert one of the poster board tubes from step six partially into the end of the kaleidoscope. Have students look through the kaleidoscope while turning the poster board tube. As students switch out their poster board tubes filled with different materials they can observe differences in shapes and patterns created, and compare how much light is being let in, or passes through objects inside the tube. Encourage students to switch tubes with classmates to see how different materials create different reflections, patterns and color combinations.

## Assessment

Students observe how different materials produce different reflections. Students should be able to explain the role of the mirror prism in creating the reflective patterns in the kaleidoscope, and track the light beam that travels from outside the kaleidoscope to their eye. Students also should be able to identify Impressionist artwork like Claude Monet's.