MAKE SURE TO BRING A PRISM

https://buggyandbuddy.com/science-for-kids-how-to-make-a-kaleidoscope/
https://www.youtube.com/watch?v=-yrZpTHBEss

Supplies List:

- Straws
- Paper
- Markers
- Stickers
- Pencils
- Cut-up strips of mirror sheets
- Cut paper rolls

Explanation of Colors

1. Ask (while holding an object of one color): What color is this object?
    a. Keep taking answers to the question. Obviously, the first student will probably say the "correct" answer (e.g. the blue paper is blue), but keep asking for more opinions.
    b. Ask the kids if they have any ideas why we see it as blue
2. Explain that we see color because of light
    a. This makes sense, right? When you're in a really dark room, you aren't seeing a whole lot of colors
        i. We can only see color when we have light
3. Explain that the colors we see are from the light bouncing off the object and into our eyes.
    a. Light is made up of a lot of different colors! (here, do the light and crystal demonstration)
    b. Hold up something blue (blue sheet of paper/pencil)
        i. When we hold up this blue object to the light, we can all see that it's blue. What's actually happening is that when the light hits it, it absorbs every single color that we saw earlier with our prism, except for blue, which bounces off and hits our eyes!

Activity:

These instructions are hard to understand through words, look at the link at the top of the page to see it with images.

1. Pass out three pre-cut strips mirror strips and a tape dispenser to each table
    a. The kids are going to lay the strips side by side, and place a piece of tape vertically along both seams to connect them
    b. Then, they're going to fold them into a triangular prism, and place the last piece of tape to connect it

2. Pass out the circles of paper with the holes in the middle, for the straw, along with the markers/stickers, and tell the kids to decorate from the outside of the circle to the hole where the straw goes with fun shapes and colors (show example)
3. Pass out the straws and cardboard tubing
    a. Have the kids tape the straw to the tube so that it extends past the end
    b. Have them stick their straw through the colored piece of paper while making sure that they have enough room to be able to spin the paper around the straw
4. Have the kids stick their rectangular prism into the cardboard tube (it shouldn't need tape or anything to stay in)

Reflection Explanation

1. **Ask** the kids what happened, what they saw in their kaleidoscope
2. **Ask** the kids to recap what we learned about color before the activity (points to cover: we see color because of light, light is made of rays, and when we see a color, it's because it absorbed all colors except the one we see.
    a. Use the colors that they used on their papers
        i. "If you guys made a blue drawing on your paper, when you looked through the kaleidoscope, you saw blue, but only because the ink on the paper absorbed all colors except blue
    b. But, we saw multiple reflections of our designs! **Ask** if the kids knew what in our kaleidoscopes caused this (the mirrors)
3. **Ask:** So, if we think objects are certain colors because they're absorbing all of the *other* colors, then what color is a mirror?
    a. That's a trick question! It doesn't look like mirrors have a color, because they don't absorb any colors
        i. Because the surface of a mirror is so reflective and flat, all waves of light that hits it bounce off! That's what causes reflections