



Color Changing Slime

Material:

- ¼ White Glue
- 1 Tablespoon Of Water
- 3 Teaspoons ThermoChromic Pigment
- ¼ Cup Of Liquid Starch
- Food Coloring

Objective: Explorers will learn the dynamics behind thermoChromic pigment by creating color changing slime

Lesson:

The Visible Light Spectrum

The visible light spectrum is when light is seen as a different color due to the wavelength and frequency it is at.

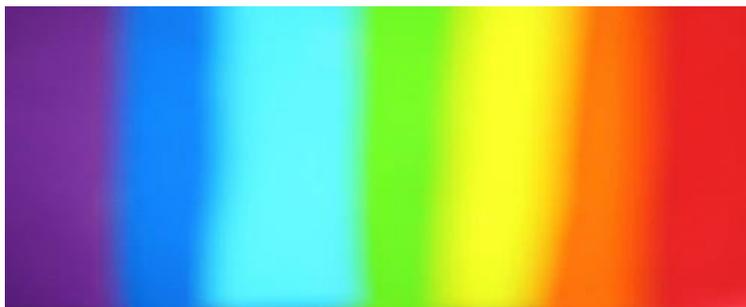
Ex: You are more likely to see the color red at a long wavelength with a high frequency then purple, which can be seen at a short wavelength and light frequency.



Thermochromic Pigment

After explaining what the visible light spectrum is to kids, talk to them about thermochromic pigments. Write it on the board and then break it apart (from the Greek words *thermos* = heat, *chroma* = color). Explain that elements like this are the secret ingredient to things like mood rings that change color!

There are special temperature-sensitive dyes (or inks) called leucodyes, which start off as one color and change to a different color as the temperature rises or falls. After the ink absorbs (or takes in) heat, the molecular structure emits (or puts out) light at a different wavelength- making it look different!





Procedure:

- Decide on your color scheme for the slime. The color of thermochromic pigment will be the color of the slime when it is cold. Then pick an alternating color of food coloring for the hot color. Think color wheel neighbors to make the transition smooth. I used:
 - Blue pigment with yellow food coloring (Slime is teal and turns yellow when hot)
 - Red pigment with yellow food coloring (Slime is orangey red and turns yellow when hot)
 - Blue pigment with red food coloring (slime is purple and turns pink when hot)
- Pour 1/4 cup glue into a large bowl.
- Add 1 tablespoon water and stir until combined.
- Add 5 drop of food coloring and mix well.
- Then add 3 teaspoons of thermochromic pigment and mix until uniformly distributed.
- Add 1/8 cup liquid starch and mix until thick and slimy.
- Then knead the slime with your hands and return to the starch mixture for another mixing.



- This step is important because it makes sure there's no unmixed glue hiding in the center of your slime ball.
- If slime is still sticky, add additional starch, a little bit at a time, and knead until it's not sticky anymore.
- *Most batches will use almost all the starch.*