Objective

By the end of this lesson, Robin will explore the effects of food coloring on water, learn about color combinations, and discover how different temperatures of water affect freezing time. Robin will also have fun experimenting with colors and observing changes in the water as it freezes!

Materials and Prep

- Food coloring (various colors)
- Big trays (or shallow containers) for the water
- Hot water (from the tap, with adult supervision)
- Cold water (from the tap)
- Clear water (just plain tap water)
- Colored water (water mixed with food coloring)
- Freezer (for freezing the water)

Before the lesson, make sure to have enough space in the freezer for the trays. Also, prepare the area with towels in case of spills!

Activities

- **Color Mixing Fun:**

  Start by adding different food coloring to separate trays of water. Ask Robin to mix colors and see what new colors are created. For example, mix red and blue to see if it makes purple!

- **Temperature Experiment:**

  Fill one tray with hot water, another with cold water, and one with colored water. Discuss with Robin which one they think will freeze the fastest and why. Then place them in the freezer!

- **Observation Time:**

  After a few hours, check on the trays and see which one froze first. Discuss the results and what Robin observed about the colors and ice. Was it surprising?

Talking Points

- "What happens when we mix red and blue? Let's find out!"
- "Do you think hot water or cold water will freeze faster? Why do you think that?"
- "Look at how the colors change when we mix them! What color do you like the best?"
- "Let's check our trays! Which one do you think has ice in it? Can you see the colors?"
- "Why do you think some ice is clear and some is colored? Isn’t that cool?"