STEMulates
Project-Based Challenge

Challenge: Tornado in a Bottle (K-3)	
Learning Outcome: We are going to create a tornado in a bottle using water instead of wind	
Explanation (What is Happening) A tornado is a spinning wind. This is a mini version made with spinning water. The water spins because we move it in a circle (swirl it). **Question for Student** "What happens when you spin it fast? What if you don't spin it?" ***Procedure*** **1. Prepare the Bottles:** ● Fill one of the bottles about 3/4 full with water ● Add a few drops of food coloring and/or glitter or small beads to make the tornado more visible (optional). **2. Attach the Bottles:** ● If using a tornado tube connector: ● Screw one bottle onto the bottom of the connector and the other onto the top, creating a tight seal. **3. Create the Tornado:** ● Turn the bottles upside down so the bottle with water is on top. ● Hold the bottles by the neck (or connector) and swirl them in a circular motion. ● A vortex (tornado) will form as the water spirals into the bottom bottle.	**Materials:** ● **Two plastic bottles (1-liter or 2-liter, empty and clean)** ● **Water** ● **Glitter or small beads (optional, for visual effect)** ● **Food coloring (optional)** ● **Tornado tube connector**