



Potions Lab with Colorful Chemical Reactions

STEAM Train Experiment Instructions

PREPARE

Location: Room E133

Materials:

- Large rectangular glass Pyrex baking dish
- 1 mason jar
- Vinegar
- Food coloring
- Dish soap
- Baking soda
- Spoons

1. Ensure that the mason jar and Pyrex are clean.
2. Set all materials on the top shelf of the cart before pushing the cart to the classroom.

Location: Classroom

1. Position the cart in front of the kids so that they all have a view of the top shelf.

PRESENT THE EXPERIMENT

1. Point to each item and identify what it is. Say: "This is vinegar. These little bottles are food coloring. This is dish soap. This is baking soda. This is a clear mason jar."
2. Place the mason jar in the middle of the Pyrex baking dish, and fill it halfway with vinegar. Add some food coloring. Stir with a spoon.
3. Add in a generous squeeze of dish soap.
4. Use a new spoon to add in a large spoonful of baking soda and stir well. The potion will bubble and foam over the top of the jar and spill onto the Pyrex. This part is very exciting for kids!
5. Each time the reaction slows down, add more vinegar, food coloring, dish soap, and baking soda. Use different colors each time, so they can see how colors combine to form new colors.
6. Say: "When you mix vinegar and baking soda, they release carbon dioxide or what you see as bubbles. This is called a chemical reaction. The reaction slows, and the mixture becomes bigger and foamier when you add soap."

EXTENSION QUESTIONS

1. What happens when you leave out the dish soap?
 - The chemical reaction is not as foamy.
2. Why is the reaction foamier with dish soap?
 - The carbon dioxide blows bubbles in the dish soap and causes more foam.
3. What colors did you see mixed and what new colors did they create?
 - Examples: yellow + red = orange; yellow + blue = green; blue + red = purple; etc...