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Lava Lamp Science Experiment

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Lava Lamp Science Experiment

Experiment Summary

Students will make a lava lamp that they can take home with them. They will also be able to learn steps of a scientific methods and the science of lava in a non-intimidating way. Science can be intimidating to many students due to the use of unknown items used in the experiments. So this experiment will be using familiar household items. This activity will allow students to engage science in a fun and engaging way. This experiment can be used to engage students from 1st-4th grade (6-10 years old) all the way to 5th-6th grade (10-12 years old). The learning objective for the 1st-4th graders will be to learn what and how to make an observation. The objectives for the 5th-6th graders will be to get familiar with the scientific methods.

Time Needed: 30-45 minutes

Age Group: 1st-4th graders: Ages 6-10

Preparation: 5 minutes

Theme: Scientific Method

Overview

1st-4th graders:

Whole Class Introduce Lava Experiment & scientific method or observation (10-15min)

Individual Making of the Lava Lamp & Observations (1st-4th grade)

5th-6th graders:

Individual Making of the Lava Lamp & Scientific Methods (5th-6thgrade) (20-25min)

Whole Class Class discussion of the whole experiment (5-10 min)

Materials

- Vegetable Oil → $\frac{3}{4}$ of the bottle filled with oil
- Water → $\frac{1}{4}$ cup of the bottle filled with water

- Food Colors → 1 oz. per 10 students
- Plastic Water Bottles or Glass bottles → One per student
- Fizzing Tablets (ex. Alka Seltzer) → One tablet per student

Preparation

Purchasing all the materials needed.

Also an open space for students to preform the science experiment. The space should be mess friendly and have a hard surface for students to fill out their worksheets.

Objectives

No prior knowledge is needed for this experiment.

Science Concepts (1st-4th grade):

- Scientific Observation: A way for scientists to gather information. Observations are made by using senses, (smell, sight, touch, hearing, and taste).
 - 1st drawing- Bottle with just the water
 - 2nd drawing- Both water and oil
 - 3rd drawing- Both water, oil, Alka-Seltzer tablet

Science Concepts (5th-6th grade):

- Scientific Method : A way for scientists to study and learn things. It doesn't matter what the scientists is trying to learn, using the scientific method can help them come up with the answer.
 - Ask a Question- **Will the vegetable oil and water mix?**
 - Construct Hypothesis- I predict that the vegetable oil and water (will or will not) mix.
 - Test with an Experiment- Lava Lamp Experiment.
 - Make observations
 - Conclusion- I saw that the vegetable oil and water did not mix.

- Is the hypothesis true or false- The hypothesis was (true or false).

Procedure

Scientific Method: Hypothesis or Observation Drawing (5 mins)

- 1st-4th grade: Students will be introduced to what an observation is. Students will draw their first observation.
- 5th-6th grade: Students will be introduced to the scientific method. Students will then write down their hypothesis of whether or not the oil and water will mix.

Making of Lava Lamp (20-25 min)

- Younger students may need instructors to help pour the water and liquid into the water bottles.
1. $\frac{1}{4}$ of the bottle should be filled with water.
 2. Using a funnel fill the rest of the bottle with vegetable oil.
 3. Add two or three drops of food coloring.
 4. Add broken tablet into the bottle and observe.
 5. Either discuss the Scientific Methods and whether students hypothesis was true or false.

Or

Discuss the observations that the students made in their drawings.