

Lesson Plan – Lava Lamp

We need to collect data to measure how effective our lesson is. Here is one way:

1. Distribute the **Knowledge Test** to all participants and emphasize to please not guess at the answers. Emphasize it's OK to mark "I Don't Know" since we are all here to learn more about this topic
2. Gather the completed tests and mark them all with a "1" to indicate they are the first set of tests
3. Go over the **Fun Facts** (see page 2) prior to the video. Mention these **Fun Facts** will also be in the video
4. Play the video and pause on the **Fun Facts** if you want to (repetition is the key to learning!)
5. Distribute the **Knowledge Test** and mark them all with a "2" to indicate they are the second set of tests

Guide to doing the experiment:

1. Place 2 Tablespoons of Baking Soda in a tall glass
2. Pour 2-cups of Vegetable Oil into the glass, covering the Baking Soda
3. Measure out 1/4 cup of vinegar into a separate small cup
4. Add 5 to 10 drops of Food Coloring to the vinegar
5. Pour the vinegar/food coloring into the tall glass and enjoy the show!

Supplies/Tools Needed:

- Tall Glass or Jar
- Measuring Cup
- Measuring Spoons

Materials Needed:

- Vinegar
- Vegetable Oil
- Baking Soda
- Food Coloring

Fun Facts about Lava Lamps

- Our experiment is a chemical lava lamp, it does not generate light like an electrical lava lamp does
- The chemical reaction between baking soda and vinegar generates carbon dioxide gas
- Oil and Vinegar do not mix (due to polarity)
- An electrical lava lamp takes 45-60 minutes to warm up, ours is faster

Knowledge Test: Lava Lamp

1. An electrical Lava Lamp generates light.
 - a. True
 - b. False
 - c. I don't know
2. Our Lava Lamp uses a chemical reaction to generate gas.
 - a. True
 - b. False
 - c. I don't know
3. Oil and Vinegar will mix together and make a chemical solution.
 - a. True
 - b. False
 - c. I don't know
4. Chemical Lava Lamps take 45-60 minutes to warm up.
 - a. True
 - b. False
 - c. I don't know
5. Chemical Lava Lamps and Electrical Lava Lamps are the same.
 - a. True
 - b. False
 - c. I don't know

Answer Key: 1A, 2A, 3B, 4B, 5B