

## Lava Lamp Teacher's Manual

### Materials:

- A clean 2 liter soda bottle or water bottle
- 1 1/2 cups of water if you're using a 2 liter soda bottle or 1/2 cup if you're using a water bottle
- Funnel
- Food coloring (color or your choice)
- Oil (vegetable oil works best)
- Alka Seltzer tablet (generic works just as well)



This is a 2 liter soda bottle but requires A LOT of oil. I've used a Poland Spring water bottle and that works great too!

### Directions:

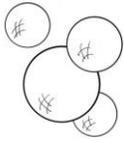
- Pour the water into the bottle using a funnel
- Using the funnel pour in the oil so it almost reaches the top
- Add 5 drops of food coloring if you're using a water bottle and 12 drops if you're using a 2 liter soda bottle (I would not recommend yellow since it will blend in with the oil)
- Wait a couple of minutes until the oil and water are still. Break an Alka Seltzer tablet in half. Drop half a tablet into the 2 liter bottle (or 1/4 if you're using a water bottle). Do not put the cap on.
- Watch the magic happen ☺ Once it settles you can do it **AGAIN**, and again, and again. I've had my bottle (above) for 2 months and it still works!
- You can also shine a flashlight through the bottle and observe what happens. If you screw the cap on, it's also a lot of fun to shake the bottle then watch it return to its original form.

### Why does this happen:

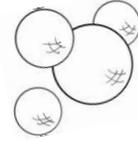
Oil stays above water because it is less dense than water. They do not mix because water molecules are attracted to other water molecules and oil molecules are attracted to other oil molecules. (I explain to the younger children that oil and water do not like each other so NEVER mix). The food coloring is essentially water so drops right through the oil to bond itself to other water molecules. The Alka Seltzer tablets create bubbles, or gas. The gas bubbles rise and create a magnificent color display!

This is by far a science club favorite!! My class will actually be using this for the science fair this year.

Name: \_\_\_\_\_ Date: \_\_\_\_\_



## Lava Lamp Science Experiment Lab



Pour the water and oil into the bottle. Give it a minute to settle. What happens? Record your observations.

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What happens when the food coloring is added to the bottle?

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Drop the Alka Seltzer tablet into the bottle. Record your observations.

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Wait about 5 minutes then look at the bottle again. Did it change? Is it the same? Record your observations.

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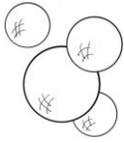
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Put the cap on the bottle and give it a good shake, shake, shake! Allow 1-2 minutes to settle. Record what happened.

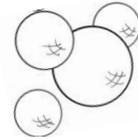
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Name: \_\_\_\_\_ Date: \_\_\_\_\_



## Lava Lamp Science Experiment Lab



1. Pour the water and oil into the bottle. Give it a minute to settle. What happens? Draw your observations.

1.

2. What happens when the food coloring is added to the bottle? Draw your observations.

2.

3. Drop the Alka Seltzer tablet into the bottle. Draw your observations.

3.

4. Wait 5 minutes then look at the bottle again. Draw your observations.

4.