

Experiment 6:

Mix it up!

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

Objective: \_\_\_\_\_

\_\_\_\_\_

Hypothesis: \_\_\_\_\_

\_\_\_\_\_

**Materials:**

vinegar  
rubbing alcohol  
ammonia  
vegetable oil  
melted butter  
several small jars  
food coloring  
dish soap

**Experiment:****Part I: See what mixes.**

1. The grid in the Results section is labeled with the following items: water, vinegar, rubbing alcohol, ammonia, vegetable oil, melted butter, along the top and sides of the grid.
2. Take out 6 small jars and add 1/4 cup of each item to each jar. Label the jars.
3. Add a drop of food coloring to each jar.
4. Mix one tablespoon of the uncolored items with 1 tablespoon of each colored item. Record in the boxes if the two items mix.

Results:

	Water	Ammonia	Vegetable Oil	Rubbing Alcohol	Melted Butter	Vinegar
Water						
Ammonia						
Vegetable Oil						
Rubbing Alcohol						
Melted Butter						
Vinegar						

## Part II: Soap, oil and water.

1. Put 1/4 cup of water into one of the small glass jars. Add one drop of food coloring.
2. Add 1 tablespoon of vegetable oil to the water.
3. Mix the water and oil. Record your results.
4. Add 1 tablespoon of liquid dish soap to the oil/water mixture.
5. Mix thoroughly. Record your results.
6. Add another tablespoon of liquid dish soap to the mixture, and mix thoroughly.
7. Record your results.

### Results:

Oil + water:

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Oil + water + 1T soap:

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Oil + water + 2T soap:

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Conclusions:

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## Review

Define the following terms:

mixture

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homogeneous

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heterogeneous

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dissolve

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Answer the following questions:

What does the term "like dissolves like" mean? \_\_\_\_\_

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Name two molecules with charged ends. \_\_\_\_\_

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Name two molecules without charged ends. \_\_\_\_\_

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How does soap work? \_\_\_\_\_

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Draw a micelle.