

All Wet!

Liquids can dissolve in other liquids. When you add a can of concentrated soup to water, the soup dissolves into the water. When you add liquid dish detergent or hand soap to water, they both dissolve into the water. Let's see if all liquids dissolve in water. What do you think?

Materials:

- 3 clear plastic cups
- Water
- Isopropyl alcohol
- Vegetable oil
- Corn syrup
- Masking tape
- Pen
- Straw

Procedures:

1. Use masking tape and a pen to label 3 clear plastic cups alcohol, oil, and corn syrup.
2. Pour 2 teaspoons of alcohol, oil, or corn syrup into its labeled cup.



3. Use masking tape and a pen to label the other three clear plastic cups: alcohol+water, oil+water, and cornsyrup+water
4. Pour 2 tablespoons of water into each of the three cups labeled: alcohol+water, oil+water, and cornsyrup+water.

5. While observing from the side, pour the alcohol from the "alcohol" cup into the cup labeled "alcohol+water". What do you observe? Watch the alcohol in the water and then stir with a straw. Did the alcohol seem to dissolve in the water?
6. Repeat step 5 by pouring oil into the "oil+water" cup and corn syrup into the "corn syrup+water" cup. What happened when these liquids were poured into the water? Did they dissolve into the water when stirred?

Think about this ...

You saw how oil did not dissolve well in water. There may be a way to make it dissolve a little better. Place about 2 tablespoons of water in a clear plastic cup. Add about 1 teaspoon of oil. Swirl the cup to see if the oil will dissolve into the water. Now add a squirt of dishwashing liquid to the water and swirl again. What did you notice? Why do you think it's useful for dishwashing liquid to help oil dissolve in water?



Where's the Chemistry?

There are certain characteristics about a liquid that will make it either dissolve or not dissolve in water. Each liquid acted differently when placed in the water. There were also differences when the contents of each cup were stirred. The way a liquid behaves in water and whether it will mix well into water and dissolve depends on the way the molecules of the liquid and the molecules of the water interact.



The American Chemical Society develops materials for elementary school age children to spark their interest in science and teach developmentally appropriate chemistry concepts. The *Activities for Children* collection includes hands-on activities, articles, puzzles, and games on topics related to children's everyday experiences.

The collection can be used to supplement the science curriculum, celebrate National Chemistry Week, develop Chemists Celebrate Earth Day events, invite children to give science a try at a large event, or to explore just for fun at home.

Find more activities, articles, puzzles and games at www.acs.org/kids.

Safety Tips

This activity is intended for elementary school children under the direct supervision of an adult. The American Chemical Society cannot be responsible for any accidents or injuries that may result from conducting the activities without proper supervision, from not specifically following directions, or from ignoring the cautions contained in the text.

Always:

- Work with an adult.
- Read and follow all directions for the activity.
- Read all warning labels on all materials being used.
- Wear eye protection.
- Follow safety warnings or precautions, such as wearing gloves or tying back long hair.
- Use all materials carefully, following the directions given.
- Be sure to clean up and dispose of materials properly when you are finished with an activity.
- Wash your hands well after every activity.

Never eat or drink while conducting an experiment, and be careful to keep all of the materials used away from your mouth, nose, and eyes!

Never experiment on your own!

For more detailed information on safety go to www.acs.org/education and click on "Safety Guidelines".

