

Activity 4.2

Dissolving a substance in different liquids

Does colored sugar dissolve equally well in water, vegetable oil, and alcohol?

Make colored sugar

Procedure

1. Your teacher will give you a plastic bag with 1 tablespoon of sugar in it. Add 1 drop of food coloring to the sugar.
2. Leaving air in the bag, seal the bag securely.
3. Shake the bag vigorously until the sugar is thoroughly colored.



Conduct the experiment

Procedure

1. Add 1 teaspoon of colored sugar to 1 tablespoon of water, alcohol, and vegetable oil.
2. Stir each with a clean popsicle stick.
3. Record your observations below.



What do you observe?

Describe what happens to both the color and the sugar when you stir colored sugar in each liquid.

| Water | Alcohol | Oil |
|-------|---------|-----|
| | | |

Activity 4.2

Dissolving a substance in different liquids *(continued)*

1. In the experiment, you compared how well colored sugar dissolves in water, alcohol, and oil. What did you do to make sure it was a fair comparison?

2. If a substance dissolves in one liquid, will it necessarily dissolve equally well in another?

Explain your answer using evidence from your experiment.

3. Let's say your teacher gave you a sample of water and a sample of isopropyl rubbing alcohol but did not tell you which one was which. Assuming you had no colored sugar; do you think dissolving salt or some other solute might help you identify the liquids? Why or why not?
