

# Experiments for clever foodies

## Water or oil?

**BASF**  
We create chemistry

Do you like purple grapes, red tomatoes or green lettuce? Researchers are discovering that many plant pigments from fruits and vegetables are very good for your health. This involves investigating the effects of plant pigments in great detail. The first step is to isolate individual pigments from the fruit, root or leaf. It's not that hard. Try it yourself!



### Here's how it's done:

- 1 Peel the carrot and grate it with the grater into one of the screw-top jars.
- 2 Put the raspberries in the other screw-top jar and mash them with the fork.
- 3 Add enough water to the two jars to cover the pieces of carrot and the raspberries.
- 4 Add about the same amount of oil.
- 5 Close the jars tightly and shake them for a while.
- 6 Then pour the contents of each jar through the sieve into a fresh glass.

### You need:

- 1 carrot
- a handful of raspberries, fresh or frozen
- about 200 mL of colorless vegetable oil
- 2 screw-top jars (jam jars or similar)
- 2 drinking glasses about the same size as the screw-top jars
- 1 grater
- 1 fork
- 1 fine sieve (tea sieve)

### IMPORTANT:

Ask an adult to help you use the grater.

If you want to taste the results of the experiment, make sure you wash the carrot and raspberries – if you're using fresh raspberries – very thoroughly and that the kitchen utensils are clean.

What do you notice?

### Happy experimenting!

#### Other things you could investigate:

- Test other vegetables and fruits by shaking them with oil and water.
- Carotene is often added to foods to give them color. Invent a researcher menu by coloring foods with the pigments that you collect in water or oil. Ask somebody who likes cooking for some ideas.
- You can make tasty red lemonade from the raspberry water by adding a little sugar, lemon juice and mineral water.

### Did you know?

The pigment that gives carrots their color is called carotene. It occurs in yellow, red and green fruits and vegetables, including sweet potatoes, mangoes and broccoli. Vitamin A, an essential vitamin that we need to live, comes from carotene. That's why carrots and other vegetables are so good for you.

The result of your experiment shows why people should always add a little oil to their carrots. The pigment in carrots dissolves in oil but not in water. So our bodies can process the pigment from carrots better if we eat carrots with a little oil.



### Experiments for clever foodies

To mark the 20th anniversary of the company's hands-on labs for children, BASF developed the "Clever Foodies" workshop themed around healthy nutrition with fruits and vegetables. The workshop is hosted for elementary school children around the globe. Find more experiments to do at home at: [www.basf.com/clever-foodies](http://www.basf.com/clever-foodies)