

Experiments for clever foodies

Eat a rainbow

 **BASF**
We create chemistry

Have you ever thought about why fruits and vegetables come in so many different colors? The main reason is because the colors (pigments) are useful for the plants that have them. Red and violet pigments protect them from UV light, for example. Many of the pigments are very good for human health, too. These include the purple pigment in grapes, the red in tomatoes and the green in broccoli.



Would you like to prepare a meal for your family or friends that has loads of colors and tastes great? How many different colors can you combine when you dish up raw and cooked foods? Ask someone who likes cooking for help. Cooking is always more fun with friends!

You need:

- 1 cookery book or the help of someone who likes cooking
- fresh vegetables and fruits in as many colors as you can get
- saucepans, bowls, knives and similar, plus a stove and maybe an oven
- plates, knives, forks and spoons for serving
- guests to join you for your colorful feast

IMPORTANT: Ask an adult for help using the stove and oven for cooking and baking!

Here's how it's done:

- 1 Plan a meal made of raw and cooked vegetables. Combine the vegetables with fruits if you like.
- 2 Write a shopping list.
- 3 Go shopping.
- 4 Prepare the foods with an adult.
- 5 Enjoy your meal with your guests! Ask them to count the colors on their plate.

How many different colors are there?

Happy experimenting!

Other things you could investigate:

- Pigments can be distributed in very different places in fruits and vegetables. Take a close look at a purple grape and you'll notice that only the skin contains the dark pigment. Can you find other examples of fruits or vegetables that have two or more colors?
- Have you ever noticed fruits or vegetables changing color when you cook them? Ask somebody who cooks a lot whether they know of any examples and test whether you can see the colors changing. What happens to red cabbage when you use it to make a salad with a vinegar and oil dressing?

Did you know?

The red pigment in tomatoes is called lycopene. The same pigment makes rose hips and watermelons red. Your body is better able to use the lycopene from cooked tomatoes than from raw tomatoes. That's because the pigment is released from the plant cells during cooking.



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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