Coloring with Foods

Fruits and vegetables come in many different and beautiful colors. Their colors are caused by pigments. For example, the red color of tomatoes and watermelon is from the pigment lycopene.

For centuries, people have used plants or parts of plants (like berries or bark) to paint their faces, dye their clothes, and color their homes. In this activity, you will rub parts of fruits and vegetables on paper to create a colorful picture.

Materials

- Colorful fruits and vegetables
- Sheet of white paper

SAFETY! *Be sure to follow Milli's Safety Tips and do this activity with an adult! Do not eat any of the materials used in this activity.*

Procedure

1. Ask your adult partner to help you collect samples of colored fruits and vegetables. Try to find ones that will give different colors: red, orange, yellow, green, and purple. Some examples of vegetables and fruits that contain colorful plant pigments can be found in the table entitled "Common Sources of Colors".
2. Draw a picture on a piece of white paper by rubbing or squishing pieces of the fruits and vegetables onto the paper.
3. Describe what you saw in the "What Did You Observe?" section.
4. Throw the materials used in this activity in the trash. Thoroughly clean the work area and wash your hands.

Where's the Chemistry?

Plants contain many different pigments for a variety of reasons. For instance, the green pigment chlorophyll harvests the sun's energy. Other pigments may be used to attract the insects or animals that pollinate flowers or help spread seeds.

Plant pigments can also have health benefits for us. Beta-carotene is the orange pigment in carrots. Like lycopene from tomatoes, it is an antioxidant that helps to prevent certain kinds of cancer. Beta-carotene is also changed by our livers into vitamin A, which prevents night blindness and fights infection. Keeping a variety of colored fruits and vegetables in our diets is a very good way of making sure that we get the vitamins and nutrients that we need to stay healthy.

Common Sources of Colors

Color	*Fruit/Vegetable*
Red	Radish
Orange	Carrot
Yellow	Orange Peel
Green	Spinach
Purple	Purple Cabbage

What Did You Observe?

Fruit or Vegetable Used in Activity	*Color*
1.	
2.	
3.	
4.	
5.	
6.	
7	

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".