newcopyright1Name Date Class

challenge

**LESSON 1**

**Challenge**

***Using the Colors of Nature***

You can make a colorful banner, scarf, or T-shirt with vegetables and fruits. Follow the  
directions to make your item and then answer the questions below.

**Materials:**

• clean, white, cotton fabric that has been washed without fabric softener

• vegetables and fruits for extracting the colors shown below:

|  |  |
| --- | --- |
| **Color** | **Source** |
| Purple or blue | ½ cup sliced red cabbage or blueberries |
| Green | lawn grass clippings, finely chopped in a blender |
| Yellow | 1 teaspoon of saffron stamens or the dry, outer skin of one medium-sized onion |
| Red | ½ cup sliced red cherries, red beets, strawberries, or raspberries |

• pot to boil ingredients • a separate container for each prepared dye

• hot plate or stove top burner • apron and plastic gloves

• several coffee filters

To prepare the dyes, except for green, boil the ingredients for the color you want in 1 cup  
of water for 15 minutes. For green, use cool water. Cool the liquid and strain through a coffee  
filter into a container. Refrigerate your dyes until you are ready to use them.

Use rubber bands to section off parts of your fabric. Wind the rubber bands tightly. Pour  
the dye you want over the section of fabric you’ve chosen for each color. Allow the fabric  
time to soak. When it is no longer dripping, untie the knots and bands. Then hang it and  
let it dry completely.

**Discuss Your Results**

**1.** If you mix all your dyes together, what color will you get? Explain.

**2.** Match the pigment name with its corresponding dye color that you made. One doesn’t  
match. Explain.

cyan

yellow

magenta

Light **21**