**VANDERBILT STUDENT VOLUNTEERS FOR SCIENCE**

**http://studentorgs.vanderbilt.edu/vsvs**

**Mixing Colors**

Elementary school, Fall 2012

Goal:

Standards:

Materials

13 sets of primary color paddles

13 sets of color worksheets and circles for each pair.

2 sets of 3 dropper bottles containing colored “goo” (1 red, 1 yellow, 1 blue)

30 plastic snack bags

30 plates

**Set-up**

1. **While 1 team member is leading Parts I and II, other members can be preparing the plastic bags of “goo”. Prepare 1 bag for each student.**
2. **Place the tip of the squirt bottle near the bottom of the bag. Aim for one color in each bottom corner and the third color in the upper middle of the bag. Squirt about 1 teaspoon of each of the colored “goos” into the plastic snack bag.**
3. **Gently squeeze as much air out of the bag as possible before sealing it and lay it flat on a white plate.**
4. ***Note for VSVSers - the “goo” is a polymer made from 2 chemicals, polyvinyl alcohol and borax, with coloring added.***
5. **Introduction**

Ask a few students to tell you their favorite color, and an object that is that color.

Tell students that all the colors we see around us come from only 3 colors: red, yellow and blue. These colors are called the **primary colors**.

Tell students that color not only makes the world a beautiful place to live in, but it also makes it safer.

Color is used to control traffic with red, green and yellow traffic lights. Can you think of

anything else we use color for?

1. **Looking at Colors Through Paddles**

**Experiment 1.**

Materials

1 set of primary color paddles for each pair of students.

1 set of color worksheets and circles for each pair.

Tell students to pick up a red paddle, place over one eye, close the other eye, and look at the blank square on their worksheet. What color do they see on the square? Ask them to choose a color circle that closely matches what they see.

Repeat with the yellow and blue paddles.

**Experiment 2.**

Remind students that the colors red, yellow, and blue are called primary colors. The 3 primary colors can be combined to produce orange, purple and green.

These mixed colors are called **secondary colors**.

Tell students to look through 2 paddles at a time – blue and yellow, red and blue, red and yellow, and match the colors they see with the color circles.

Collect all paddles, worksheets and circles

1. **Mixing Colors with Colored “Goo”.**

Materials

1 bag (already prepared) containing “goo” for each student.

**Experiment 3.**

* 1. Show the students the bottles containing the colored “goo”. Ask them if they are primary or secondary colors (primary).
  2. Ask the students to predict what the combined colors might look like.
  3. Tell students to pinch and mix the goo, and to watch the colors as they mix. Point out that they will need to smoosh the 2 colors in the corners to the middle so that they can mix them with the 3rd color.
  4. The blue and yellow are becoming green, the red and yellow are turning orange, and the red and blue are blending into purple! Soon your bag will take on a soft, stained-glass effect.
  5. What color does the middle of the bag look like? Grey/black

Students can keep their bags to take home, or leave with the teacher in the classroom.

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