RAFT IDEAS

Topics: Color, Light, Lab Skills

Materials List
- ✓ Disposable pipettes or droppers
- ✓ Clear trays with numerous wells
- ✓ Plain white paper
- ✓ Plastic cup
- ✓ Colored water (5-10 colors) (Made with liquid water color and/or food coloring)
- ✓ Paper towels

This activity can be used to teach:
- Experiment w/ forms, structures & materials (National Visual Arts Standards: Creating, Grades K-8)

Next Generation Science Standards:
- Light and vision (Grade 1, Physical Science 4-3; Grade 4, Physical Science 4-2)
- Waves: Amplitude, wavelength, energy (Grade 4, Physical Science 4-1)
- Waves are reflected, absorbed/ transmitted (Physical Science 4-2)
- Science & Eng. Practices (Grades K-2)

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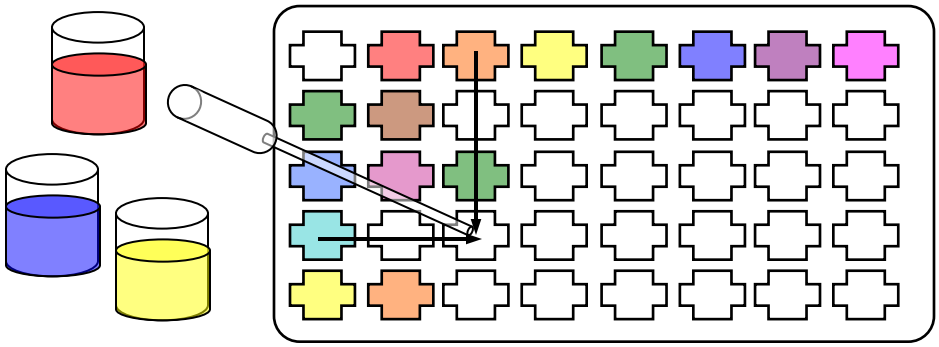
Color Array in a Tray

A Plastic Pallet of Mixed Colors



Young learners experience the joy of discovery while they experiment with mixing colored water. An enjoyable activity for tactile learners and also visually pleasing!

Before the Activity
1. Create the workspace by placing the clear trays onto white paper and setting out cup with water. Have paper towels available.
2. Remind students how to use a pipette:
   - ✓ Draw water by squeezing the bulb and then releasing it while the pipette tip is submerged.
   - ✓ Empty pipette contents by slowly squeezing the bulb while the tip is over the desired target.

To Do and Notice
3. Use a pipette to transfer colored water from the plastic cups into the wells on the top row and left-hand column in the tray. For example, use the top row for the colors of the rainbow: red, orange, yellow, green, blue, dark blue, and violet. Allow students to choose whatever colors they wish for the left column.
4. For the remaining tray wells, mix the color on the top row and the color at the left column at the intersection. Try predicting the color that will be created by the mixture.

The Content Behind the Activity
As any designer, physicist, or biologist will tell you, color is not as straightforward as we learned in pre-school. Subtle differences in color attributes result in a huge range of potential perceptions. Every color has 3 distinct attributes: hue (blue or red), saturation (dark or light), and brightness. In this activity, students investigate how mixing hues and changing saturation (amount of coloring) can produce a vast array of colors and shades.

Taking it Further
Younger students will simply enjoy mixing colors in open-ended play.

Web Resources (Visit www.raft.net/raft-idea?isid=43 for more resources!)
More information on color and vision can be found at: http://hyperphysics.phy-astr.gsu.edu/hbase/vision/visioncon.html#c1

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