Scientific Investigation: Mixing Color

Overview: Introducing scientific investigation to many students can be a difficult task, so by allowing the students to do hands-on activities helps put some of these abstract vocabulary terms into real-life examples. Mixing colors to see what happens is a basic way to allow students to independently plan and conduct investigations. This activity focuses on the student being able to come up with a hypothesis and then conduct the investigation to see the result.

Procedure:
1. Teacher will provide Scientific Investigation Instructions (handout).
2. Student will follow the instructions to be able to complete the planning and logic portion of the ASOL.
3. Teacher will provide the Scientific Investigation: Lab.
4. Student will fill out the chart in order to show understanding of the scientific reasoning and logic of this specific investigation. Options for filling out the chart:
   a. Student writes in chart independently.
   b. Student dictates to a scribe.
   c. Student can cut and paste pictures provided into the chart.
5. Student will gather the materials based off of the checklist.
6. Teacher will provide the Mixing Colors! Record Sheet. The students will formulate hypotheses based on the testable questions of mixing colors. The student will not fill out the result section at this time. See below for options for differentiation.
7. The student will conduct the investigations by mixing the colors in correlation with the instructions.
8. The student will record the result color for each investigation on the Mixing Colors! Record Sheet.

ASOL Covered:
5S-S12: The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
d) hypotheses are formed from testable questions.

Materials Needed: Mixing Colors Instructions (handout), 4 spoons, 4 bowls or plates, yellow paint, white paint, red paint, blue paint, Mixing Colors! Recording Sheet (handout), Scientific Investigation: Lab with option of pasting in definitions (handout), pencil/bingo marker (writing tool for hypothesis and results), may need: scissors, glue (option for cut and paste scientific investigation chart)

Instructional Setting: The instruction setting could be in a resource setting, general education setting, or self-contained.
Community Connections and/or Peer Interaction: This lesson would be an opportunity to include students in the general education setting or to provide specialized instruction in a small group setting.

Functional Activity/Routine:
Some skills that are incorporated into this activity/routine:
1. Being able to use this skill in art to make various colors.
2. Using the *Scientific Investigation Lab chart*, the student can have a routine when conducting various experiments.
3. Student is learning to follow directions and complete a checklist.
4. Student is learning to plan and gather materials for a desired activity.
5. Student is working on skills that promote independence.

Strategies to Collect Evidence:
- Take pictures or videos of student conducting the investigation
- Use attached lab and handouts

Specific Options for Differentiating this Activity:
- A switch operated pour cup can be used for students to pour the colors together for mixing. A blender or mixer can be attached to a power link and then the student can mix the colors using a switch.
- A communication board can be made with color choice for students to make predictions.
1. Fill out your Scientific Investigation page for Mixing Colors.

2. Get your materials. Here is a checklist:

   - 4 spoons
   - white paint
   - 4 bowls or plates
   - red paint
   - yellow paint
   - blue paint

Get your Recording Sheet and fill out the hypothesis.

3. Mix yellow paint and blue paint. Write the results.

4. Mix white paint and red paint. Write the results.

5. Mix red paint and blue paint. Write the results.

6. Mix yellow and red. Write the results.
These are options that are found on the Mixing Colors Results Page.

This is an option for students who may not be able to write their answers.

Having the Go Talk as an options allows for the student to verbalize the answers.

I don't know
<table>
<thead>
<tr>
<th><strong>question</strong></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>hypothesis</strong></td>
<td></td>
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<tr>
<td><strong>materials</strong></td>
<td></td>
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<tr>
<td><strong>experiment</strong></td>
<td></td>
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<tr>
<td><strong>results</strong></td>
<td></td>
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</tbody>
</table>
Cut and paste the definitions into the chart.

What two colors make a new color?

I think mixing colors makes new colors.

I don’t think mixing colors makes new colors.

4 bowls or plates (for mixing)

4 spoons

red paint  blue paint  yellow paint  white paint

Follow the directions. Mix the colors.

Were colors made? What colors? Write it down.
Mixing Colors!

Recording Sheet 1
created by Lorna M. Bell Frizzelle

mix colors

Hypothesis: What color?

blue and yellow

What color DO YOU THINK it will make?

Result: Color

What color DID they make?

white and red

What color DO YOU THINK it will make?

Result: Color

What color DID they make?

red and blue

What color DO YOU THINK it will make?

Result: Color

What color DID they make?

yellow and red

What color DO YOU THINK it will make?

Result: Color

What color DID they make?
<table>
<thead>
<tr>
<th>mix</th>
<th>Hypothesis: What color?</th>
<th>Result: Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>blue and yellow</td>
<td>What color DO YOU THINK it will make?</td>
<td>What color DID they make?</td>
</tr>
<tr>
<td>white and red</td>
<td>What color DO YOU THINK it will make?</td>
<td>What color DID they make?</td>
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