HARMONY OF COLORS

Experiment Purpose:
To observe the formation of secondary colors (orange, green, purple) from primary colors.

Transdisciplinary Theme:
Ways of Expressing Ourselves

CURIOUS BOX

INQUIRY CYCLE

TUNING IN

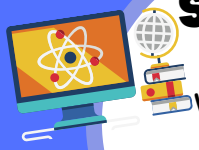
Sparking Curiosity

FINDING OUT

Let's Start Exploring!/ Video

SORTING OUT

What Should Young Scientists Explore?



GOING FURTHER

Scientific Explanation for the Curious Ones, What Else Can We Do?

MAKING CONCLUSIONS

What Did We Discover / Activity Pages / Exit Card

TAKING ACTION

Question of the day?

CURIOUS BOX

HARMONY OF COLORS

Sparking Curiosity

To spark students' curiosity, colorful liquids can be placed on the teacher's desk before the activity. At the end of the activity, students can be asked to predict what color will result when these liquids are mixed together.

Students are asked the following questions:

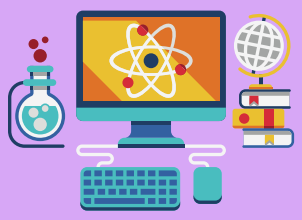
- What is your favorite color?
- How does wearing an outfit in this color make you feel?

""Colors make our lives brighter and more fun. We see a variety of colors around us, and especially the colors found in nature are wonderful. The orange, yellow, and red colors at sunset... The sequence of colors in a rainbow, the colorful world of flowers and insects have always made me feel great. Do you pay attention to the colors around you?" After collecting answers, the question is asked, "In the magical world of colors, we can create various works of art using paints. These creations serve as tools for self-expression. Has anyone among you created a piece of art with paints?

Let's Start Exploring!

The activity video is watched, and it is paused to show each step to the students. Before starting the activity, the set content is checked, and all steps of opening covers and packages are done simultaneously with the students.

Watch the video by pausing it!



Set Content

- [ ] Experiment tray
- [ ] Portrait template
- [ ] 5 test tubes
- [ ] 3 pipettes
- [ ] Red food coloring
- [ ] Blue food coloring
- [ ] Yellow food coloring
- [ ] "Let's Mix" activity page

CURIOUS BOX

How to Do It:

1. The experiment tray is placed on the table.
2. The parts of the portrait template are gently removed from the template.
3. The part of the long portrait with the writing "Discovery Box" is turned with the writing facing backward.
4. The legs are attached to the double nests on the sides of the long portrait.
5. The remaining leg is attached to the double nest in the middle.
6. The portrait is placed in the experiment tray.
7. Five test tubes are placed in the portrait.
8. A pipette is taken, and a demonstration is given on how to use it..
9. Red food coloring is added to the first test tube, yellow food coloring to the third test tube, and blue food coloring to the fifth test tube, each filled to half the height of the test tube.
10. Students are asked, "What color do you think will result when red and yellow paint are mixed?"
11. A pipette amount of red food coloring (about 3 mL) is taken and added to the second test tube.
12. A pipette amount of yellow food coloring (about 3 mL) is taken and added to the second test tube.
13. Color change is observed.
14. Students are asked, "What color do you think will result when blue and yellow paint are mixed?"
15. A pipette amount of yellow food coloring is taken and added to the fourth test tube.
16. A pipette amount of blue food coloring (about 3 mL) is taken and added to the fourth test tube.
17. Color change is observed.
18. In addition, one of the color mixtures can be poured, and the same steps can be observed for red and blue food coloring.

What Future Scientists Should Explore?

Students are asked the following questions:

- How do colors mix in paint?
- What are the three primary colors in paints?
- How are secondary colors formed?

Paints usually consist of three primary colors: red, yellow, and blue.Secondary colors are obtained by mixing these primary colors. The mixture of yellow and red creates orange, yellow and blue create green, and blue and red create purple.

Scientific Explanation:

Following questions will be directed to students:

- How do we see the colors of objects around us?
- Just as there are colors of paints, there are also colors of light. Do you think mixing the colors of light would yield the same result as mixing paint colors?
- Why are objects not colorful in environments with low light?

When we observe the colors of objects around us, these colors are usually determined by the influence of light. Light hits the surfaces of objects and our eyes perceive their colors. White light consists of seven colors: red, orange, yellow, green, blue, indigo, and violet. These are the colors of the rainbow. When we see colors, we are actually seeing reflected light. Colored paints, on the other hand, absorb all the colors of the rainbow except the ones they reflect. Therefore, when we mix colored paints together, we move closer to black, which reflects no color.

What Else Can We Do?

Dear Teacher,

With our Little Scientists, you mixed paints to create secondary colors from primary colors. By experimenting with similar colors in paint and light, you can compare the different results obtained in light and paint.

Surprising Color Mixing

Materials:

- Red and green PVC pieces or red and green transparent notebook covers
- Two flashlights (phone flash can also be used)

Steps:

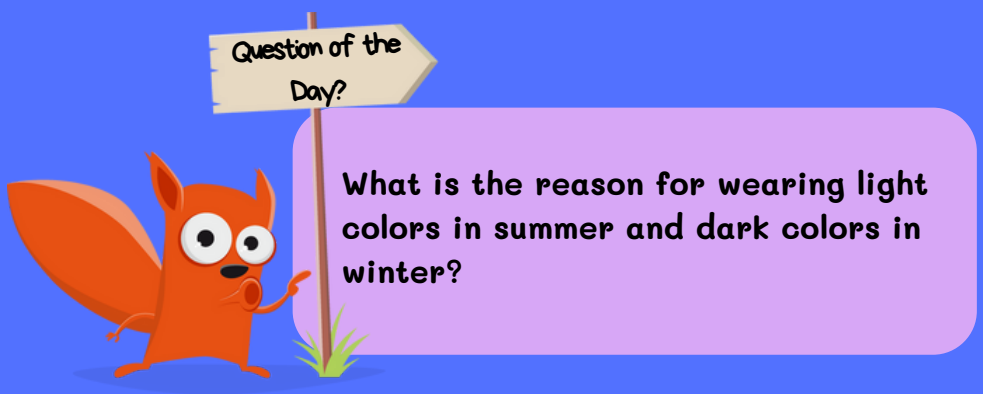
1. Take two flashlights of equal strength.
2. Cover the surface of the two flashlights with red and green cellophane.
3. Hold flashlights on a white surface.
4. What color is seen where green and red light intersect?
5. Now, red and green paint are mixed together. What color is obtained?

What Happened?

While we get yellow where the lights intersect, brown is obtained when mixing the paints. In both cases, different colors can be obtained by mixing different colors in different ratios. When all colors are mixed, we get white in light and black in paint.

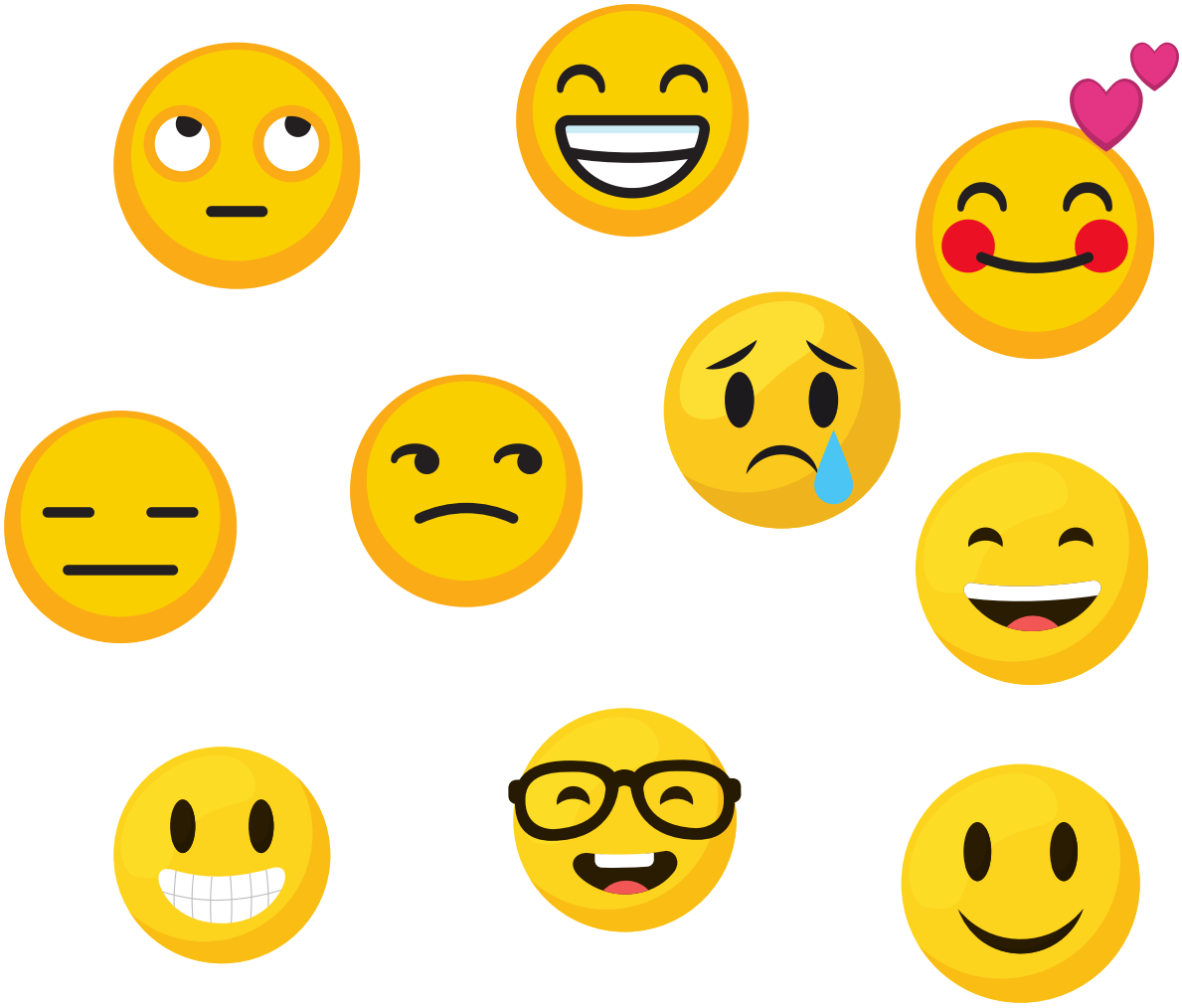
What Did We Discover?/ Exit Card

"Today, we embarked on a colorful journey into the world of paints. Using paint, making art, and expressing our imagination are wonderful ways to express ourselves. By playing with colors, you can draw the most beautiful pictures in the world. Don't forget to experiment with paints, as each color and each brushstroke can mean a new adventure and a way to express yourself. Did exploring the paints entertain you?" The question is asked in this way. The "Let's Mix" page from the activity pages is done.
Exit Card is prepared for students at the end of the activity.
How did you feel about yourself in today's experiment?



Exit Card

Mark how you feel with this experiment!



CURIOUS BOX

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www.curiousbox.co