

COLORS AND LIGHT

Journal Assignment

Please answer the following questions in your journal as completely as you can. Your entry will be evaluated on the thoughtfulness of your answers and the reasoning you give in support of your answer.

1. Look at the 5 pieces of paper of different color. Briefly describe what you see.
2. Why are you able to see each of these pieces of paper as distinctly different colors? In other words, why does the one paper appear red and another paper appear blue?
3. If the room were completely dark, would you be able to determine the color of each piece of paper? What does this tell you?
4. If you took these pieces of paper outside into the sunlight, would they look different than they did with the room lights? Explain.
5. Are there any differences between light from the Sun and light from the room lights (fluorescent or incandescent)? Explain. (Please go beyond the obvious difference that the light from the Sun is much more intense and would blind you if you looked directly at it.)
6. What do you know about light?

Exploration with Colored Light and Colored Paper

PREDICTIONS

Questions: What do we need to see colors? What do we need to see white?

ACTIVITY 1 Shine different colored lights on different colored paper

Color of Light	Color of Paper	Predict the Color You Will See. Briefly explain the reason for your prediction.
Red	Red	
Red	Blue	
Red	Green	
Red	White	
Red	Black	

ACTIVITY 2 Mix different colored lights on the white surface

Color of Light 1	Color of Light 2	Predict the Color You Will See. Briefly explain the reason for your prediction.
Red	Blue	
Red	Green	
Blue	Green	

ACTIVITY 3	SOLUTION
How would you use the colored lights to get a white color on the white paper?	
How would you use the colored lights to get a black color on the white paper?	

Exploration with Colored Light and Colored Paper

DATA

Questions: What do we need to see colors? What do we need to see white?

ACTIVITY 1 Shine different colored lights on different colored paper

Color of Light	Color of Paper	Color You See
Red	Red	
Red	Blue	
Red	Green	
Red	White	
Red	Black	

ACTIVITY 2 Mix different colored lights on the white surface

Color of Light 1	Color of Light 2	Color You See
Red	Blue	
Red	Green	
Blue	Green	

ACTIVITY 3	SOLUTION
How would you use the colored lights to get a white color on the white paper?	

7. Based upon the evidence you gathered in **Exploration with Colored Light and Colored Paper**, what can you conclude? (A conclusion is **not** a summary of what you did. It is **not** simply a few ending statements. A conclusion is a new understanding that you have based on the evidence gathered.)

8. Write two or three questions that you have because of this exploration with colored light and colored paper.

Inquiry Reflection - Mix It Up

These questions are designed to make you think about the process scientists use to explore and discover. Reflect upon and answer these questions in your journal. You will be evaluated upon the completeness of your answers and the depth of your thinking, not upon the correctness of your answers.

What are the variables in Activity 1, **Exploration with Colored Light and Colored Paper?**

What are the variables in Activity 2, **Exploration with Colored Light and Colored Paper?**

Why did you do the three activities in **Exploration with Colored Light and Colored Paper?**

Would you add any activities to **Exploration with Colored Light and Colored Paper?** Why? What would you add?

What is the purpose of the questions #1-7 in the assignment **Making Conclusions?**

What is the purpose of **Exploration with Colored Light and Colored Paper?** How do the questions in **Making Conclusions** help you to achieve the purpose?