

Apple in the Dark

Imagine you are sitting at a table with a **red** apple in front of you. Your friend closes the door and turns off all the lights. It is totally dark in the room. There are no windows in the room or cracks around the door. No light can enter the room.

Circle the statement you believe best describes how you would see the apple in the dark:

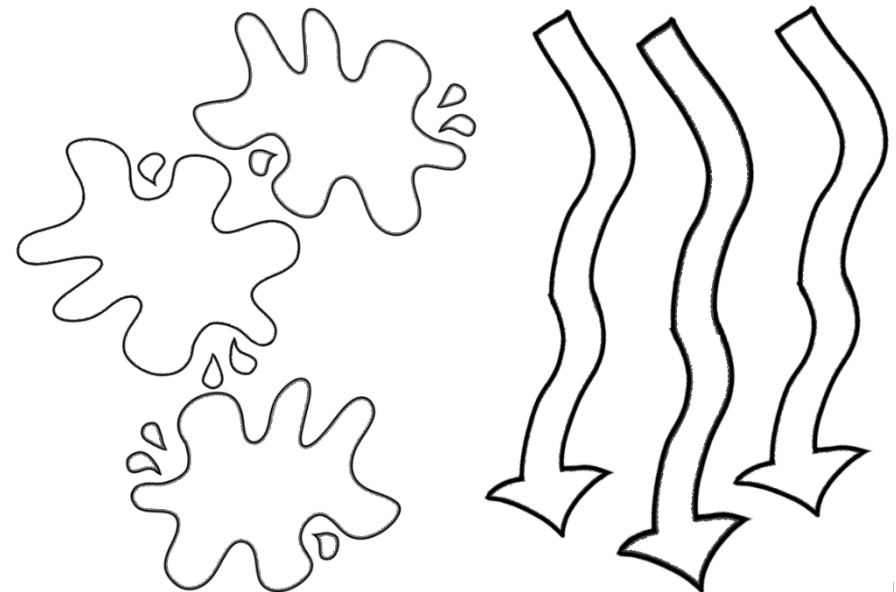
- A. You will not see the **red** apple, regardless of how long you are in the room.
- B. You will see the **red** apple after your eyes have had time to adjust to the darkness.
- C. You will see the apple after your eyes have had time to adjust to the darkness, but you will not see the red color.

Describe your thinking. Provide an explanation for your answer.



Two Sets of Primary Colors Journal 3

Scientist: _____



Designed by Danielle Van Derlaske and DaNel Hogan
This journal is part of the Sciencing and Engineering Journals
collection found here:
<https://stemazing.org/stemazing-sciencing-and-engineering-journals/>



Color Vision Simulation – Play to learn!

(<https://bit.ly/RGBcolorvision>)

I notice _____

I notice _____

I notice _____

I wonder why...? I wonder if...? I wonder what...?
I wonder how...? I wonder what would happen if...?

I wonder _____

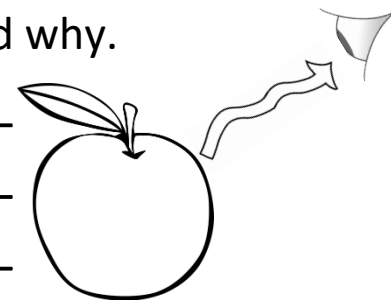
_____?

I wonder _____

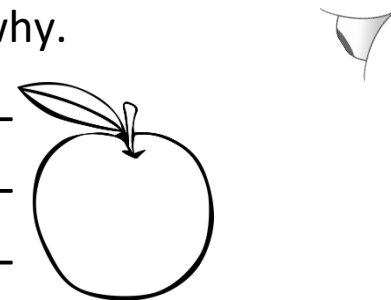
_____?

The Light Side and Dark Side

Using the diagram, explain why your eye sees a red apple when the white lights in a room are turned on and why.



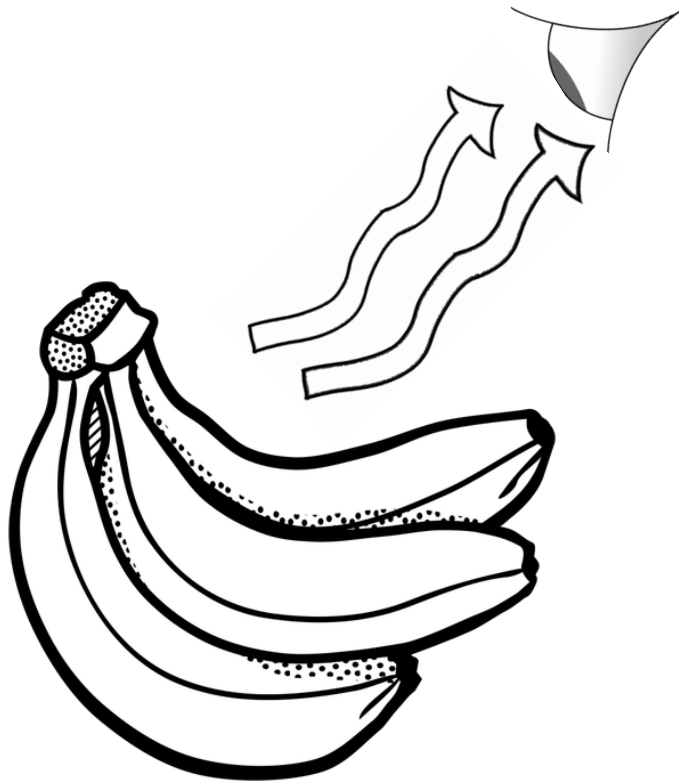
Using the diagram, explain what your eye sees when there are absolutely no sources of light in a room and why.



This phenomenon can be summarized using a phrase with two rhyming words. What are they?

No _____, No _____.

Going bananas!



Explain why the bananas looks yellow.

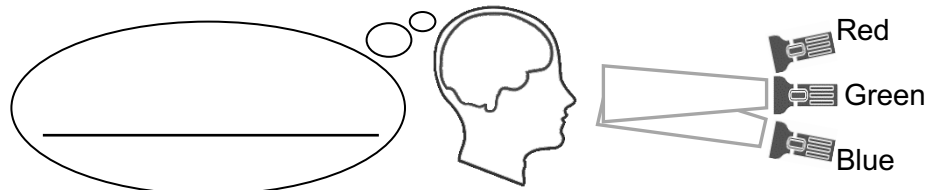
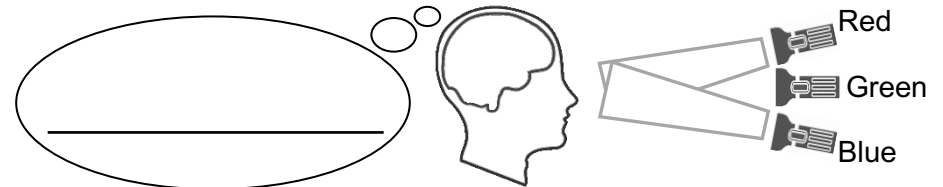
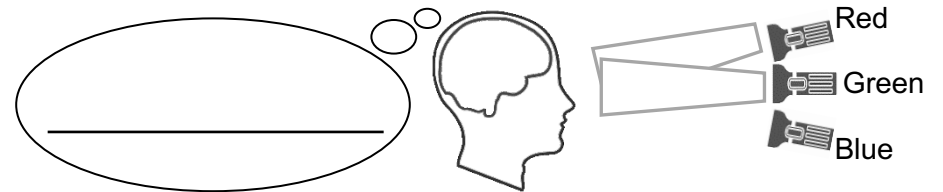
The primary colors of light are:

→ _____

→ _____

→ _____

Using the PhET Color Vision simulation, turn two flashlights all the way up and one flashlight completely off as indicated. Then, record the color the person in the simulation sees.



The secondary colors of light are:

→ _____

→ _____

→ _____

Thinking back to recomposing the color picture, what were the colors of paint/ink used to create the full color image?

The primary colors of paint are:







Secondary colors are created by combining two primary colors. What two primary colors of paint/ink are used to create the secondary colors of paint?

_____ + _____ = RED

_____ + _____ = GREEN

_____ + _____ = BLUE

The secondary colors of paint are:



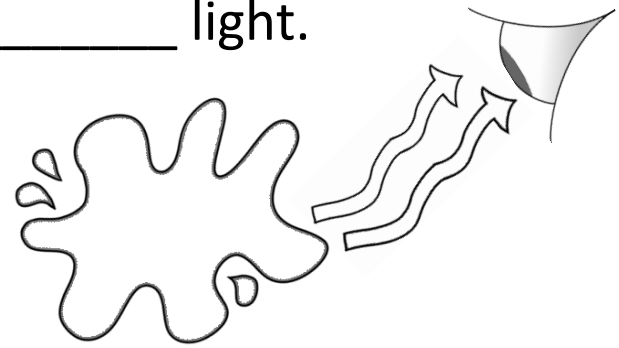




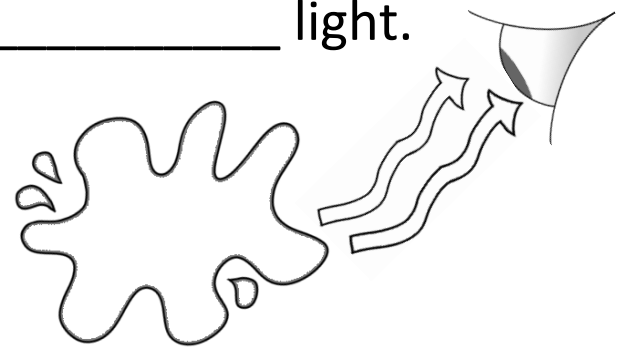
What do you notice when you compare the primary and secondary colors of paint and light? _____

Reflecting on Color

Cyan paint reflects _____ and _____ light.



Yellow paint reflects _____ and _____ light.



Magenta paint reflects _____ and _____ light.

