

Light Exploration

OOOOOO...AAHHHHH!

Introduction

- This activity is intended to allow you to observe light as it interacts with various materials.
- Based on your observations you will be asked to hypothesize about what is happening during the various interactions.

Materials

- Folder with Glow in dark square (GIDS) inside...**DO NOT OPEN UNTIL INSTRUCTED.**
- Bag of stuff:
 - color squares (red, blue, magenta, yellow)
 - LED/LASER light (do not shine either towards anyone's face)
 - 3 dark plastic squares
 - Glass square
- Take the materials out of the bag, place them on the table for later use.

What to do 1st

Lights off

- Open the folder and shine the LED light on the glow-in-the-dark square from about 10 cm above it for about 10 seconds.
- Turn the LED off and observe the GIDS.
 - Describe what you saw.
 - What made the GIDS glow?
 - What do you think the GIDS does with the light to be able to glow?
- Close the folder with the GIDS inside.

What to do 2nd

Lights on

- Look through the colored squares one at a time, then look through various overlapping combinations of the colored squares.
 - Describe what you see through each square and combinations.
 - Describe what you think the squares are doing to the light or what the light is doing to the squares.

What to do 3rd

Lights on

- Look through one of the dark squares.
 - Describe what you see through the square.
 - Describe what you think it is doing to the light.
- Look through two of the dark squares while overlapping. Try rotating one of the squares.
 - Do you notice anything “crazy” when you rotate one square? Describe.
 - Why do you think they do that?

What to do 4th

Lights on

- Shine the LASER through the glass square at your paper (DO NOT SHINE IN ANYONE'S EYE)
 - Describe what you see on your paper.
 - Slowly rotate the glass square...does anything about the LASER light change? Describe.
 - Describe what you think what the glass square is doing to the light.

What to do 5th

Lights off

- Open the folder and place the red, yellow, and blue plastic squares on the GIDS as shown in the picture.
- Shine the LED light on the square from about 10 cm above for about 10 s. Turn the LED off and observe the GIDS with colors in place and then move the colors.
- Which color square(s) seemed to prevent the glowing?
- Does this change how you think the GIDS is able to glow? If so, describe your new thinking.

