

TEACHERS

GUIDE

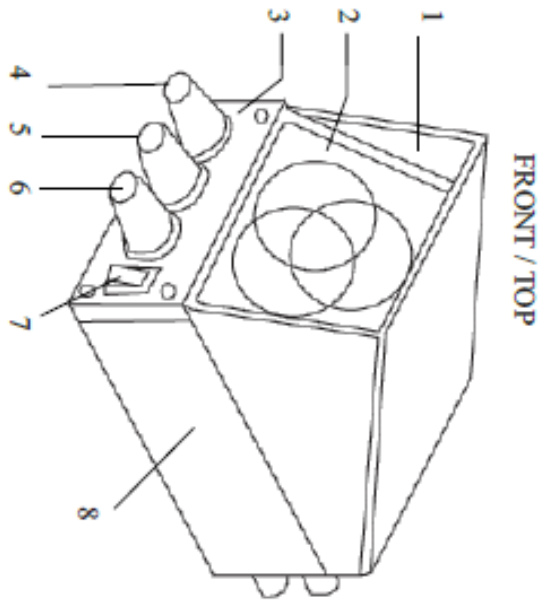


COLOR MIXING DEMO
ITEM # 3559-00

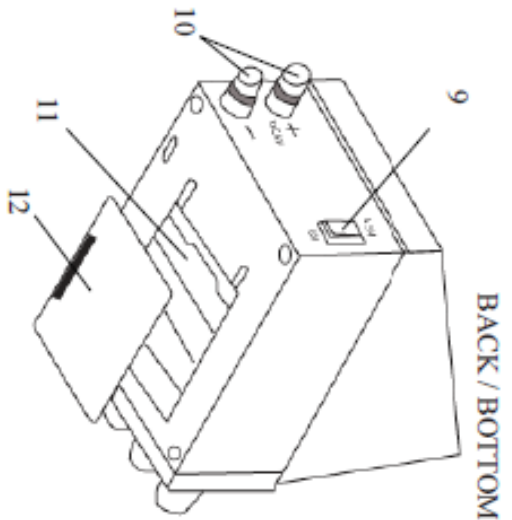
LIGHT AND COLOR - COLOR

- What is light made of?
- How are colors created?
- Is an object really a specific color, or does it just cause that color to reflect from it?

Students can explore the components of light and the concepts of color mixing. Easy-to-use, self-contained screen in black plastic box. Three knobs allow students to vary intensities of blue, yellow, and red to discover outcomes. Runs on 3 AA batteries or off of DC6V power supply; just hook red lead to the positive pole and the black lead to the negative pole. Clean with a soft cloth and pure alcohol. Store without batteries.



FRONT / TOP



BACK / BOTTOM

1. Upper cover	5. Red light knob	9. Power source
2. Projection screen	6. Green light knob	10. Positive and negative poles
3. Front plate	7. Power switch	11. Battery compartment
4. Blue light knob	8. Body	12. Battery cover plate



Materials

- 4-6 penlights
- 4-6 prisms
- 4-6 visible light spectrum charts
- vocabulary list
- Color Mixing Demonstrator, with a narrow mark on each knob to indicate the off position of each

Goals & Objectives

Students will:

- define white light
- explain how various colors are seen
- use terminology regarding color
- and light accurately
- create colors from the spectrum chart and draw position of the knobs' placement for each

ASSESSMENT

Participation and Vocabulary Sheet

ACTIVITIES

- 1 Group students in to 4- 6 groups, and have each group get one of each of the items listed under equipment. (They will share the color mixing demonstrator and can leave that in the front of the room.)

Note

It is always best to DO an experiment ahead of time to be able to best present it to the class.



- 6 Students can then define the terms in their vocabulary sheet.

VOLCABULARY

- Prism
- Refraction
- Primary colors
- Secondary colors
- White light
- Complimentary colors
- Contrasting colors
- Monochromatic colors
- Spectrum
- Wavelength
- Frequency

- 2 Each group should shine their penlight onto a wall and note its color.

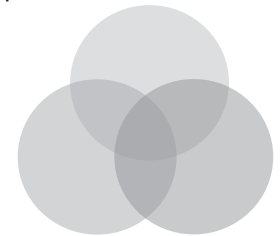
- 3 Next, each group should shine the penlight toward the wall, but through a prism. This should create a rainbow. Students should mark the color order visible.

- 4 Students should compare what they see to the spectrum chart given them.

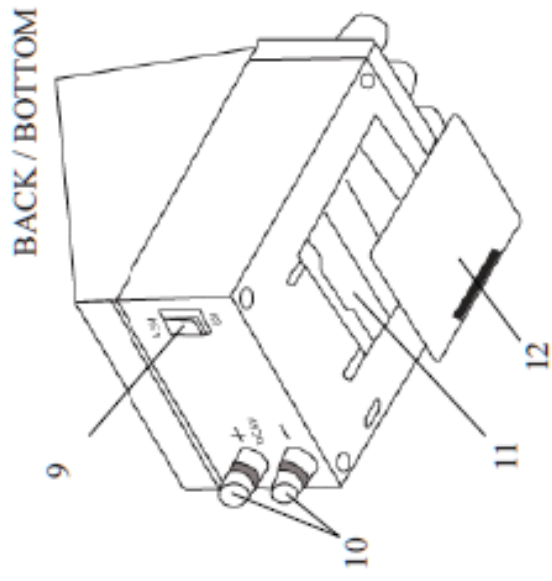
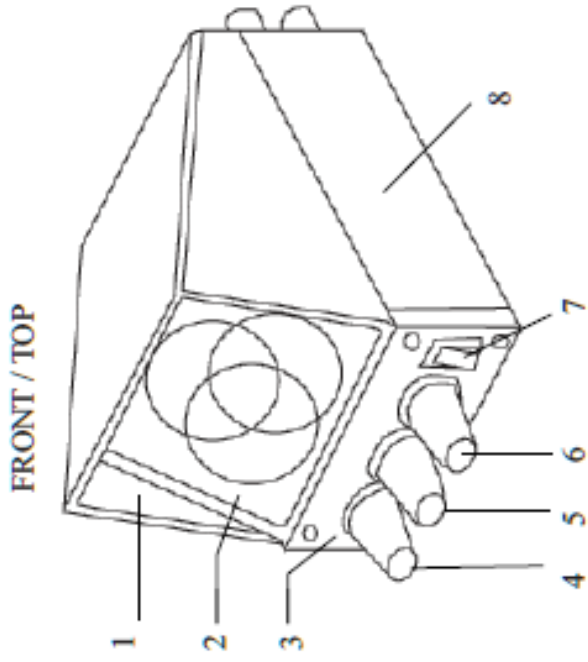
- 5 Group should discuss how that happens and draw a conclusion. Confirm this with the teacher. Teacher should ask questions or point out areas not thought of until the group realizes that the prism bends, or slows the light so that it refracts into parts.

- 7 Each group works with the mixer to create as near as they can the colors in the visible light spectrum. On a sheet of paper, they can mark what the position of each knob is for each color. (Just show where the mark on each knob is turned to when each color is created.)

- 8 Individually, each student should write a paragraph or paragraphs, which explain(s) the speed of light per color, and what primary colors mix to make what secondary colors, and how colors are grouped.



STUDENT HANDOUT



1. Upper cover	5. Red light knob	9. Power source
2. Projection screen	6. Green light knob	10. Positive and negative poles
3. Front plate	7. Power switch	11. Battery compartment
4. Blue light knob	8. Body	12. Battery cover plate





Student Name: _____

Color Mixing Vocabulary:

- Prism
- Refraction
- Primary colors
- Secondary colors
- White light
- Complimentary colors
- Contrasting colors
- Monochromatic colors
- Spectrum
- Wavelength
- Frequency

