

Experiment with Light

Teacher
Resource Sheet

Directions: Different types of lighting can improve your students' ability to learn, pay attention, and be enthusiastic in the classroom. Find out how the light in your classroom affects their daily activities by trying this fun experiment!

Step 1:

Create three different lighting stations in your classroom.

Station 1 Fluorescent Zone:

A brightly lit area, illuminated only by overhead fluorescent bulbs

Station 2 Incandescent Zone:

An area lit with medium brightness from only one incandescent table lamp or floor lamp

(NOTE: Carefully monitor this station to make sure that students do not touch the bulb.)

Station 3 Candle Zone:

A dark area lit by only one candle

(NOTE: Be sure that an adult monitors the candle.)

Step 2:

During reading time, let students visit each station. Use your regular reading groups or divide the class into three new reading groups for the day. Let each group spend 10 minutes reading at each station. After the groups have rotated around the room, have students return to their desks and record answers to the following questions.

Questions

- What did the lighting in each zone look like (e.g., in the Candle Zone, there were shadows, and it was difficult to see the pages/words in the book)?
- How did the lighting make you feel (e.g., in the Candle Zone, we felt relaxed and slightly sleepy)?
- In which zone was it easiest to read, and why?
- In which zone was it hardest to read, and why?



Light Up the Olympic Winter Games Project

Materials:

1 mirror; 3 GE Reveal 100-watt bulbs; 3 strings of holiday lights; slide; ramp; paper; pencil or pen

Background:

Organize the class in groups of 3 or 4 students. Set up and label three mini "Olympic Winter Games venues" with possible lighting sources: bare bulb and holiday lights on the same table or desk.

- Venue #1, a plain mirror, should be labeled **FIGURE SKATING AND ICE HOCKEY VENUE**.
- Venue #2, the ramp, should be labeled **FREESTYLE SKIING VENUE**.
- Venue #3, a slide, should be labeled **BOBSLED TRACK**.

Directions:

- 1** Explain the task to students—they must play the role of a team of engineers who are designing the lighting for an Olympic Winter Games event such as Bobsledding, Skiing, Figure Skating, or Ice Hockey. They must design lighting for the event using the following concerns as a guide:
 - Safety for athletes and spectators
 - Visibility for spectators to enjoy the event from close up and in faraway seats
- 2** Give students 5–8 minutes in front of each mini venue to discuss their plans, arrange the lighting sources, and agree on one or two possible ways of lighting this venue. The team reporter should take good notes, and the team sketch artist should make a quick sketch of their agreed-upon lighting plan. After the allotted time, have the team move to a different venue.
- 3** At the close of the exercise, have students write out and draw their lighting plans.
- 4** During the next class period, have each group present their best lighting plan in front of the class.