



Reflection of Light With Two Plane Mirrors—Double Mirrors Placed at a 90-Degree Angle

Objective



The student will experiment with reflections of two plane mirrors placed at a 90-degree angle to see what will be reflected.

Theory



When you place two plane mirrors at a 90-degree angle, the image of the first mirror is reflected in the second mirror so that the reversed mirror image is reversed again, and you see a *true image*. (See Glossary, page 73.) The placement of images in the mirror will vary with the distance of the person or object in front of the mirror.

Science and Mathematics Standards



Science Standards

- Science as Inquiry
- Physical Science

Mathematics Standards

- Problem Solving
- Communication
- Connection
- Computation/Estimation
- Measurement

Materials



- 1 protractor
- 2 plane mirror tiles 12 inches square (These mirrors should be backed with heavy cardboard and sealed around the edges with thick tape. The mirrors should then be taped together to form two to four hinges. You now have framed mirrors that can stand alone.)
- cardboard
- tape



Procedures



1. Place the mirrors at a 90-degree angle.
2. Place yourself in front of the mirrors.
3. Look into the mirror and follow the instructions. All instructions should be followed while looking into the mirror, not at your body.
 - A. Raise the right hand that you see in the mirror.
 - B. Turn your head to the left.
 - C. Touch your right ear with your left hand.
 - D. Look into the mirror and wink your left eye.
 - E. Raise both hands with your palms facing the mirror.
 - F. Touch one little finger to the thumb on the other hand.
 - G. Bring both hands together until your fingers touch.
 - H. Raise the left hand with the palm facing the mirror and the right hand with the palm turned away from the mirror.
 - I. Touch your right shoulder with your left hand.
 - J. Choose a partner and give five instructions of your own.

Observations, Data, and Conclusions



1. What did you observe during this activity?
2. What information did your eyes give you?
3. Why was this activity difficult?
4. What characteristic of light did this activity use or demonstrate?

