

Light can be bounced and bent.

LIGHT IN ACTION

Kaleidoscope

Find:

- 2-3 plastic mirrors
- Cardstock
- Scissors
- A small object
- Tape
- Pencil

How?

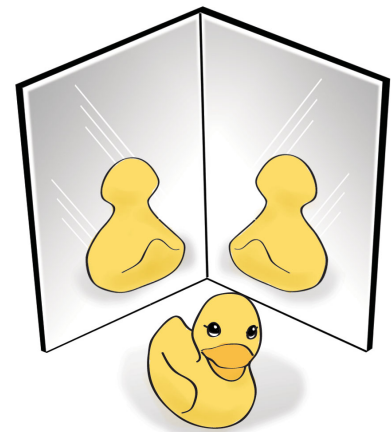
1. Cut the mirrors so that they're 6x6 inches (15x15 cm).
2. Tape two of the mirrors face together so that you make a hinge.
3. Open the mirrors to about 90 degree angle
4. Place your object between the mirrors
5. You should see three images, including your object.

What happened?

When an object is placed between two hinged mirrors, the light from the object bounces back and forth between the mirrors before it reaches your eyes. Every time the light bounces off a mirror, it creates an image. Notice when you make the angle smaller the light bounces more and you see more images.

As you make the angle between the mirrors smaller, the light reflects back and forth more times and you see more images. The number of images you see in the mirrors depends on the angle that the mirrors form.

A kaleidoscope is made from mirrors placed at angles to each other. The viewer looks in one end and light enters the other end. This light is reflected again and again by the mirrors. Light bounces off a surface at the same angle at which it hits the surface. If objects are placed at the end of the viewer with varying colors and patterns they will show up as symmetrical patterns due to the reflections in the mirrors.



Science Standards

- UK National Curriculum Key Stage 2 – LIGHT AND SOUND
- National Science Education Standards K-4 – LIGHT, HEAT, ELECTRICITY, AND MAGNETISM, SCIENCE S A HUMAN ENDEAVOR and K 5-8 TRANSFER OF ENERGY

Light in Action, Kaleidoscope Experiment, YouTube.com

Request free copies of this DVD at www.spie.org/lightinaction.
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