



**OPT**  
**by**  
**Arline and Joseph Baum**

As you enter the kingdom of Opt, you find a world that seems to change before your very eyes. We all see things differently; take, for instance, a 1000 ml beaker filled with water to the 500 ml mark. Some would say it is half-full and some would say it is half-empty! Are you an optimist or a pessimist?

It's Valentine's Day and you only have green construction paper in your classroom. No problem! Cut out green hearts and, using your eyes, turn them into red valentines!

**MATERIALS:** green construction paper, heart pattern, scissors, white wall or screen

**ACTIVITY:** Trace heart pattern in green construction paper and cut out. Place on a white wall and stare at heart for one minute. Then look at the empty space on the wall next to the heart. What do you see?

**EXPLANATION:** The retina is found at the back of your eyes; it contains special cells called cones which allow you to see color. The green cones become tired from the continuous "green message", and the after-image of red is seen by the red cones. This activity could also be used for Memorial Day or any patriotic holiday by coloring the American Flag green, black, and orange which are the complementary colors of red, white, and blue. The complementary color for yellow is purple.

**SOURCE:** New York Hall of Science & *SUPERSCIENCE BLUE*, February 1993.

Baum, Arline and Joseph. Opt. Viking Kestrel, 1987. ISBN#0-670-80870-9.

**TEACHER NOTES:** This photo was taken on the roof of the Convention Center in Sacramento, CA. Print in out and ask your students what they see. Do they see a vase or two silhouettes facing each other? Ask them to look for others. One of the most famous ones is the picture of an old crone and a beautiful young woman. Assign them the task of finding optical illusions in magazines or in art.

