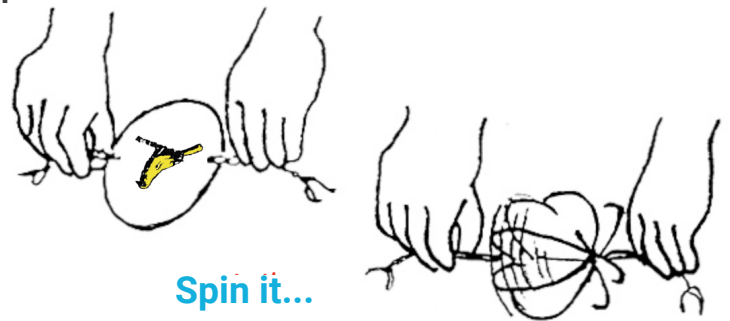
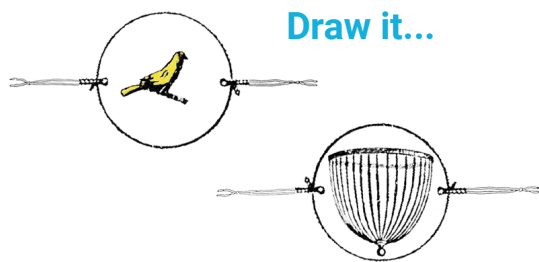


HOW TO MAKE A THAUMATROPE

WITH THE GEORGE EASTMAN MUSEUM

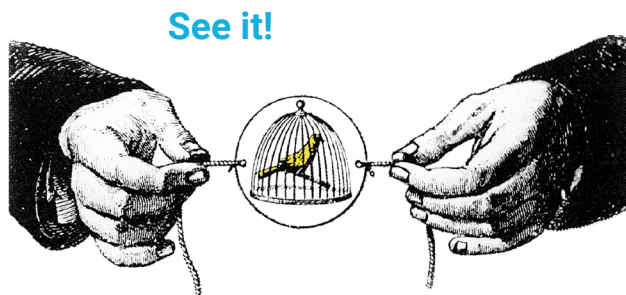


You will need:

- thin cardboard
- paper
- pencil
- scissors
- glue or gluestick
- hole punch
- string
- crayons, markers, pens, or pencils for making your own designs

Steps

1. Draw pictures in two 3-inch circles—or print out our designs and templates on the following pages.
2. Cut out both discs and glue to cardboard with the pictures back to back and the tops of each picture at opposite ends.
3. Punch two holes evenly on the sides and tie string in them as shown.
4. Twist string back and forth between thumb and forefinger to spin the disc. See two pictures become one!



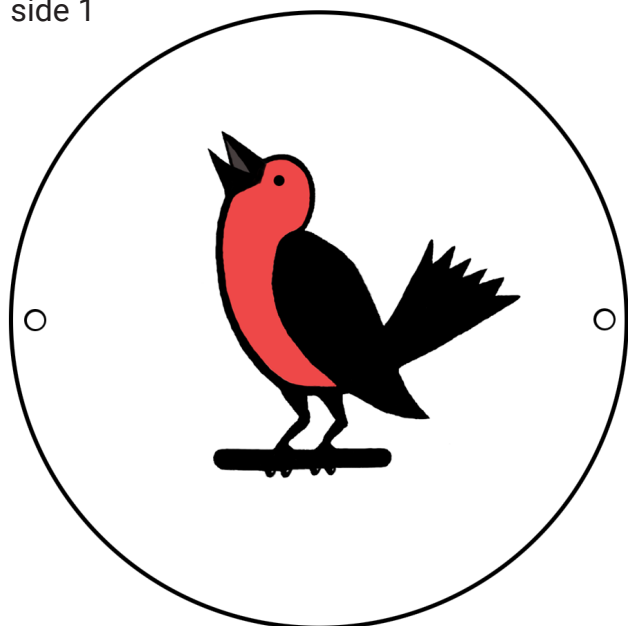
What is a thaumatrope?

A **thaumatrope** (from the Greek *thauma* ["wonder"] and *tropos* ["turn"], or "spinning wonder") is an optical toy that demonstrates **persistence of vision**. Persistence of vision is a phenomenon that happens with our eyes. When we see an image, the image is held on the retina in our eye for a fraction of a second. If we see another image right away, the two pictures appear to make up a single image. The thaumatrope, patented in 1826 by British doctor John Ayrton Paris, uses a small disc with a different picture on each side.

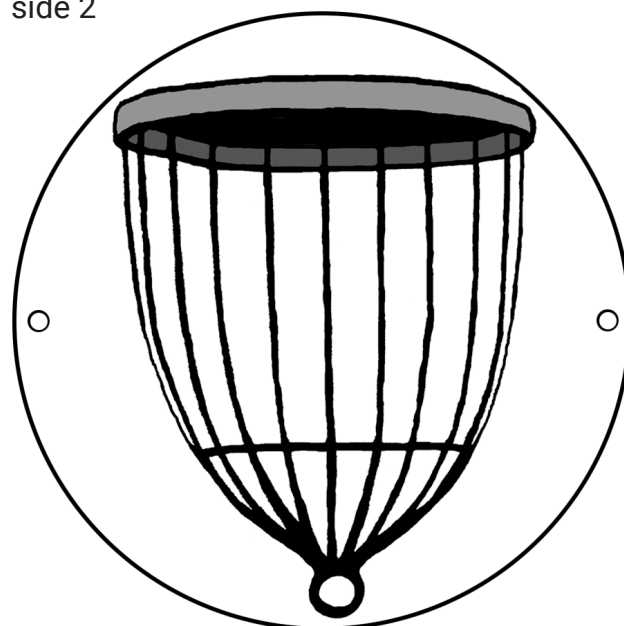
In one of our examples, one side of the disc pictures an empty birdcage, while the other side depicts a bird. When the thaumatrope is rapidly turned by the attached strings, the bird appears to be in the cage.

Example 1

side 1

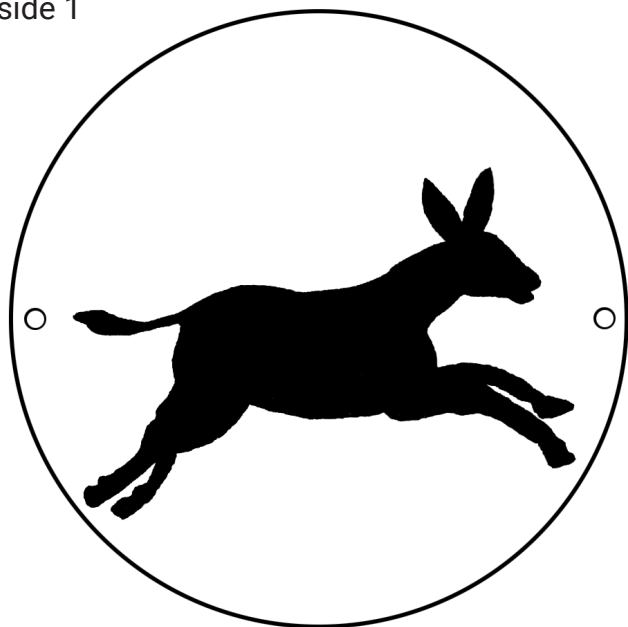


side 2

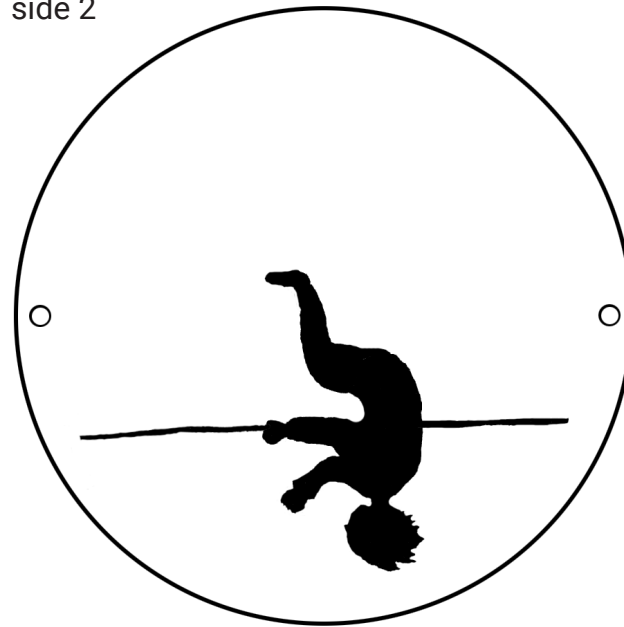


Example 2

side 1



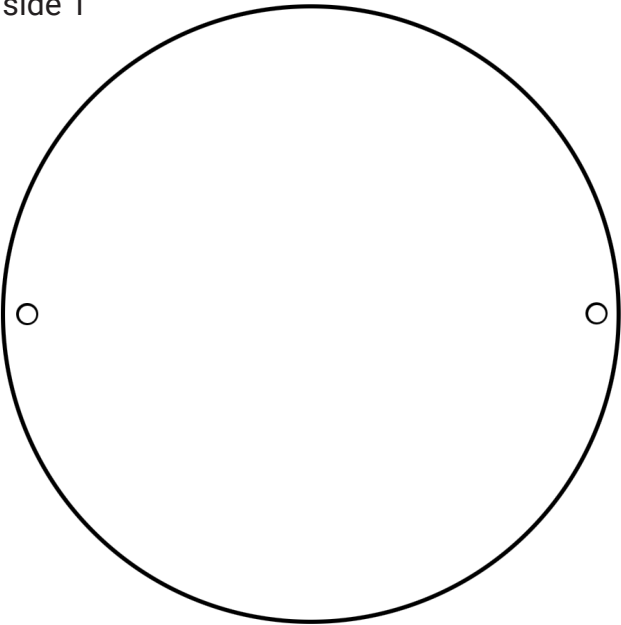
side 2



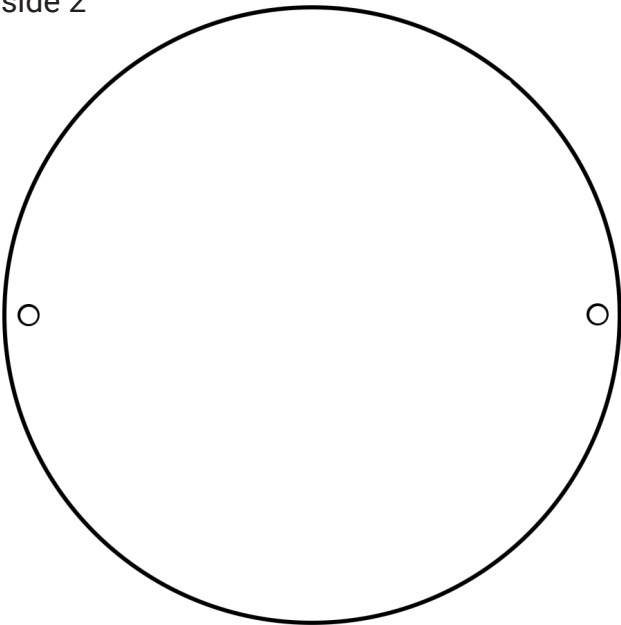


Draw Your Own Designs!

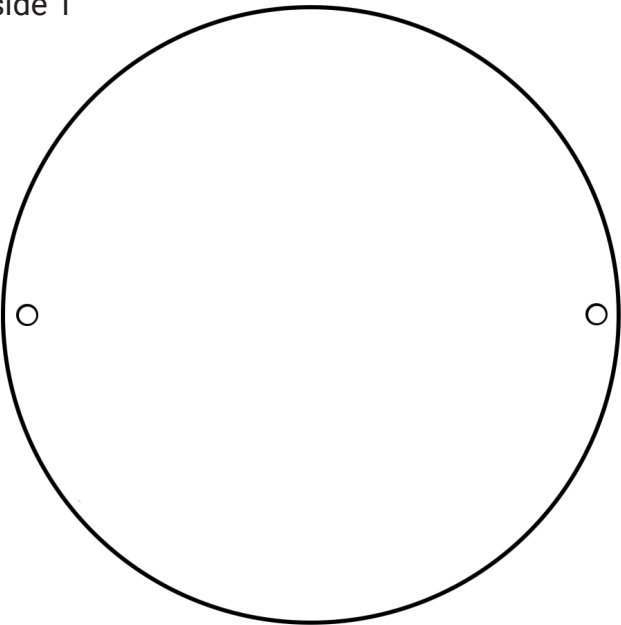
side 1



side 2



side 1



side 2

