

Kids Science@ the Library

Make a Stethoscope



You'll need:

- A cardboard tube
- A plastic funnel
- A deflated balloon
- Duct tape, electrical tape, or masking tape
- Scissors

- 1.** Cut the narrow end off the balloon and stretch it over the wide end of the funnel. Tape the balloon securely to the funnel.
- 2.** Put the cardboard tube over the narrow end of the funnel and use tape to completely cover the joint between the funnel and the tube. Decorate the tube if you like.
- 3.** Place the funnel end of the stethoscope over the heart of a friend or family member and listen at the other end for a heartbeat!
- 4.** Using a timer, count your heartbeat for one minute. Count other peoples' heartbeats and compare them.
- 5.** Have your friend jog for 1 minute, then listen to their heart again. What happened?

What to think about during this experiment:

- Hearts beat at different rates, depending on many factors. Most 6-12 year-olds have heart rates between 50-125 per minute.

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Heart-Themed Thaumatrope

You'll need:

- A piece of white cardstock
- Two medium or large rubber bands
- Coloring supplies and scissors

- 1.** Cut your piece of cardstock in half. You'll use one half to make your thaumatrope. Make a second one with your other piece!
- 2.** Draw the outline of a large heart on one side of the cardstock.
- 3.** Flip the cardstock over and draw a smaller heart in the center.
- 4.** Punch holes in center top and bottom of the cardstock. Thread the rubber bands through the holes and back through the rubberbands to secure them in place.
- 5.** Hold the two ends of the rubber bands and get a friend to spin the cardstock until the rubber bands are twisted tightly. Let go, and you should see both hearts at the same time as the card spins!

How does it work?

- Thaumatropes were invented in 1826. The first one had an empty birdcage on one side of the cardstock and a bird on the other. When it spun, you would see the bird inside the cage! The thaumatrope works because of persistence of vision. The thaumatrope spins faster than our eyes and brains can process the images, so our eyes merge the two images into one.