JR-SCIENTISTS

DIY HEART MODEL

This super easy heart model is fun AND educational!

SUPPLIES

3 water bottles
4 bendy straws
Tape
Drill
Food coloring
Water

INSTRUCTIONS:

STEP 1: Drill one hole in one of the water bottle caps, and two holes in the other. No top on the third.

STEP 2: Mix red food coloring and fill two bottles 80%.

STEP 3: Attach two bendy straws and tape together. Repeat for second set of straws.

STEP 4: Push the straws through the bottle caps and place on the two bottles with water. (see photo) Place other straw into empty bottle.

STEP 5: Seal the areas around each cap/straw connection with play-doh.

STEP 6: Pinch the middle where the straws join between the first and second bottle, and then squeeze and release the middle bottle of water. The water (blood) should flow into your empty bottle, your body and lungs, and then when released, flow from the atrium to the ventricle.

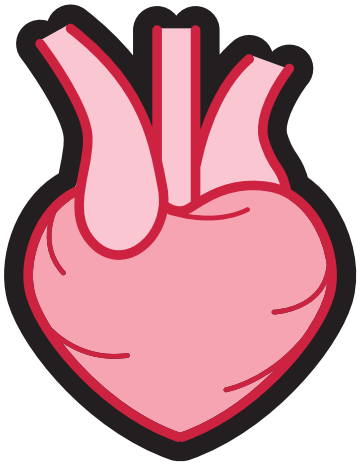
THE SCIENCE

There are sections of the heart called 'chambers'. The top chambers are called the atrium, which holds the blood that returns to the heart from the body and lungs. The bottom chambers are the ventricles, which squeeze and pump blood out of the heart. In this model, the first bottle is the atrium and second is the ventricle. The last bottle represents your body/lungs.

There are also controls called 'valves'. In this model, our fingers act as the valve. Blood only flows in only one direction, from the right side of the heart, to the left side of the heart. It travels from the body into the heart, to the lungs to be oxygenated, back into the heart, then back out into the body.

Heart Model Observations

Use this worksheet to process and evaluate your work.



How long did it take you to build the apparatus?

Can you explain how it works?

Did you have any trouble with your design? Explain.

What did you learn?