Pumping Heart

Human Body | 20-30 minutes

In this activity, students will build a heart chamber to see how the heart pumps blood through the valves and to the body.

Materials Needed

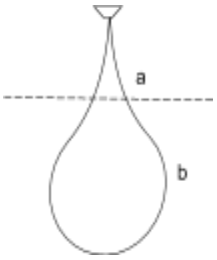
Per group of 1-4 students:

- 1 mason jar
- 1 large balloon
- 2 flexible drinking straws
- Water to fill half of the jar
- About 1 foot of tape
- Pan, sink, or tub

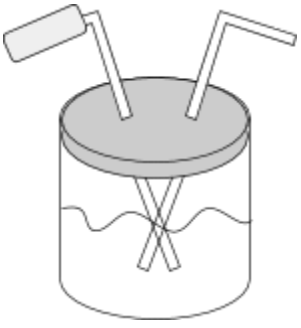
A few:

- Scissors
- Poking objects (wooden skewer, sharp pencil, etc.)
- Extra balloons

Steps:



1. Fill the jar halfway full with water.
2. Cut the neck of the balloon off at the point where it begins to widen. Set the neck aside (a).
3. Stretch the rest of the balloon over the mouth of the jar (b). Pull the balloon as tight as possible. It should lie flat along the top of the jar.
4. Carefully poke two holes in the middle of the balloon, about an inch apart, using the poking object.
5. Put the long end of a flexible straw into each of the holes. The rubber top should seal against the straws. If it doesn't seal securely, start over with a new balloon.



6. Slide the balloon neck from Step 2 onto one of the straws, with the cut end up to make a flap.
7. Secure with tape.
8. Set the jar into the pan, sink, or tub.
9. Bend the straws downward.
10. Gently press in the middle of the stretched balloon and watch what happens to the water.

Explanation:

You created a pump that acts like you heart does. The neck of the balloon taped to the straw acts like a *valve* by letting water out through the straw, but not back in. In a similar way, your heart's valves allow blood out of your arteries. This jar represents one chamber in your heart. Your heart actually has four of these chambers pumping blood.

Try it!

What happens when you take the balloon neck off of the straw?

Fun Fact:

The blue whale has the largest heart of any animal. It weighs 1,500 pounds!