

Name: _____

Date: _____



SCIENCE EXPERIMENT



MAKING A MODEL

SHOWING HOW THE HEART PUMPS BLOOD

GOAL: To build a model of the heart and observe how it pumps blood through the body.

MATERIALS

- 1 clear plastic bottle (16–20 oz)
- 2 balloons
- 4 straws
- Red food coloring
- Water
- Tape
- Scissors
- Modeling clay or putty



YOUR HEART MODEL



Straws to the body (arteries)

Balloons (heart chambers: right and left ventricles)

Bottle (chest cavity)

Balloon stretched across the bottom (diaphragm)

SAFETY FIRST

Use scissors carefully.
Do not put any materials in your mouth.

PROCEDURE

1. Cut the bottom off the plastic bottle.
2. Stretch one balloon tightly across the open end of the bottle. Secure it with tape. This is the **diaphragm**.
3. Blow up the two smaller balloons a little and let the air out. This makes them more stretchy.
4. Insert two straws through the bottle cap. Seal around the straws with clay or putty so no air can leak.
5. Attach one small balloon to each straw inside the bottle. These are the heart chambers (**ventricles**).
6. Fill the bottle with water dyed red to represent blood.
7. Screw the cap on tightly.
8. Hold the bottle. Pull down on the bottom balloon (**diaphragm**) and then release it. Watch what happens!

OBSERVE & RECORD

- What happens when you pull the diaphragm down?

- What happens when you release it?

- What parts of the model act like the real heart?

CONCLUSION

How does this model show how the heart pumps blood?

HOW IT WORKS

When you pull the diaphragm down, the space inside the bottle gets bigger. The pressure drops, and “blood” (water) flows into the balloons through the straws. This is like the heart filling with blood.

When you release the diaphragm, it moves up. The space gets smaller, the pressure increases, and the water is pushed out of the balloons and up the straws. This is like the heart pumping blood out to the body.



THINK FURTHER: How do you think the heart keeps blood moving in one direction? _____