

Modeling the Lungs

Children will make a working model of a pair of lungs.

Materials:

Modeling clay

Two small balloons

Tape

A straw

Clear film canister

Large nail

Activity:

1. Poke a hole through the bottom of the film canister that is the size of the straw.
2. Secure one balloon over one end of the straw with tape.
3. Cut the second balloon in half.
4. Insert the open end of the straw into the film canister and through the hole.
5. The taped end of where the balloon is attached to the straw should fit snugly into the hole in the canister.
6. Stretch the cut balloon over the open end of the film canister.
7. When you pull down on the stretched balloon, you should notice that the balloon inside the bottle inflates.
8. As you release the balloon on the bottom of the canister, the balloon inside the bottle will deflate.

Explanation:

As you pull downward on the balloon, you are reducing the air pressure inside the bottle. How? Because you are increasing the space that exists inside the bottle by stretching out the bottom balloon (this is the same thing your diaphragm does!) Since there is more space inside the bottle, air gets pushed through the straw to fill up the empty space. With air flowing in the straw, the inside balloon (your lungs) start to inflate. This is what happens when you breathe in. When you release the balloon (diaphragm), the air pressure inside the bottle increases and pushes on the "lungs" in your bottle. This forces the air out through the straw. This is what happens when you breathe out.