

Do-It-Yourself Lung Model

Here's what you'll need...

An OLD pair of scissors (not your mother's good ones)



Six inches of surgical tubing
(used 1/4" tubing which quick-connects to tee)



Three good-sized balloons



A large lump of modeling clay



A clear plastic 500-700 ml bottle
(I found balloons would not stay on 1L)



A three-way hose connector (e.g. 1/4" tee 3-way quick connect push fit)

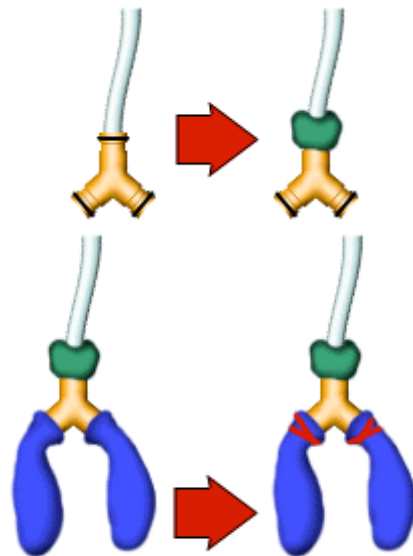


Step One: Assemble the "lungs"

Push the plastic tube into one opening of the hose connector.

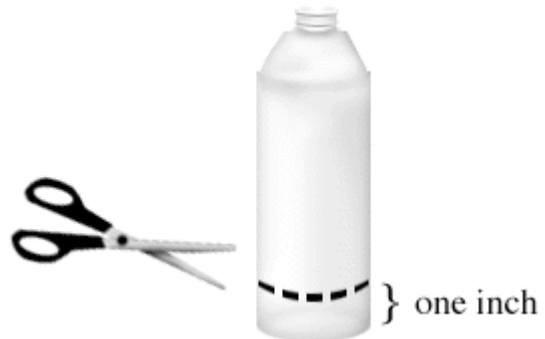
Use the clay to make an airtight seal. (not needed if using quick-connect)

Tightly fix a balloon onto each of the other openings with the rubber bands, making sure the seal is airtight. (don't need rubber bands)



Step Two: Prepare the "chest cavity"

Carefully cut off the bottom. Make sure bottom is smooth. 1" is not critical



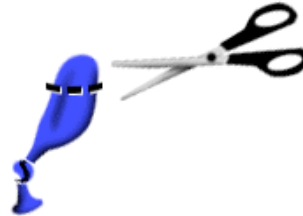
Place the lungs (balloons and connector) inside, and seal the plastic tube into the neck of the bottle with the rest of the clay to make an airtight fit.



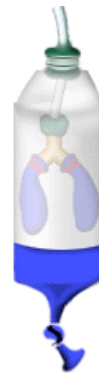
Step Three: Prepare the "diaphragm"



Tie a knot in the neck of the third balloon, then carefully cut off the end.



Gently stretch the half of the balloon with the knot in it over the bottom of the bottle, pulling it up around the sides. Make the balloon as taut as you can - like the top of a drum.



Step Four: Start breathing!

throat

lungs

diaphragm



The lower part of the balloon represents the diaphragm, the main breathing muscle. Pull it down, as though you were inhaling.

This lowers the air pressure in the bottle. Air from outside rushes in and makes the two balloons expand, just like the real lungs inside your chest.