How Do Your Lungs Work?

Have your ever wondered how you breathe? What are lungs? What do they look like and how do they work?
We will be performing this experiment during class this week.

SUPPLIES:
One 1-liter or 1-quart clear plastic bottle*
One large balloon
One small balloon
Two rubber bands
One straw
Modeling clay

DIRECTIONS:

- **Cut off the bottom of the bottle. You can use a serrated knife, a utility knife, or scissors ... what ever sharp instrument you use, please use standard safety rules.**
- **Cut the neck off of the large balloon.**
- **Stretch this balloon over the bottom of the bottle.**
- **Put a rubber band around it to hold it in place.**
- **Insert the straw into the neck of the balloon.**
- **Tie the balloon to the straw using the other rubber band.**
- **Put the balloon end of the straw into the bottle so that the balloon is all the way into the bottle but does not touch the balloon over the bottom of the bottle.**
- **Secure the straw in the bottle by using the modeling clay.**
- **Make sure the clay completely covers the mouth of the bottle, but does not crimp the straw.**
- **Push on the rubber at the bottom of the bottle. What happens? Is this like breathing in or out?**
- **Pull the rubber down. Which way would you be breathing now?**

What happens?

The stretched balloon across the bottom of the bottle acts like a diaphragm. This is the flat muscle at the bottom of the chest cavity. This muscle forces air in and out of your lungs. Your lungs do not inflate or deflate by themselves ... a muscle, your diaphragm, is pulling or pushing so that you can breathe.