

RESPIRATORY TRACT FOLDABLE PROJECT

For this project students will need scissors and either tape or glue. I like using glue sticks because it requires a good amount of tape, but either would work fine.

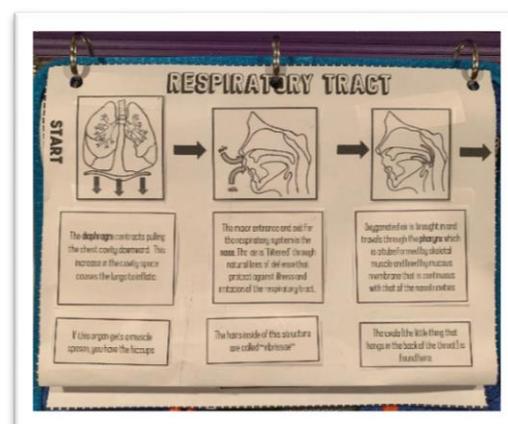
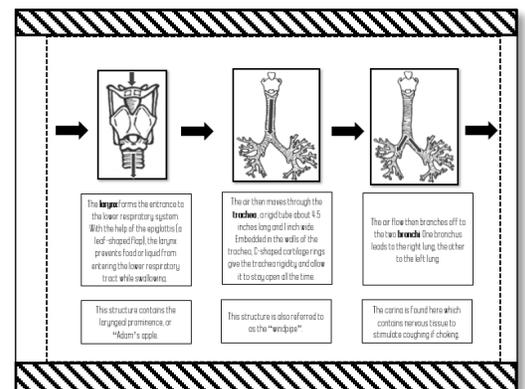
Photocopy the 2 page "Air Flow Matching" page as well as the 3 page "Respiratory Tract" blank foldable page. Students will cut out the boxes and match the pictures of the steps with the descriptions. Next, they must match the "Fact" with the organ or structure that is in bold in the description. One fact will match with each description. They may need to use the internet to find the answers, although most could be reasoned out.

Once they have all their matches, they will place them in order of inspiration. The blank Respiratory Tract foldable provides a little hint because the gray boxes are the exact size of the picture. I did this so they would know if they were completely off with their guess.

Once all of the answers are placed and glued or taped in the boxes, they can be cut out. They can simply cut them out on the dotted lines and glue or tape them together to create the foldable. I have found it best to leave the white blanks on the top and bottom of the second page to have some overlap, but cutting them all on the dotted line would work as well.

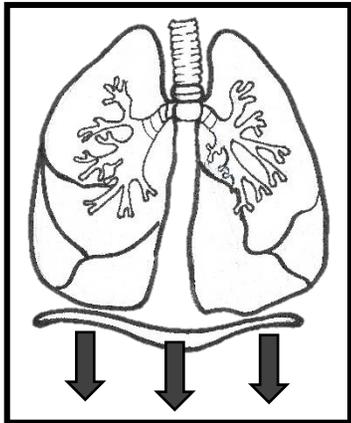
Once it is all complete, students will fold at the dotted lines. It can be hole-punched at the top and kept in a folder.

I hope you and your students enjoy this project!



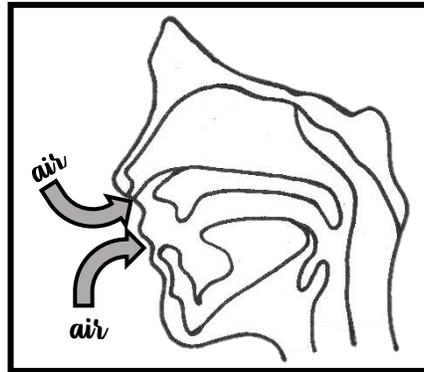
RESPIRATORY TRACT

START



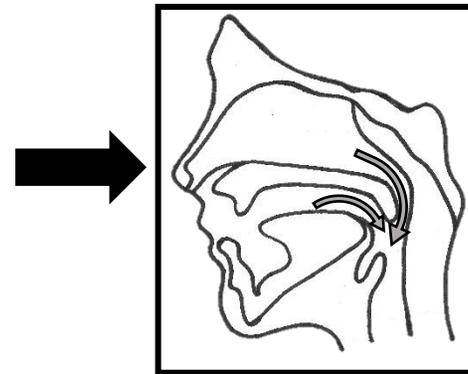
The **diaphragm** contracts pulling the chest cavity downward. This increase in the cavity space causes the lungs to inflate.

If this organ gets a muscle spasm, you have the hiccups.



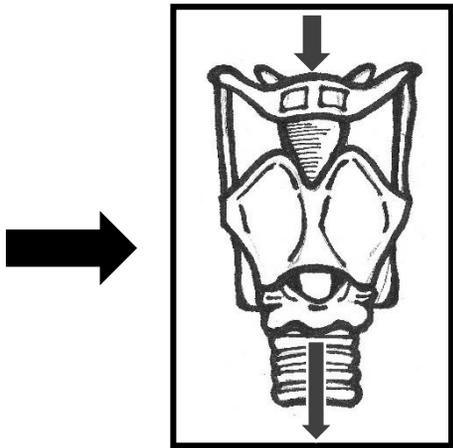
The major entrance and exit for the respiratory system is the **nose**. The air is "filtered" through natural lines of defense that protect against illness and irritation of the respiratory tract.

The hairs inside of this structure are called "vibrissae".



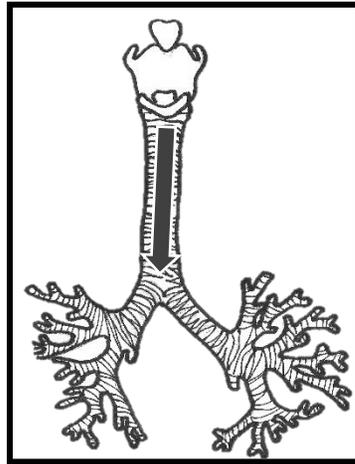
Oxygenated air is brought in and travels through the **pharynx** which is a tube formed by skeletal muscle and lined by mucous membrane that is continuous with that of the nasal cavities

The uvula (the little thing that hangs in the back of the throat) is found here.



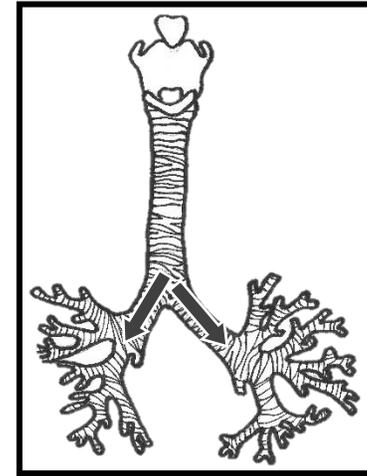
The **larynx** forms the entrance to the lower respiratory system. With the help of the epiglottis (a leaf-shaped flap), the larynx prevents food or liquid from entering the lower respiratory tract while swallowing.

This structure contains the laryngeal prominence, or “Adam’s apple.”



The air then moves through the **trachea**, a rigid tube about 4.5 inches long and 1 inch wide. Embedded in the walls of the trachea, C-shaped cartilage rings give the trachea rigidity and allow it to stay open all the time.

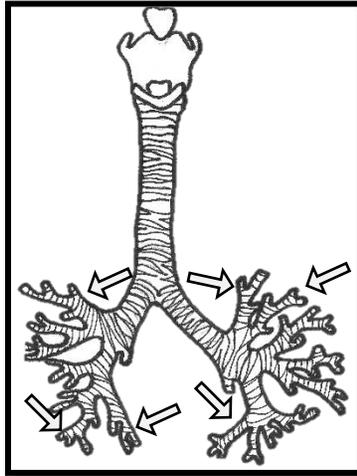
This structure is also referred to as the “windpipe”.



The air flow then branches off to the two **bronchi**. One bronchus leads to the right lung, the other to the left lung.

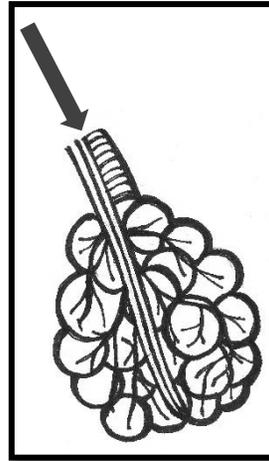
The carina is found here which contains nervous tissue to stimulate coughing if choking.





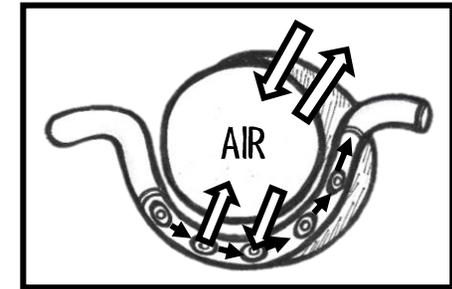
Deeper in the lungs, each bronchus divides into secondary and tertiary bronchi, which continue to branch to smaller airways called the **bronchioles**.

These structures do NOT contain cartilage and are subject to collapsing during an asthma attack.



The air travels through the bronchioles which end in air sacs called the **alveoli**. Alveoli are bunched together into clusters to form alveolar sacs.

You can find 300 million of these in the lungs!



On the surface of each alveolus, there is a network of **capillaries** carrying blood that has come through veins from other parts of the body. Here, carbon dioxide from the blood is exchanged for oxygen from the alveoli.

The alveoli and these form a respiratory membrane that is approximately 0.5 mm thick.