

The Respiratory System Webquest

<http://science.nationalgeographic.com/science/health-and-human-body/human-body/lungs-article/>

The Breath of Life-National Geographic



1. Our lungs are, essentially, a network of connected _____ that bring _____ from the air into our _____, nourishing the trillions of cells that make up our bodies. The lungs also _____ the blood of _____ waste created when cells use oxygen. We breathe in _____ times per day!

Click on "Lung Anatomy" at the bottom of the page

2. Using the information in this section, to label the diagram.

Also known as the windpipe

Larger branches that lead from the trachea are called

The smallest branches are called

Muscle that lies beneath the lungs is called the

Click on "Alveoli"

3. What occurs at the alveoli?

A. What is dropped off at the lungs by the blood vessels? _____

B. What is picked up at the lungs by the blood vessels? _____

4. Using the information in this section, to label the diagram.

Tiny air sacs found at the end of the bronchioles are called

These surround the tiny air sacs

Click on "Lung Functions"

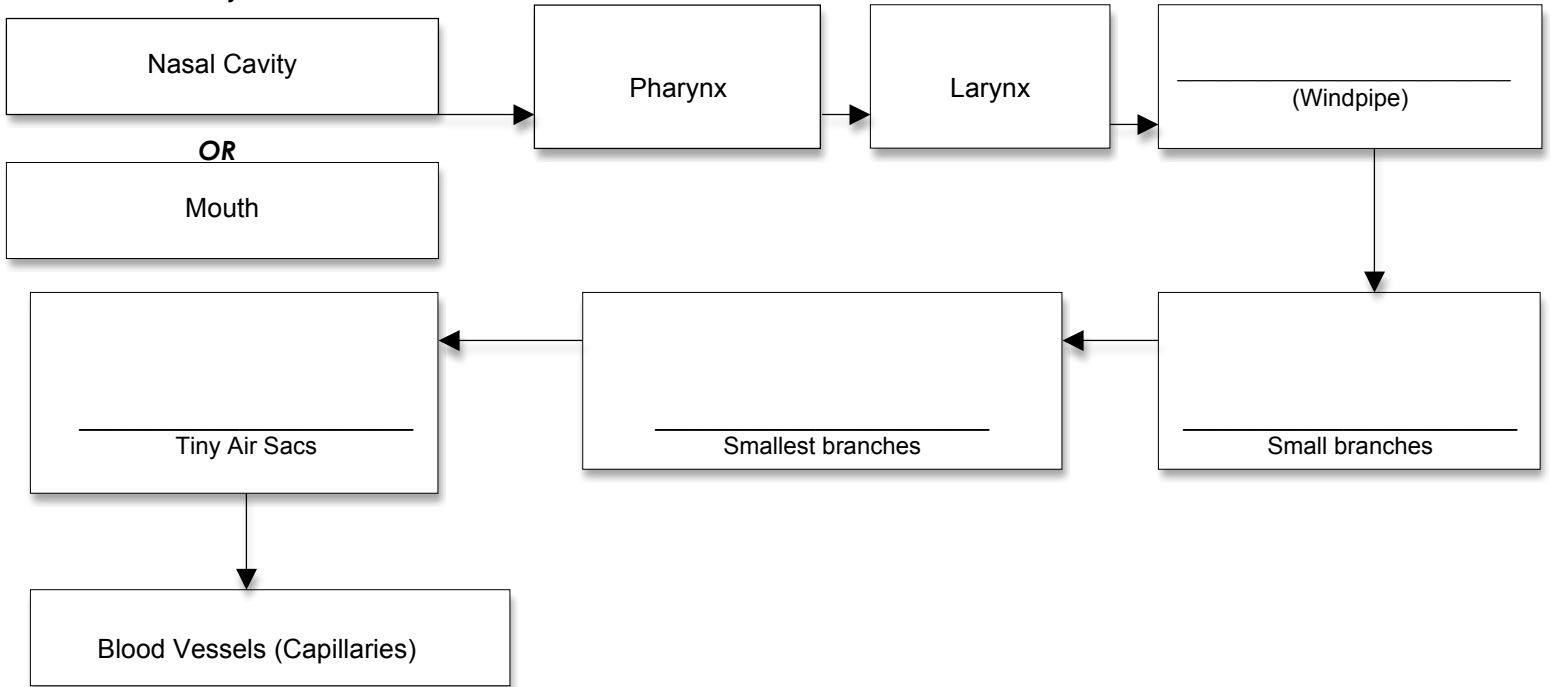
5. What part makes your lungs inflate (expand) and deflate (contract)? _____

6. What happens when the diaphragm is pulled down (Do you inhale or exhale)? _____

7. What gas do you take in when you inhale? _____ When you exhale? _____

8. What happens when the diaphragm relaxes (Do you inhale or exhale)? _____

9. Pathway of Air:

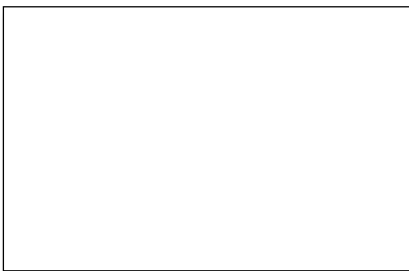


Click on "Affects of Asthma"

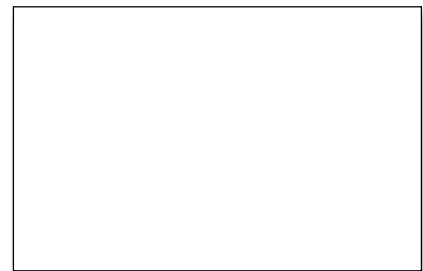
10. What happens when someone has an asthma attack? _____

11. Draw a normal bronchiole below versus a bronchiole of someone having an asthma attack:

NORMAL BRONCHIOLE:



BRONCHIOLE DURING AN ASTHMA ATTACK:



12. What can trigger or cause an asthma attack? (Identify three)

A. _____ B. _____ C. _____

13. What does an inhaler do for someone with asthma? _____

http://lung.ca/children/grades4_6/respiratory/index.html

Click on "Why do we breathe?"

1. Explain how the respiratory system works with the circulatory system. _____

2. We all know that humans use lungs in order to get oxygen, however not all organisms have lungs. Using the information found on the website, describe how the following organisms get oxygen:

| Organism | How does this organism get its oxygen? |
|----------------------|--|
| Sally the Salamander | |
| Big Bird | Both humans and birds have lungs, but the lungs of a bird are different. Explain how: |
| Maggie the Mosquito | |
| Patty the Plant | |
| Lucky the Lizard | Both humans and reptiles have lungs, but the lungs of a reptile are different. Explain how: Our diaphragm allows us to move air in/out of our lungs. Reptiles do not have a diaphragm. How are reptiles able to move air in/out of their lungs? |

<http://kidshealth.org/kid/htbw/lungs.html>

1. *True or False:* Just like your eyes, your lungs are the same size.
2. Your lungs are protected by your _____
3. What is the **diaphragm**? _____
4. Go onto the next page and find the picture of the lungs. Draw a picture that includes the location of the lungs and the diaphragm.



http://kidshealth.org/kid/watch/er/choking.html?tracking=K_RelatedArticle

1. *True or False:* You have two "pipes" or "throats?"

When you choke, food or liquid goes down the wrong "pipe" or "throat."
2. Which pipe does it go down when choking? _____ which leads to the _____.
3. Which pipe/throat SHOULD it go down? _____ which leads to the _____.

4. How does the **epiglottis** protect you from choking?

http://www.lung.ca/children/grades7_12/respiratory/respiratory_system.html

SCROLL DOWN and read under the diagram

1. The **nasal cavity** has two functions. One is to _____ the air that is entering and the other is to trap particles in its _____.

2. What is the **epiglottis**? _____

What is the function of the epiglottis? _____

3. What is another name for the **larynx**? _____

Why is this a good nickname for the larynx? _____

<http://kidshealth.org/kid/talk/ga/yawn.html>

Fill in the blanks that describe the three hypotheses as to why you may yawn:

Hypothesis #1: We yawn when we are are _____ or _____, we just don't breathe as deeply as we usually do. As this theory goes, our bodies take in less _____ because our breathing has _____. Therefore, yawning helps us bring more _____ into the blood and move more _____ out of the blood.

Hypothesis #2: Another theory is that yawning stretches the _____ and lung tissue. Stretching and yawning may be a way to flex muscles and joints, increase heart rate, and feel _____.

Hypothesis #3: The people believe that yawning is a _____ to redistribute the oil-like substance called _____ that helps keep lungs lubricated inside and keeps them from _____. So, if we didn't yawn, according to this theory, taking a deep breath would become _____ and _____ — and that would not be good!

<http://kidshealth.org/kid/talk/ga/sneeze.html> **Solve some everyday mysteries about SNEEZING!**

1. Why do you sneeze? _____

2. **TRUE or FALSE:** Your heart stops when you sneeze.

3. **TRUE or FALSE:** Sneezes are an automatic reflex that can't be stopped once sneezing starts.

4. Write out a summary of another fact you find interesting: _____

Based on the information you have learned about the respiratory system, make a hypothesis how each problem below would affect a human body. (EMI-401)

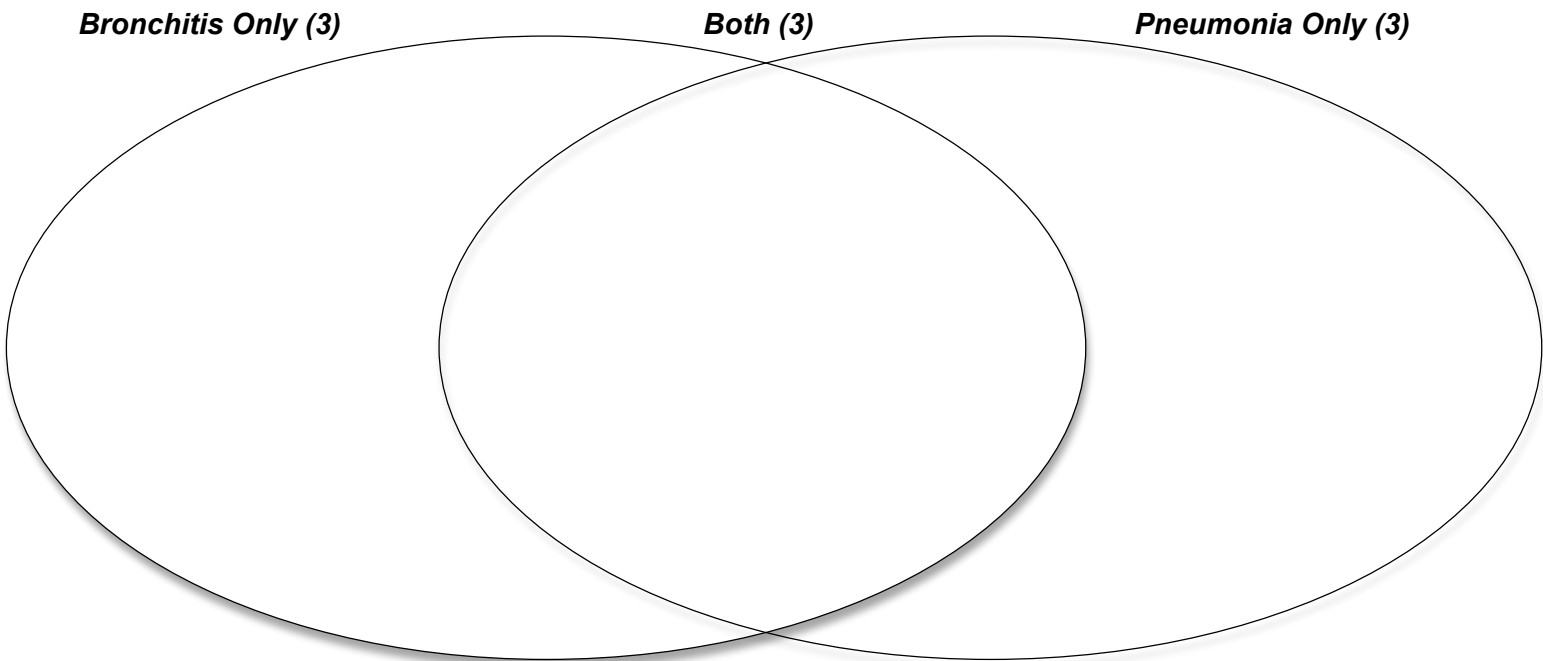
Problem #1: What would happen if your *diaphragm* were damaged (had a hole in it)?

How would this be detrimental to the rest of your body? EXPLAIN!

Problem #2: What would happen if the *epiglottis* didn't function properly?

Using the website below and additional websites if needed, complete the following Venn diagram. Please note the number of characteristics that must be included in each section.

<http://www.buzzle.com/articles/bronchitis-vs-pneumonia.html>



SMOKING

<http://www.kidshealth.org/kid/watch/house/smoking.html>

1. Every single day nearly _____ kids between the ages _____ and _____ start smoking.
2. _____ in _____ kids smoke in high school.

3. Why do kids start smoking? Identify two reasons:

a. _____

b. _____

4. What are some signs that someone is a SMOKER?
IDENTIFY FOUR

a. _____

c. _____

b. _____

d. _____

(Go onto the next page)

5. Why do people become addicted to smoking? _____

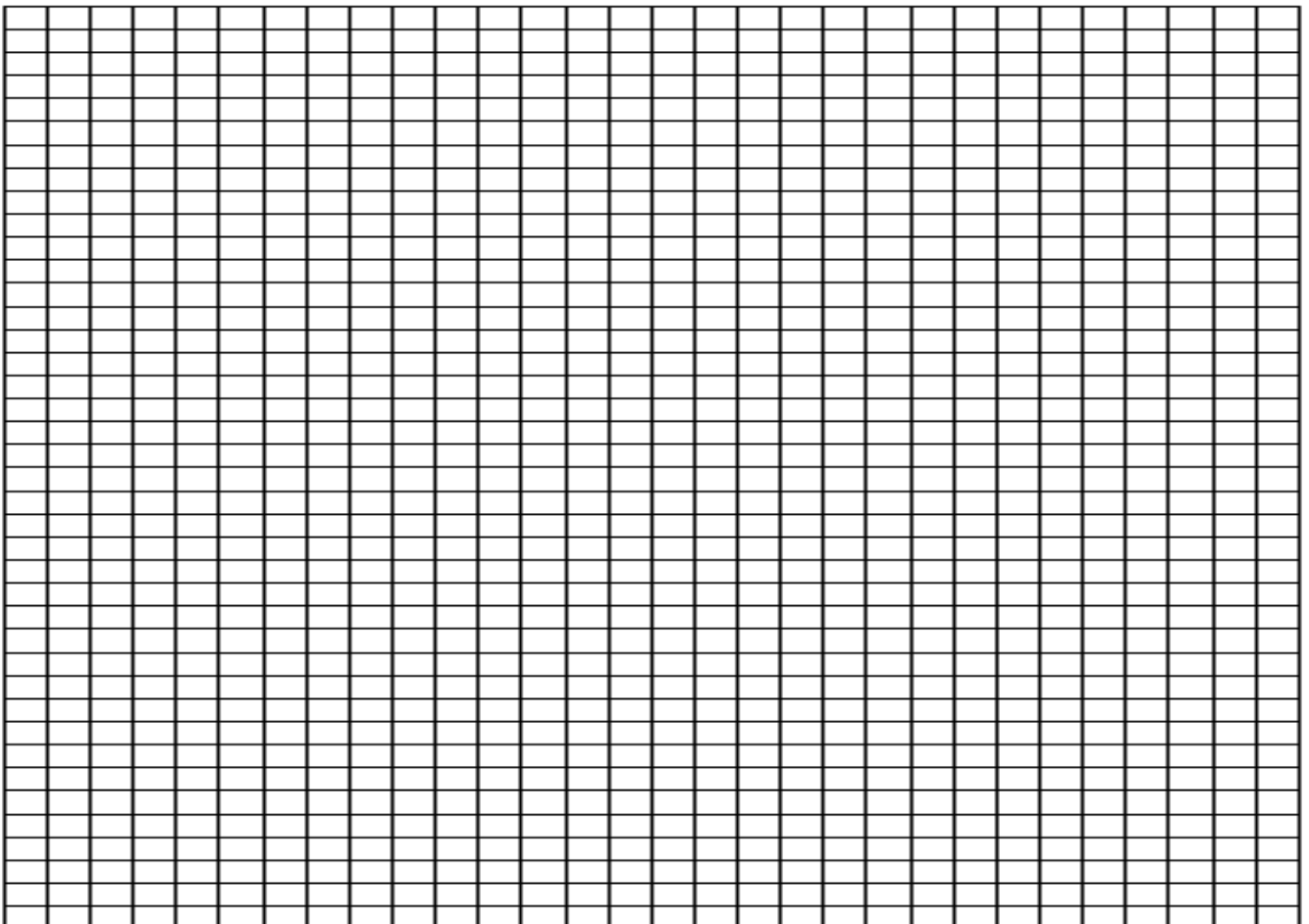
6. How many people die each day from a smoking related disease? _____

Using the website below, observe the current estimates of youth tobacco use.

http://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm

Graph the following percentages below. Do not forget your X and Y axis label (IOD-403):

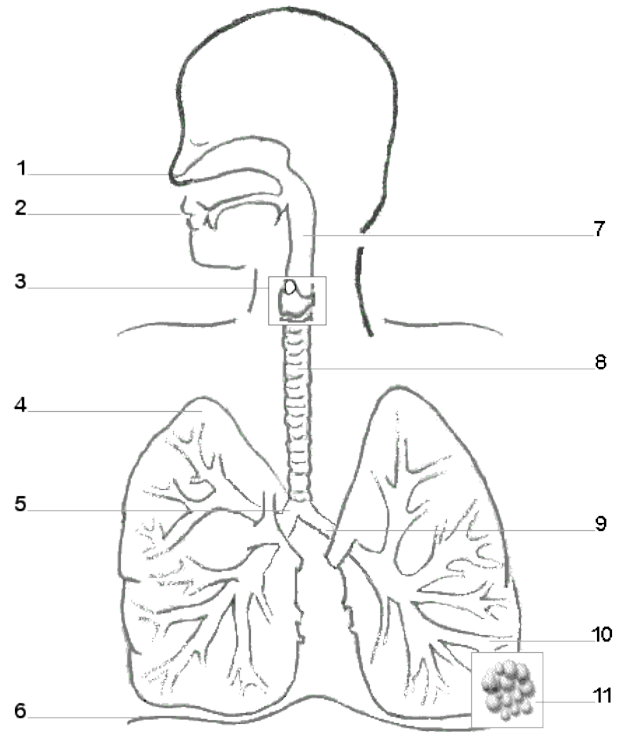
Percentage of high school students who smoked one or more cigarettes in the previous month in 2009



FINAL CHECK!

Label all of the parts of the respiratory system shown below. In addition, use arrows to show where the oxygen flows from outside the human body until it reaches the capillaries.

| Part # | Name of Part |
|------------------------------------|--------------|
| 1 | |
| 2 | |
| 3 Voicebox | |
| 4 | Lung |
| 5 Will have the same name as #9 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 Smallest Branches | |
| 11 | |



1. Bronchi carries air into the _____.
2. At the end of each bronchiole, there are clusters of tiny sacs called _____.
3. Where does the exchange of oxygen and carbon dioxide takes place?
_____ and _____.
4. What is the muscle beneath your lungs that helps to move air in and out of the lungs? _____
5. What is the flap of tissue that prevents food from entering the trachea and lungs? _____

