The Respiratory System Webquest

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.

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.

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:**

OR

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:**

<table>
<thead>
<tr>
<th>Tiny Air Sacs</th>
</tr>
</thead>
</table>

**BRONCHIOLE DURING AN ASTHMA ATTACK:**

<table>
<thead>
<tr>
<th>Tiny Air Sacs</th>
</tr>
</thead>
</table>

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

A. _______________________  
B. _______________________  
C. _______________________  

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

_______________________________________________________________________________________________


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:

<table>
<thead>
<tr>
<th>Organism</th>
<th>How does this organism get its oxygen?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sally the Salamander</td>
<td></td>
</tr>
<tr>
<td>Big Bird</td>
<td>Both humans and birds have lungs, but the lungs of a bird are different. Explain how:</td>
</tr>
<tr>
<td>Maggie the Mosquito</td>
<td></td>
</tr>
<tr>
<td>Patty the Plant</td>
<td></td>
</tr>
<tr>
<td>Lucky the Lizard</td>
<td>Both humans and reptiles have lungs, but the lungs of a reptile are different. Explain how:</td>
</tr>
<tr>
<td></td>
<td>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?</td>
</tr>
</tbody>
</table>

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?

_________________________________________________________________________________________________________________________________________________________________________


**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/qa/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!


*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:** Sneeze is 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

**Bronchitis Only (3)**

**Both (3)**

**Pneumonia Only (3)**

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.

<table>
<thead>
<tr>
<th>Part #:</th>
<th>Name of Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3 Voicebox</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Lung</td>
</tr>
<tr>
<td>5 Will have the same name as #9</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10 Smallest Branches</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

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? ____________________________