

Name: _____

Date: _____

Period: _____

Biology: Circulatory and Respiratory System

Part 1: Breathing

<http://www.aboutkidshealth.ca/HowTheBodyWorks/Breathing-Mechanics-How-We-Breathe.aspx?articleID=10163&categoryID=XL-nh3>

Click through the next buttons to watch the animation and read the captions. Answer the following questions:

1. Where is the diaphragm muscle located?
2. When we inhale, our diaphragm muscles _____.
3. When we exhale, our diaphragm muscles _____.
4. As the lungs stretch during _____, the air pressure gets _____ so air gets sucked in.
5. Gas exchange takes place in the _____.
6. As the lungs "un-stretch" during exhalation, air is _____.

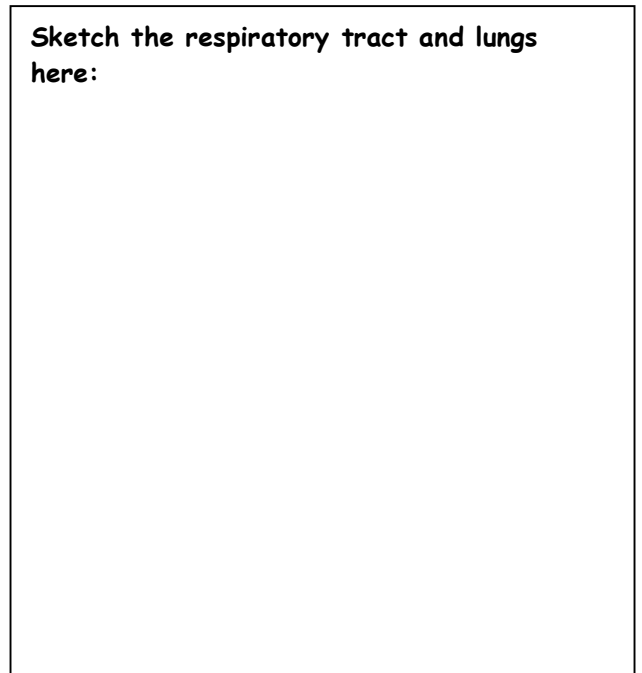
Part 2: Lung Anatomy

<http://www.lungusa.org/your-lungs/how-lungs-work/?gclid=CJGh2qOJ36ACFQ5cbQod0hzcCQ>

Describe the role of each part of the respiratory system

1. Nose
2. Mouth
3. Trachea/ windpipe
4. Bronchial Tubes
5. Lobes
6. Mucus
7. Cilia

Sketch the respiratory tract and lungs here:



Part 3: Oxygen and Carbon Dioxide Exchange

<http://www.aboutkidshealth.ca/HowTheBodyWorks/Gas-Exchange.aspx?articleID=10164&categoryID=XL-nh4>

Click through the animation to answer the following questions.

1. Blood moving from the heart to the alveoli is _____ in oxygen and _____ in carbon dioxide.
2. Air entering the lungs is low in _____ gas and high in _____ gas.
3. Once air enters the alveoli, the gases _____ across the membrane.
4. Oxygen moves from _____ concentration to _____ concentration as it moves from the alveoli into the red blood cells.
5. _____ moves from high concentration to low concentration as it moves from red blood cells into the alveoli.
6. Is this active or passive transport?

Part 4: The Heart

http://www.nhlbi.nih.gov/health/dci/Diseases/hhw/hhw_pumping.html

Watch the animation of blood circulation in the heart and answer the following questions. If the animation does not work, read the descriptions below.

1. The _____ are the chambers of the heart that fill with blood when it returns from the body and the lungs.
2. The _____ are the chambers of the heart that contract and push blood back out to the lungs and body.
3. Oxygen poor blood returns from the body and enters the _____ atrium.
4. Oxygen rich blood returns from the lungs and enters the _____ atrium.
5. The _____ moves oxygen rich blood from the left ventricle to the body.
6. What are the purpose of the mitral and tricuspid valves?
7. The aortic and pulmonary valves are located next to the _____.

Part 5: Blood Vessels

<http://www.abpischools.org.uk/res/coResourceImport/resources04/heart/heart2.cfm>

1. Which blood vessels carry blood away from the heart? _____
2. Which blood vessels contain valves to prevent backflow? _____
3. Which blood vessels are under the greatest amount of pressure? _____
4. Which blood vessels are where oxygen gas is delivered and carbon dioxide gas is picked up?

Part 6: Blood

http://library.thinkquest.org/C0115080/?c=intro_bld

1. How many liters of blood are in the human body? _____
2. What percentage of your blood is plasma? _____
3. What percentage of your blood is made of blood cells and platelets?

Click on Plasma

1. How much of your plasma is water? _____
2. What do the proteins of your plasma do? _____
3. What are the organic substances in your plasma? _____

Click on "NEXT" to go to the section on red blood cells

1. Red blood cells are also known as _____
2. They live about _____ months.
3. The main job of red blood cells is to carry _____ gas to your cells for cellular respiration, and _____ gas to your lungs for exhalation.

Click on "NEXT" to go to the section on white blood cells.

1. What is the job of a white blood cell?
2. Why are white blood cells colorless?
3. Monocytes are also called _____ and are not specific
4. Lymphocytes (B cells) make _____ that attack specific pathogens.

Click on "NEXT" to go to the section on platelets.

1. Describe how platelets stop bleeding in blood vessels:

Click on "NEXT"

Select 2 blood disorders, read about them , and write a short description.

Disorder 1:

Disorder 2: