**Biology 1 – Quiz #3 Practice Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Selective Permeability and Diffusion**

1. What does it mean that a cell membrane can be selectively permeable?
2. How does the phenomenon of selective permeability protect a cell or tissue?
3. Give an example of selective permeability in one of the body systems we’ve covered.
4. Passive diffusion occurs by the movement of molecules from areas of \_\_\_\_\_\_\_\_\_\_ concentration to areas of \_\_\_\_\_\_\_\_\_\_ concentration.
5. Apply the concept of passive diffusion to the process of breathing. How is it that O2 and CO2 gases can be continually exchanged in the proper direction? How are pressure and volume relationships involved?
6. Why are surface area to volume ratios important for diffusion rates? Give examples of how your body maximizes surface area in a certain organ or organ system.

**The Respiratory System**

1. Which of the following is a function of the respiratory system?

A) gas exchange

B) absorption of nutrients

C) transport of oxygen   
D) structural support

1. The trachea leads to the:
2. bronchioles
3. bronchi
4. esophagus
5. Alveoli
6. The space at the back of the mouth, that leads either to the airway or the esophagus is the:
7. larynx
8. Bronchiole
9. nasal cavity
10. pharynx

1. When the diaphragm contracts (is pulled downward), \_\_\_\_\_\_\_ occurs.
2. inhalation
3. exhalation
4. a hiccup
5. the lungs deflate
6. The air sacs where gas exchange occurs are called
7. Bronchi
8. Alveoli
9. Epiglottis
10. Bronchioles
11. Match each numbered item with the most closely related lettered item. (8 pts.)

\_\_\_\_\_\_\_\_ 1. Epiglottis a. Space in the skull where air is warmed and moistened

\_\_\_\_\_\_\_\_ 2. Bronchiole b. The windpipe; connects the two Bronchi

\_\_\_\_\_\_\_\_ 3. Trachea c. The upper part of the respiratory tract; functions as voice box

\_\_\_\_\_\_\_\_ 4. Bronchus d. Air sacs where gas exchange occurs

\_\_\_\_\_\_\_\_ 5. Larynx e. Fine tubes leading to alveoli

\_\_\_\_\_\_\_\_ 6. Alveoli f. Have evolved in spiders, snails and vertebrates

\_\_\_\_\_\_\_ 7. Nasal Cavity g. Large tube that leads to one lung

\_\_\_\_\_\_\_\_8. Lungs h. Blocks food from entering the trachea

**Blood**

1. What are the three main elements that make up the composition of blood?
2. Based on your experience from class, describe how a person’s blood type is determined. Include an explanation of the following terms in your answer:

Antigens

Antibodies

Agglutination (clumping)

**Extra Credit Possibilities**

How do the respiratory systems of insects and amphibians differ from mammals and retiles? How do these differences relate to each animals structure, size and lifestyle?

Explain how blood type is inherited. Which genes act dominantly and which act recessively?