

KEY**Quiz: Respiration notes**Bi.12
M.JohnstonName: _____
Block: _____ Date: _____

1. Does your hemoglobin carry oxygen better at the lower or higher temperature? **LOWER**
2. Does your hemoglobin RELEASE oxygen better at the lower or higher pH? **HIGHER**
3. Finish the following equation [2]: $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \boxed{\text{H}_2\text{CO}_3} \longrightarrow \boxed{\text{H}^+ + \text{CO}_3^-}$
4. WHERE does the above reaction take place? **TISSUES**
5. The reaction in question #2 goes in the reverse direction at times. An enzyme called **CARBONIC ANHYDRASE** is needed to force that to happen.
6. You require oxygen in order to make “electrical energy”. In the box provided, write out the chemical equation for the process of converting oxygen to this energy. [2 marks]



7. What total percentage of your carbon dioxide is carried as CO_2 itself? **30%**
8. What carries the bicarbonate ion? **RED BLOOD CELLS**
9. What two conditions stimulate your breathing center in the medulla oblongata? **LOW pH & HIGH CO_2**
10. Where are the chemoreceptors for oxygen [2]? **AORTA & CAROTID ARTERIES**
11. What is the normal pH of low O_2 / high CO_2 blood in your veins and your lungs? **7.34**
12. What is the normal pH of high O_2 / low CO_2 blood in your arteries, capillaries and your body tissues? **7.4**
13. Which partial pressure is higher at the lungs: **oxygen** or *carbon dioxide*?
14. What is the name of your respiratory pigment **HEMOGLOBIN**
15. Where, specifically, is oxygen carried on the above pigment? **IRON ATOMS**
16. How many oxygen molecules can each respiratory pigment carry **4**
17. Which of the biological molecules is your respiratory pigment made up of? *Carbohydrate* **protein** *nucleic acid* *lipid*
18. Carbon dioxide dissolved in water becomes what? **MILD ACID** or **H_2CO_3^-**
19. The MAIN stimulator of inspiration is **LOW pH & HIGH CO_2**
20. Explain what causes you to stop breathing IN. **STRETCHED RECEPTORS IN WALLS OF ALVEOLI SEND MESSAGES TO MEDULLA OBLONGATA.**