**Biology I – Quiz #3 Study Guide**

**Diffusion and Osmosis**

Describe the phenomenon of selective permeability. Why does this occur? Be able to give examples of selective permeability in the human body.

Explain how passive diffusion works. What is a concentration gradient? Be able to apply the concept of passive diffusion to examples from the body systems we’ve studied.

Why are surface area to volume ratios important for diffusion rates? Give examples of how your body maximizes surface area in certain organs or organ systems.

What is osmosis? How does the concentration of solutes in the interstitial fluid and cytoplasm influence the flow/diffusion of water into and out of the cell?

Explain what active diffusion/transport is. Why can’t the body rely on passive diffusion alone?

(we’ll talk about this tomorrow…probably…☺)

**The Respiratory System**

Know the components of the respiratory system and their associated functions (trachea, bronchi, ect.).

How is the human respiratory system different from other animals?

Why is the circulatory system considered the bridge between lungs and the rest of the body?

Describe *how* we breathe, how are pressure and volume relationships involved? Apply the rules of diffusion and concentration gradients to this process

**The Blood**

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)