Cell Unit Test Review

BIOCHEMISTRY REVIEW

1. Describe the 5 properties of water
2. Which property of water makes it the “universal” solvent?
3. A pH at \_\_\_\_\_ is **Neutral**.
4. A pH below 7 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. A pH above 7 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. What do **Catalysts** do?
7. What happens to the Activation energy if an enzyme is present? **Decreases** OR **Increases**
8. Enzymes –
   * What type of macromolecule are enzymes? \_\_\_\_\_\_\_\_\_\_\_\_\_
   * How do they influence reactions? **Speed them up** OR **Slow them down**
   * Why are they important to life?
   * What 2 things can affect how well they work? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_
   * These 2 conditions can cause them to unwind and change shape. This is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Carbohydrates –
   * Function:
   * Monomer:
   * Examples:
10. Proteins –
    * Function:
    * Monomer:
    * Examples:
11. Lipids –
    * Functions:
    * Monomer:
    * Examples:
12. Nucleic Acids –
    * Function:
    * Monomer:
    * 2 Examples: \_\_\_\_\_\_\_ & \_\_\_\_\_\_\_

Cell Structures Review

1. What are the 3 parts of the cell theory?
2. Which cell type LACKS a nucleus and other membrane bound organelles?
3. Which cell type HAS a nucleus and other membrane bound organelles?
4. What is the basic unit, or building block, of LIFE?
5. Which cell structure, found in ALL cells, is responsible for controlling the movement of materials in and out of the cell?
6. What is the outer layer of bacteria, fungi and PLANT cells which provides protection and support for the cell?
7. The cell membrane is the outer layer of which type of cell?
8. True or False: All living things are made up of one or more cell.
9. Which cell structure is responsible for producing PROTEINS and is found in ALL cells?
10. What is the jelly-like fluid found inside of ALL cells and holds the cell structures in place?
11. Which eukaryotic cell structure is the "powerhouse" of the cell by producing ENERGY (ATP) through the process of cellular respiration?
12. Which cell structure, found only in ANIMAL cells, contains digestive enzymes which are used to break down materials in the cell?
13. Which 3 structures are found in PLANT cells but not in ANIMAL cells?
14. Which cell structure is large and central in plant cells and is used for storing water and providing rigidity?
15. Generally speaking, what is the structure of the cell membrane?
16. Which cell structure "packages" and prepares materials in the cell for transport and distribution?
17. What term is used to describe the Endoplasmic Reticulum when it has RIBOSOMES attached to it?
18. Which cell structure acts as the "highway" of the cell by transporting proteins and other materials from one part of the cell to another?
19. Which eukaryotic cell structure controls ALL cell activities, making it like the "brain" of the cell?\*
20. Which cell structure, found in PLANT cells, takes light energy and uses it to produce food (glucose) during the process of photosynthesis?
21. What is the only type of prokaryotic organism?
22. Give examples of eukaryotic organisms.

Cell Transport Review

1. Which type of cell transport does NOT require energy?
2. Which type of cell transport moves particles AGAINST the concentration gradient and therefore requires energy?
3. How do particles travel during PASSIVE transport?
4. How do particles travel during ACTIVE transport?
5. Particles move ( with or against ) the concentration gradient during passive transport.
6. Particles move ( with or against ) the concentration gradient during active transport.
7. Which cell structure is responsible for maintaining homeostasis within the cell?
8. Generally speaking, what is the structure of the cell membrane?
9. Koolaid molecules spreading out when placed in water is an example of which method of cell transport?
10. What is the specific diffusion of water across a semi permeable membrane?
11. This type of active transport takes large particles INTO the cell.
12. What is the type of passive transport which utilizes helper protein channels in order to move materials?
13. A term which means "water fearing" and describes the nonpolar, fatty acid tails of the cell membrane.
14. In this type of solution, a cell will shrivel due to water rushing OUT of the cell.
15. In this type of solution, a cell will expand due to water rushing INTO the cell.
16. In an isotonic solution, how would you describe the amount of water going in and out of the cell?
17. How are large waste products able to leave the cell with the use of energy?
18. Cell transport exists to maintain a stable internal environment, also known as what?
19. Particles will continue to diffuse until they reach what state?\*
20. Which structures can be found acting as "tunnels" or "channels" throughout the cell membrane bilayer?
21. What is the movement of materials in and out of the cell?