**Helpful Study Questions: Test 4 – Standard 2/Objectives 1-3**

At what phase in the cell cycle does DNA replication occur?

Place the stages of mitosis in proper chronological order.

During which phase of mitosis do the chromosomes line up along the middle of the dividing cell?

What is the first phase of mitosis called?

Cells spend most of their time in what phase?

In what phase does cytokinesis begin?

Which phase occurs directly after metaphase?

During which phase do chromosomes first become visible?

During which phase does the DNA make a copy of itself?

What are the building blocks of protein?

Which macromolecule catalyzes chemical reactions?

How do RNA and DNA differ?

Name three kinds of lipids.

Glucose is a \_\_\_\_\_\_\_\_\_\_\_\_\_.

Double helix describes the structure of a molecule of \_\_\_\_\_\_\_\_\_\_\_.

Why is cellulose so difficult for most animals to digest?

The general term for a large molecule made up of many similar subunits is \_\_\_\_\_\_\_\_\_\_\_.

What elements occur in carbohydrates?

What elements occur in lipids?

What elements occur in nucleic acids?

What elements occur in proteins?

Give a mnemonic for the elements in macromolecules.

What are the three elements in all organic macromolecules?

What is a monomer of a protein called?

What is a monomer of a lipid called?

What is a monomer of a carbohydrate called?

What is a monomer of a nucleic acid called?

Name two monomers of carbohydrates.

What is the basic formula of a carbohydrate?

What does cohesive mean?

What does adhesive mean?

Why is water considered to be a universal solvent?

Name three properties of water.

Name a substance that cannot dissolve in water.

What elements is water composed of?

What is a polar molecule?

Water falling from clouds forms a rain drop because of what?

Water stuck to the windshield is an example of what?

When a piece of liver is dropped into hydrogen peroxide, the peroxide bubbles vigorously as a result of what reaction?

Enzymes are composed of what organic molecule?

How do enzymes influence chemical reactions in living systems?

What is the definition of an autotroph?

What is the definition of a heterotroph?

What does the Latin root word “auto” mean?

What does the Latin root word “hetero” mean?

What does the Latin suffix “troph” mean?

What is photosynthesis?

What pigments give plants their green color?

The ability of plants, algae, and a few kinds of bacteria to make their own food in the presence of sunlight is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Which molecules are produced during the light-dependent reactions of photosynthesis?

What form of energy do cells need in order to do work?

### What is the chemical equation for photosynthesis?

### What are the reactants for photosynthesis?

What does anaerobic mean?

What’s are the three differences between fermentation and respiration?

Where in the cell is most energy (ATP) synthesized?

What does ATP stand for?

What are the two types of cellular respiration? Which one is aerobic? Which one is anaerobic?

#### How many ATP molecules are produced for each glucose molecule used in fermentation?

#### How many ATP molecules are produced for each glucose molecule used in aerobic respiration?

What is the general equation for cellular respiration?

Does photosynthesis store energy or use energy?

Where does the energy for photosynthesis come from?

What is osmosis?

When the amount of water in a cell is higher than the amount of solute in a cell it is \_\_\_­­­­­­­­­­­­­­­\_\_\_\_.

What is active transport?

Describe a cell that is in an isotonic environment.

### A solution that has a higher concentration of solute than another solution is called \_\_\_\_\_\_\_\_\_\_\_\_\_.

### A solution that has a lower concentration of solute than another solution is called \_\_\_\_\_\_\_\_\_\_\_\_\_.

### The measurement of the amount of solute in a solution is called \_\_\_\_\_\_\_\_\_.

What will happen to animal cells placed in a hypertonic environment?

### What is the name given to membranes that only allow certain materials to pass through them?

In passive transport, how do molecules move?

In active transport, how do molecules move?

What controls most of the cell processes and contains the hereditary information of DNA?

What is the main function of the Cell Wall?

What regulates what enters and leaves the cell and provides protection and support?

Which organelle would you expect to find in a plant cell but not an animal cell?

What organelle functions to package and deliver proteins?

Where are organelles located within the cell?

Where is genetic material located within the cell?

What organelle is responsible for destroying worn-out cell parts?

What organelle controls what enters and leaves the cell?

The rough endoplasmic reticulum has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ located on it.

Located within the nucleus, what is the organelle responsible for producing ribosomes?

Which structure is directly responsible for the formation of proteins within the cell?

What do we call the little cell structures that have specific functions and are found in Eukaryotes?

What is the gel-like substance inside the cell where cell processes (chemical reactions) occur and is 80% water?

What is the green organelle in plant cells that captures energy from the sun to make glucose?

What is the organelle referred to as the cell’s “powerhouse”?

What are the organelles that are referred to as “protein factories?

What organelle is referred to as the cell’s railroad track because it moves material around in the cell?

What organelle is referred to as the cell’s post office because it sorts and packages proteins into vesicles and then delivers those substances?

What organelle temporarily stores food, water and waste and is rather large in plant cells?

What do we call a group of cells working together to perform a particular function?

What do we call two or more tissues working together to perform a function?

What do we call the small structures within a cell that perform the cell’s functions?