Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_Per:\_\_\_\_\_\_\_\_\_

Unit 4 Test Review – Test Sections 1 & 2

Cell Energy, Organelles and Functions

1. Which cell organelle determines the amount of ATP (Cell Energy!) that is available to the cell? Mitochondria
2. What is the process called that creates ATP and changes O2 and Glucose into CO2 and H2O? Cellular Respiration
3. What organelles are used in creating proteins (protein synthesis)? Write them in order of the process.

Nucleus (DNA & RNA) 🡪 Ribosomes 🡪 Rough E.R. 🡪 Golgi Apparatus

1. If we were to increase the amount of Rough E.R. in a cell, what other organelle would we also need more of (HINT: Think protein synthesis!)? Golgi Apparatus
2. Enzymes are what type of macromolecule? REMEMBER THIS. Proteins

Next to each description, write which organelle is described:

1. Contains Genes and controls the cells function - Nucleus
2. Enzyme made of Nucleic Acid helps assemble Amino Acids based on information from DNA (Use deductive reasoning for this one… which one would assemble amino acids?) Ribosomes
3. Processes Lipids to make more Membrane for the cell – Smooth E.R.
4. What organelle is the major producer of sugar and ATP and makes a cell **AUTOTROPHIC**? Chloroplasts
5. Which organelle helps maintain pressure in a plant cell and stores nutrients? Vacuole
6. What is the rigid layer that provides structure to plant cells called? Cell Wall
7. Which organelle converts light energy into sugars? Chloroplasts
8. Which organelle sorts and processes proteins? Golgi Apparatus
9. Which organelle is the location where transcription & DNA replication occur? Nucleus
10. Which organelle is a storage compartment for water and nutrients? Vacuole
11. Which organelle holds genetic information (DNA)? Nucleus
12. Which organelle assembles amino acid chains? (protein chains)? Ribosomes
13. Which organelle processes and folds amino acid chains into finished proteins? Rough E.R.
14. Which organelle sorts and ships completed proteins where they need to go in the body? Golgi Apparatus
15. If you eat a lot of glucose, which organelle would your cells make more of to help process the glucose? Mitochondria
16. What would happen if you ate a lot of glucose and removed the mitochondria from your cells? You would have an increase in glucose and a decrease in ATP (cellular energy)
17. Which organelles are found in plant cells but NOT in animal cells? Cell Wall, Chloroplasts
18. Which types of organisms perform photosynthesis? Plants
19. Which types of organisms perform cellular respiration? Plants AND Animals
20. Can ATP ONLY be made in the mitochondria? Where else could it be made? Chloroplasts
21. What are the differences between a prokaryotic and eukaryotic cells? Prokaryotic cells do not have a nucleus. Eukaryotic cells have a nucleus (YOU are EUKARYOTIC!).
22. If we increased the amount of light intensity available to a plant, what else would increase? The amount of glucose (sugar)
23. What is the formula for photosynthesis (Write it using simple words AND using the chemical equation)?



1. What is the formula for chemical respiration (Write it using simple words AND using the chemical equation)?
2. Label this animal cell using black pen or pencil. Using a red colored pencil (or other color), draw arrows showing the process of protein synthesis. Using a blue colored pencil, draw arrows showing the process of cellular respiration.

