**Unit 7: Molecular Biology, Biotechnology, Health Study Guide**

**Vocabulary**: Provide the definitions and/or facts for the following terms.

|  |  |  |
| --- | --- | --- |
|  | **TERM** | **DEFINITIONS** |
| **1** | **cell theory**  |  |
| **2** | **calorie** |  |
| **3** | **glucose** |  |
| **4** | **biotechnology** |  |

**5.** What are **amino acids**, and why are they important?

**6**. For each of the following organelles, identify their cell function and what the function does:

|  |  |  |
| --- | --- | --- |
| **ORGANELLE** | **CELL FUNCTION** | **DESCRIBE FUNCTION** |
| Cell membrane |  |  |
| Nucleus  |  |  |
| Mitochondria  |  |  |
| Ribosomes |  |  |
| Chloroplasts |  |  |

**7.** Identify the **4** types of macronutrients (macromolecules) and describe what each does for our bodies.

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8. Provide 3 similarities and 3 differences between plant and animal cells:

***Similarities:***

***Differences:***

11. How can smoking have a negative effect on the human body?

12. How can drinking have a negative effect on the human body?

13. Write the chemical equation for **Cellular Respiration** (circle the reactant & underline the product)

14. What is **ATP,** where is it created in the cell,and how is it used?

15. Write the chemical equation for **Photosynthesis** (circle the reactant & underline the product)

16. What is the difference between **mitosis** and **meiosis,** and how are they similar?

***Differences:***

***Similarities:***

18. What is the difference between **osmosis** and **diffusion,** , and how are they similar?

***Differences:***

***Similarities:***

19. Provide 3 examples of how biotechnology benefits agriculture.

20. What percent of energy does your body use to digest food?