**Unit 3 DIAS Study Guide**

**Cell Reproduction (Mitosis/Meiosis)**

1. Fill in the table below with the correct information.

|  |  |  |
| --- | --- | --- |
|  | **Asexual Reproduction** | **Sexual Reproduction** |
| # of cells at the start |  |  |
| # of cells at the end |  |  |
| Does this process use gametes? |  |  |
| Is there genetic variety with this process? |  |  |
| What is the purpose of this process? |  |  |
| Example: |  |  |

1. If plant A is produced asexually from plant B, and plant A has 50 chromosomes, how many chromosomes does plant B have?
2. What is the cell called that is produced sexually?
3. What type of cells does mitosis produce?
4. What is the purpose of mitosis?
5. What are the four phases of mitosis?
6. 

 M =

 G1 =

 G2 =

 S =

1. For each phase, describe what happens:
* Interphase:
* Prophase:
* Metaphase:
* Anaphase:
* Telophase:
* Cytokinesis:
1. Why is it important that DNA replication happens?
2. The process that forms a zygote is called?
3. What type of cells are made by the process meiosis?
4. If a cell entering meiosis has 12 chromosomes, each of the resulting cells will have how many chromosomes?
5. What is the other word for sex cells?
6. How many chromosomes does each human sex cell have?
7. Arrange the phases of the cell cycle in the correct order.



1. The picture below shows a process that occurs during meiosis. This process creates new traits that can be inherited by the offspring. What is this process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (2 words)



1. What is the process below and what kind of cells does it produce?



1. Which row in the chart below indicates the correct process for each event indicated?



1. In Mitosis, how many times the cell divide?\_\_\_\_\_\_\_\_\_. How many cells result?\_\_\_\_\_\_\_\_\_\_\_\_

What type of cells are produced in mitosis?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. In Meiosis, how many times the cell divide?\_\_\_\_\_\_\_\_\_. How many cells result?\_\_\_\_\_\_\_\_\_\_\_\_

What type of cells are produced in meiosis?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Photosynthesis & Cellular Respiration**

1. What is photosynthesis?
2. What is the equation for photosynthesis?
3. What are the reactants of photosynthesis?
4. What are the products of photosynthesis?
5. In what organelle does photosynthesis take place?
6. What is cellular respiration?
7. What is the equation for cellular respiration?
8. What are the reactants of cellular respiration?
9. What are the products of cellular respiration?
10. In what organelle does cellular respiration take place?
11. What is the difference between aerobic and anaerobic respiration?
12. What is ATP?
13. How are photosynthesis and cellular respiration related?
14. The energy for all organisms begins with the \_\_\_\_\_\_\_\_\_\_\_\_.
15. Do plants have mitochondria?
16. The diagram below shows the relationship between photosynthesis and cellular respiration and the organelles in which they occur. Describe how photosynthesis and cellular respiration are interrelated?

