

Name _____

Cell Organelles, Mitosis, & Meiosis Test

For problems 1-4, write the term in the blank next to the correct definition. Choose from the word bank below:

Mitosis

Meiosis

Zygote

Interphase

1. _____ is a new cell formed when a sperm fertilizes an egg.
2. _____ is the process of the chromosomes separating for cell division of skin cells, bone cells, and many other kinds of cells.
3. _____ is the process of the chromosomes separating for cell division of sex cells.
4. _____ is the time of a cell's life when it grows and prepares for mitosis.
5. What is a major difference between the amount of genetic material (DNA) in the resulting cells after mitosis and meiosis? _____

6. Give two reasons why your skin cells need to divide. _____

7. What is the relationship between cells, tissues, and organs? _____

8. In the chart below, label the four stages of **mitosis** *in order*. Then describe what happens to the centrioles, spindle fibers, and chromosomes in each stage. Use the words and statements from below. Every word and statement should be used.

Anaphase

Telophase

Metaphase

Prophase

Spindle fibers attach to centomeres of chromosomes.

Centrioles pull on spindle fibers.

Chromosomes split down the middle into chromatids.

Spindle fibers disappear.

Spindle fibers begin to form.

Chromosomes become visible.

New nuclei form in each of the two new cells.

Chromosomes line up down the center of the cell.

Centrioles move to opposite sides of cell.

<i>Stage</i>	<i>Description</i>
<hr/> (first)	<hr/> <hr/>
<hr/> (second)	<hr/> <hr/>
<hr/> (third)	<hr/> <hr/> <hr/>
<hr/> (fourth)	<hr/> <hr/>

9. What is a possible outcome if a zygote has three copies of a chromosome instead of just two? _____

10. What is the biggest difference between how the chromosomes line up in metaphase in mitosis and metaphase I in meiosis? _____

For problems 11-16, write the name of the organelle in the blank next to the correct function. Choose from the word bank below:

<i>Cell Membrane</i>	<i>DNA</i>	<i>Ribosome</i>	<i>Golgi Body</i>
<i>Nucleus</i>	<i>Chloroplast</i>	<i>Mitochondrion</i>	<i>Vacuole</i>
<i>Lysosome</i>	<i>Centriole</i>	<i>Endoplasmic Reticulum</i>	<i>Spindle Fiber</i>

11. _____ contains the DNA of the cell. It's thought of as the "command center."
12. _____ makes enzymes in the cell after reading the genes from the mRNA.
13. _____ protects the cell by forming a barrier surrounding the cell.
14. _____ is the "power plant" of the cell, digesting glucose and making energy.
15. _____ pulls on spindle fibers during mitosis and meiosis to help separate the chromosomes into the new cells.
16. _____ makes glucose using energy from the sun through photosynthesis. This is found only in plant cells.