Name:

Date:

Period:

**Objective 1:**

a. Characteristics passed on by a parent are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 Examples:

b. The instructions for each trait are found on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which are found in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a cell.

c. The DNA on chromosomes are arranged in sections called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that control the production of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

d. Number of genes on a chromosome:

e. Human body cells have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ chromosomes.

 🡪 Each parent contributes \_\_\_\_\_\_\_\_\_\_\_ chromosomes, resulting in \_\_\_\_\_\_\_\_ pairs of chromosomes.

f. The chromosomes that make up one pair are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Homologous chromosomes carry genes that control the \_\_\_\_\_\_\_\_\_\_\_\_\_ inherited traits.

**Objective 2:**

1. To keep the number of chromosomes that are passed down from parent to child, humans produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Gametes are:
3. Number of chromosomes in each human gamete:
4. A cell with \_\_\_\_\_\_\_\_\_\_\_ chromosomes is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell.
5. When one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ combines with another, this is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. When fertilization happens, the cell that is formed contains \_\_\_\_\_\_\_\_\_\_\_\_ chromosomes, or :

This type of cell is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Meiosis I**

**Objective:**

What: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are formed during a process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Where: Meiosis occurs in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organs.

Why: Meiosis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the number of chromosomes by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by the separation of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 \*\* After meiosis, a cell with \_\_\_\_\_\_\_\_\_\_\_\_\_ will have \_\_\_\_\_\_\_\_\_\_\_\_ chromosomes.

How: Meiosis involves two cell divisions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |
| --- | --- |
| **Stage**  | **What happens**  |
| Interphase |  |
| Prophase I | * Crossing over:
 |
| Metaphase I |  |
| Anaphase I |  |
| Telophase I  |  |

**Mitosis II**

1. How many cells result at the end of meiosis II?

 B. Unlike mitosis, meiosis consists of \_\_\_\_\_\_\_\_\_\_\_\_ sets of divisions and produces \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ daughter cells that are not identical. This results in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

C. Genetic variation is produced by:

*
*