Meiosis Homework

## Part 1: Somatic VS Gametic Cells

**Directions**: Read the passage below and answer the questions on a separate sheet of paper.

A somatic cell is the type of cell that you will find in most parts of an animal's body, from its skin to its heart. The nucleus of a somatic cell contains a fixed number of chromosomes, usually present in pairs.

The two members of a chromosome pair, which are referred to as homologous chromosomes, exist because one member of each pair has been derived from the mother of the organism and the other from its father. Cells such as this one that contain two copies of every chromosome are referred to as diploid (2n)

Animal eggs and sperm are gametic cells. They contain only one set of chromosomes, consisting of one member of each homologous pair. The nuclei of these cells are said to be haploid (1n). These haploid gametes unite with others during fertilization to produce the diploid state of somatic cells.

Questions:

1. Where do you find somatic cells?

2. How would you describe the chromosomes found in the nucleus of a somatic cell?

3. What do you think the prefix "homo" means?

4. What does it mean to be diploid (2n)?

5. Where do you find gametic cells?

6. What happens during fertilization?

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## Part 2: Haploid VS Diploid

**Directions**: Use the table below to answer questions 9-13.

| Organism | # of Chromosomes |
|---|---|
| Frog | 26 |
| Human | 46 |
| Pea Plant | 14 |
| Housefly | 12 |

7. What is the definition of diploid?

8 What is the definition of haploid?

9 . What is the number of chromosomes for diploid human cells?

10 . What is the number of chromosomes for haploid pea plant cells?

11. If a frog cell had 26 chromosomes, would that cell be diploid or haploid ?

12. Which process would create a pea plant cell with 14 chromosomes : mitosis or meiosis? 1

13 . If a housefly cell had 6 chromosomes, would that cell be diploid or haploid ?