

Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Genetics Fill-in Notes

## 6.1 Chromosomes and Meiosis

Objectives: Content  
Key ConceptStudents write

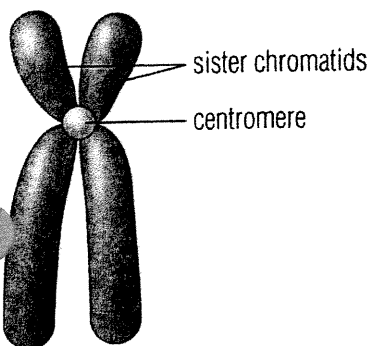
\_\_\_\_\_ have half the number of chromosomes that a body cell have.

1. What is the difference between body cells and sex cells?

- Body cells are also called \_\_\_\_\_ cells
- \_\_\_\_\_ cells (a type of STEM cell) develop into \_\_\_\_\_.
  - Germ cells are located in the \_\_\_\_\_ and \_\_\_\_\_
  - Gametes are \_\_\_\_\_ cells: egg or sperm.
  - Gametes have \_\_\_\_\_ that can be passed to offspring.

2. What is a Chromosome?

- DNA forms \_\_\_\_\_ when it is time for the cell to divide
- Chromosomes are rod-shaped structures made up of \_\_\_\_\_ and \_\_\_\_\_ that are tightly coiled up.

3. What does a chromosome look like?  
(describe it's structure)

- Each chromosome have two \_\_\_\_\_ halves connected by a \_\_\_\_\_. Each half is called a \_\_\_\_\_ and both are called sister chromatids.

4. How many chromosomes does each organism have?

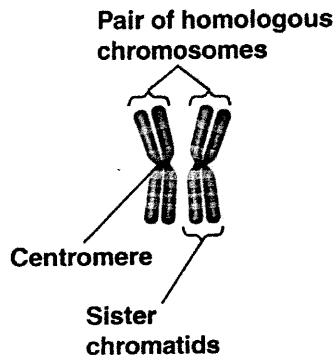
Organism	Number of chromosomes
pea plant	14
sun flower	34
cat	38
puffer fish	42
human	46
dog	78

- Each species has a characteristic number of \_\_\_\_\_ in each cell.
- Example: A cat as \_\_\_\_\_ chromosomes while a dog has \_\_\_\_\_ chromosomes

HOW MANY CHROMOSOMES DOES A HUMAN HAVE?

\_\_\_\_\_

5. What are Homologous chromosomes?



- Your body cells have \_\_\_\_\_ pairs of chromosomes - \_\_\_\_\_ total
- The pairs of chromosomes are \_\_\_\_\_: the same shape/size and general genetic information.
- For each \_\_\_\_\_ pair, one chromosome comes from each \_\_\_\_\_.

6. What are autosomes and sex chromosomes?

- Chromosome pairs \_\_\_\_\_ - \_\_\_\_\_ are \_\_\_\_\_: Chromosomes that do not determine the sex.
- \_\_\_\_\_ chromosomes, X and Y, determine the \_\_\_\_\_/\_\_\_\_\_ in mammals.

Females are \_\_\_\_\_

Males are \_\_\_\_\_

**QUESTION:** Looking at the picture on the PowerPoint, what is the gender of this human? \_\_\_\_\_

7. What does Diploid and Haploid Mean?

- \_\_\_\_\_ (n) cells have one copy of every chromosome
- \_\_\_\_\_ are haploid
- Human Gametes have \_\_\_\_\_ and 1 \_\_\_\_\_ chromosome.
- Body cells are \_\_\_\_\_; gametes are \_\_\_\_\_.
- \_\_\_\_\_ between egg and sperm occurs in sexual reproduction and produces diploid cells
- \_\_\_\_\_ (2n) cells have two copies of every chromosomes
  - Body cells are diploid in human, having 46 chromosomes.
  - Half chromosomes come from each parent

8. What are the similarities and differences between Mitosis and Meiosis?

- Mitosis and Meiosis are both types of \_\_\_\_\_ division and are both followed by \_\_\_\_\_.
- Mitosis makes more \_\_\_\_\_ somatic cells.
- Meiosis makes \_\_\_\_\_ cells from diploid cells
  - Meiosis occurs in \_\_\_\_\_ cells and produces \_\_\_\_\_.
- Chromosome numbers must be \_\_\_\_\_ in animals.
- Many plants have more than two copies of each chromosomes.

\* Add note questions  
- create Socratic at Exit  
slip

**FILL OUT THE COMPARISON CHART ONE THE NEXT PAGE**

# MITOSIS

# MEIOSIS