

# Biology IV

Name:

Date:

Block:

1. Sexual Reproduction
2. Gametes and Fertilization

## Sexual Reproduction

What is sexual reproduction?

Sexual reproduction occurs when \_\_\_\_\_ is produced by \_\_\_\_\_ . The offspring will be \_\_\_\_\_ due to the combination of genes between the two parents.



- Parent one will contribute \_\_\_\_\_ of its \_\_\_\_\_ to the offspring while parent two will contribute half of its DNA to the offspring.

Advantages of sexual reproduction:

- \_\_\_\_\_
  - Genetic variation allows some individuals in a population to \_\_\_\_\_ if there is a \_\_\_\_\_ in the \_\_\_\_\_
    - Example: If the environment changes...
      - Some individuals will be less successful at living and reproducing.
      - Other individuals may have certain features (due to genetic differences) that allow them to live and reproduce in the new conditions more easily.

Disadvantages of sexual reproduction:

- It takes \_\_\_\_\_ as individuals have to find a \_\_\_\_\_
  - As the individual is searching for a mate, it may expose them to \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_ environmental \_\_\_\_\_
- \_\_\_\_\_ are produced which means that it takes longer for a population to grow
- Offspring take \_\_\_\_\_ to reach \_\_\_\_\_ and therefore, reproduce
- Offspring require \_\_\_\_\_ and \_\_\_\_\_ to \_\_\_\_\_ until they are independent from their parents

## Gametes and Fertilization

What are gametes?

In sexual reproduction, \_\_\_\_\_ and their genetic material \_\_\_\_\_ to produce one cell that develops into an offspring. The cells which combine their genetic material together are called \_\_\_\_\_ or \_\_\_\_\_.

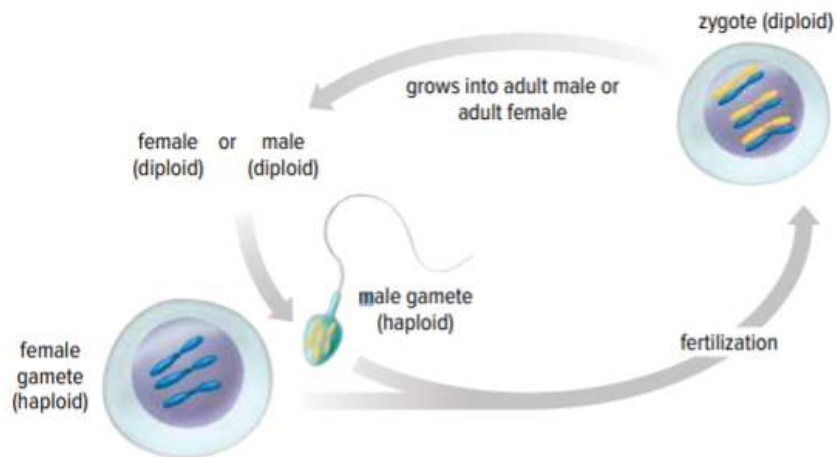
- The \_\_\_\_\_ parent will contribute one gamete called the \_\_\_\_\_ cell
  - These are produced in the \_\_\_\_\_
- The \_\_\_\_\_ parent will contribute one gamete called the \_\_\_\_\_ or \_\_\_\_\_ cell
  - These are produced in the \_\_\_\_\_

Gametes carry \_\_\_\_\_ the number of \_\_\_\_\_ when compared to other body cells

- Example: In a regular body cell, humans have 46 chromosomes (23 pairs). Chromosomes that are paired together are called homologous chromosomes. In human gametes, the gametes will contain only 23 chromosomes.

Organism	Number of Chromosomes in Gametes	Number of Chromosomes in Body Cells
Humans		46
Cat		38
Dog	39	

\_\_\_\_\_ are considered to be \_\_\_\_\_ cells because they contain half the normal number of chromosomes whereas regular \_\_\_\_\_ cells are \_\_\_\_\_ cells (they have the full number of chromosomes)



**Fertilization:**

When male and female gametes combine together, this is a process called \_\_\_\_\_. The \_\_\_\_\_ of the gametes will \_\_\_\_\_ together and form one singular cell called a \_\_\_\_\_. This will be the first cell that will eventually develop into a new organism. The \_\_\_\_\_ will be considered a \_\_\_\_\_ cell.

