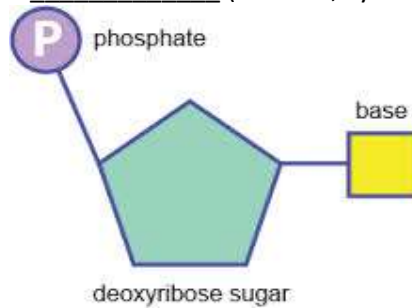


1. Asexual Reproduction
2. Binary Fission

**Review:**

All genetic information within a cell is contained within the \_\_\_\_\_ of an organism. DNA is considered to be the 'molecule of life'. DNA is made up of nucleotides which contain a \_\_\_\_\_, \_\_\_\_\_, and a \_\_\_\_\_ (adenine, cytosine, guanine, and thymine).



**Asexual Reproduction**

What is asexual reproduction?

Asexual reproduction occurs when an \_\_\_\_\_ is produced by only \_\_\_\_\_ to the parent as the parent's genetic information is passed directly onto the offspring.

Advantages of Asexual Reproduction:

- Only \_\_\_\_\_ parent is needed (no need to find a mate)
- Reproduction occurs \_\_\_\_\_
- Offspring \_\_\_\_\_ and start reproduction \_\_\_\_\_
- Offspring are \_\_\_\_\_ to the parent
  - Can live and interact with their environment with the same success as their parent

Disadvantages of Asexual Reproduction:

- \_\_\_\_\_ of \_\_\_\_\_
  - All individuals in a population are \_\_\_\_\_ to \_\_\_\_\_ in their \_\_\_\_\_ (example: drought, disease)
  - Since all the individuals are genetically identical, they will all respond in the same way (example: if a sudden change in temperature occurs and the organism cannot adapt, the entire population will die off)



# Binary Fission

How can bacteria be...

Helpful to us?	Harmful to us?
-	-
-	-
-	-

\_\_\_\_\_ are \_\_\_\_\_ that exist as single \_\_\_\_\_ cells. Bacteria reproduce asexually by a process called \_\_\_\_\_.

## What is binary fission?

Binary fission is a type of asexual reproduction which occurs in bacteria.

- A \_\_\_\_\_ cell (the original cell) splits into \_\_\_\_\_ individual, \_\_\_\_\_ (daughter cells)
- \_\_\_\_\_ cells have \_\_\_\_\_ information (DNA)

The process of Binary Fission:

- \_\_\_\_\_ of \_\_\_\_\_
  - Bacteria uncoils and replicates its DNA
- \_\_\_\_\_ of \_\_\_\_\_
  - Bacteria begins to grow larger in preparation for binary fission
  - The cytoplasm and number of organelles increase
  - The strands of DNA move to opposite poles (sides) of the cell
- \_\_\_\_\_ of \_\_\_\_\_
  - Cell elongates and a barrier is formed in the middle
  - The two strands of DNA are separated in this phase
- \_\_\_\_\_ of \_\_\_\_\_
  - A new cell wall is formed
  - Cell splits in the center and the parent cell gets divided into two new daughter cells
    - \_\_\_\_\_ cell: the identical cells that form from the parent cell
  - Each of the daughter cells contain a copy of the replicated DNA and the necessary organelles for the cell's survival

