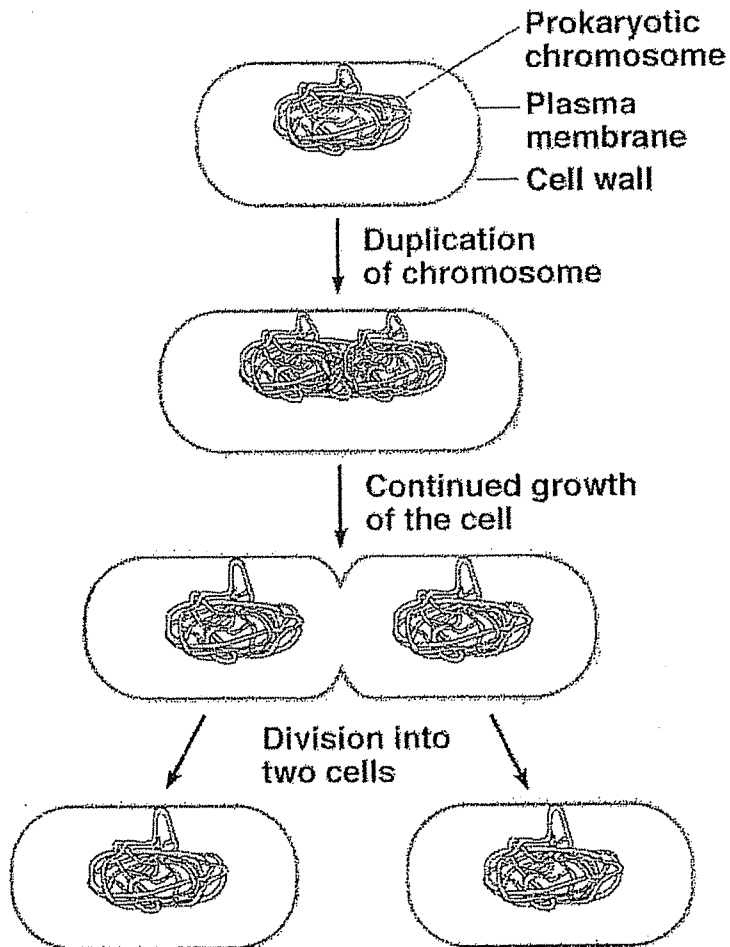


# Reproduction in Bacteria

## Asexual Method - Binary Fission

Bacteria reproduce asexually by a process termed \_\_\_\_\_  
\_\_\_\_\_. This process involves \_\_\_\_\_ parent and results in  
offspring \_\_\_\_\_ to the parent.



During binary fission.

- \_\_\_\_\_ is replicated. The bacterial cell's large circular \_\_\_\_\_ is copied. (The bacterial \_\_\_\_\_ is also copied if present)
- Two identical chromosomes (& plasmids) align at the \_\_\_\_\_ of the cell, \_\_\_\_\_ and move to opposite ends of the cell.
- The cell \_\_\_\_\_ and \_\_\_\_\_ identical daughter cells result.

This is the most common form of bacterial reproduction.

Advantages of Binary Fission:

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) Because of their rapid reproduction, a population of bacteria can \_\_\_\_\_ quickly to their environment. A \_\_\_\_\_ that increases the fitness of the species will be passed relatively quickly through out the population.

Disadvantage:

Offspring are \_\_\_\_\_ to the parent cell and each other. A change in the environment could cause the \_\_\_\_\_ of the entire population.

Sexual Reproduction – Conjugation:

Bacteria reproduce sexually by a process termed \_\_\_\_\_. This process involves \_\_\_\_\_ parents and results in offspring \_\_\_\_\_ from the parents.

Conjugation involves the direct transfer of \_\_\_\_\_ material between two bacterial cells that are temporarily joined.

During conjugation,

- (i) Two bacteria cells come into \_\_\_\_\_. A protein link (termed a \_\_\_\_\_ or \_\_\_\_\_) is formed between the two cells.
- (ii) Part of the DNA (usually the \_\_\_\_\_) from one cell is \_\_\_\_\_ and passed through the conjugation tube to the second cell.
- (iii) The plasmid gets incorporated into the new cell's genome. The recipient cell now possess new combinations of \_\_\_\_\_, increasing \_\_\_\_\_.

Note: The two cells involved in conjugation are generally of two different mating types. The donor cell carries the **F factor**.

F factor: \_\_\_\_\_

The F factor may be part of a plasmid or the bacterial chromosome.

Advantage of Conjugation:

The population is more likely to possess individuals who can survive a change in the environment.

Disadvantages:

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_

# Conjugation

