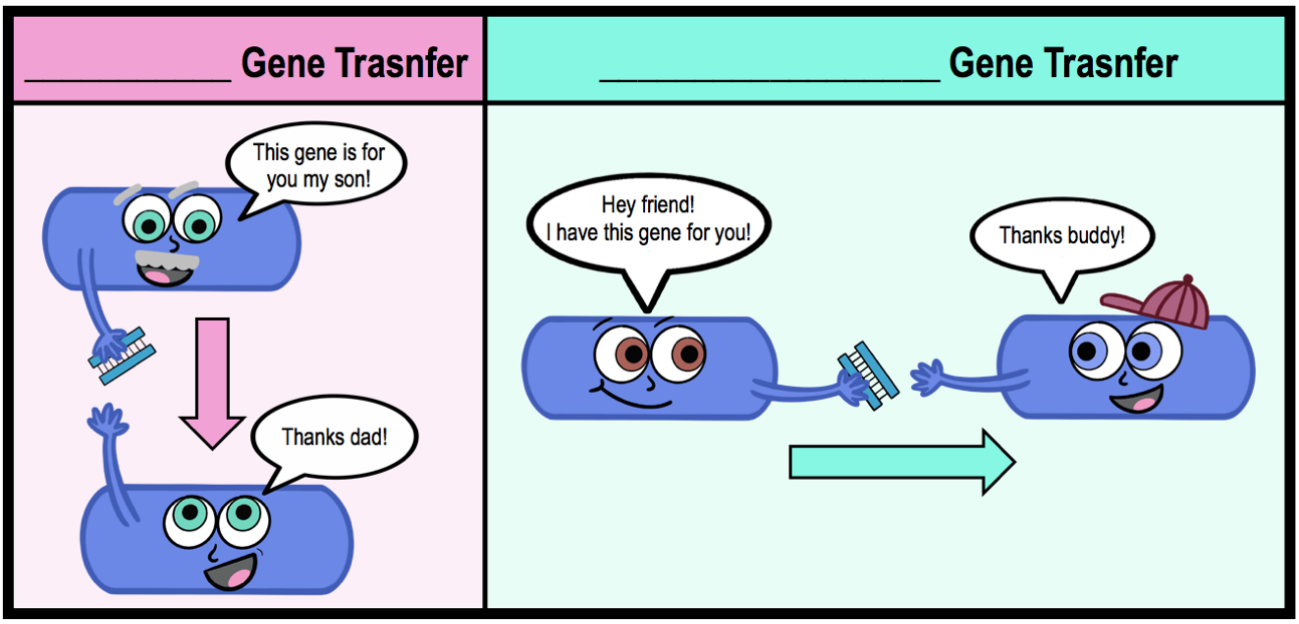
CONCEPT: INTRODUCTION TO MICROBIAL GENETICS

●_____: the *complete* set of genetic material in a cell.

●Gene transfer (sharing of genetic information) between microbes occurs in 2 ways:

- □ **Vertical Gene Transfer:** between a parent cell & its offspring via _____.
- □ **Horizontal Gene Transfer:** between 2 organisms that are _____ direct descendants of one another.



●Gene transfer only occurs in ONE direction (from *donor cell* to *recipient cell*).

PRACTICE: What kind of transfer is occurring when two bacterial cells, which are not decedents of one another, exchange genetic information?

a) Perpendicular gene transfer.
b) Vertical gene transfer.
c) Direct gene transfer.
d) Horizontal gene transfer.

PRACTICE: What is the major difference between horizontal and vertical gene transfer?

a) The type of genetic information being transferred.
b) The relationship between the cells which are transferring genetic material.
c) The environment the cells are in during the genetic transfer.
d) The number of genes being transferred.

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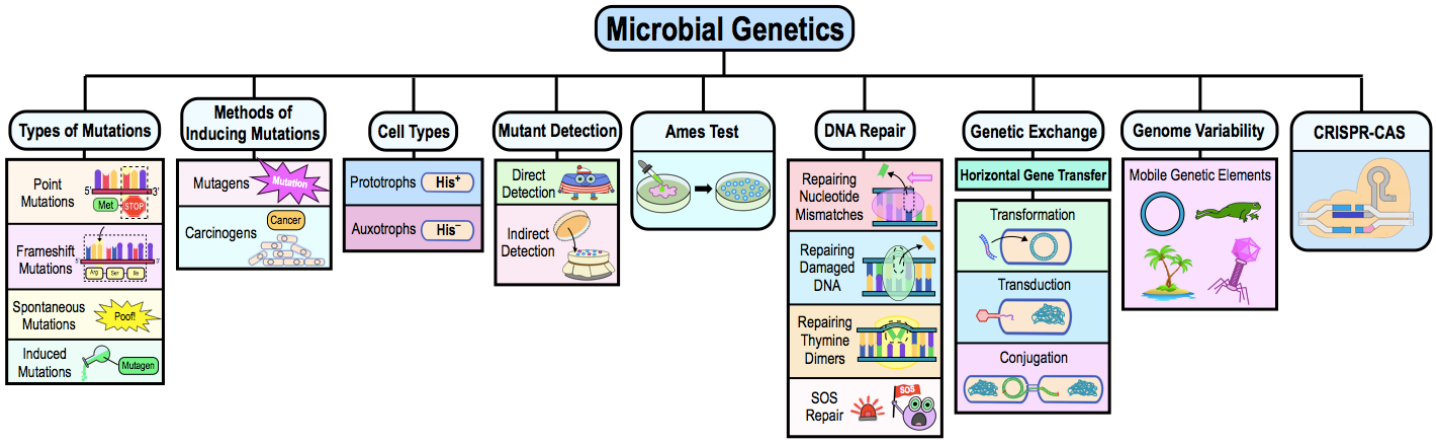
Map of the Lesson on Microbial Genetics



PRACTICE: Based on the map above, which of the following is not a type of horizontal gene transfer?

a) Conjugation.

b) Transformation.

c) Carcinogen.

d) Transduction.

PRACTICE: Based on the map above, all of the following are types of mutations in DNA, except?

a) Point mutations.

b) Prototroph mutations.

c) Induced mutations.

d) Frameshift mutations.