

CONCEPT: INTRODUCTION TO CELL DIVISION

● **Cell Division:** process of a single (parent) cell *dividing* or *splitting* into ≥ 2 “_____” cells.

● 3 main types of *cell division*:

① _____ **Fission:** _____ cell division.

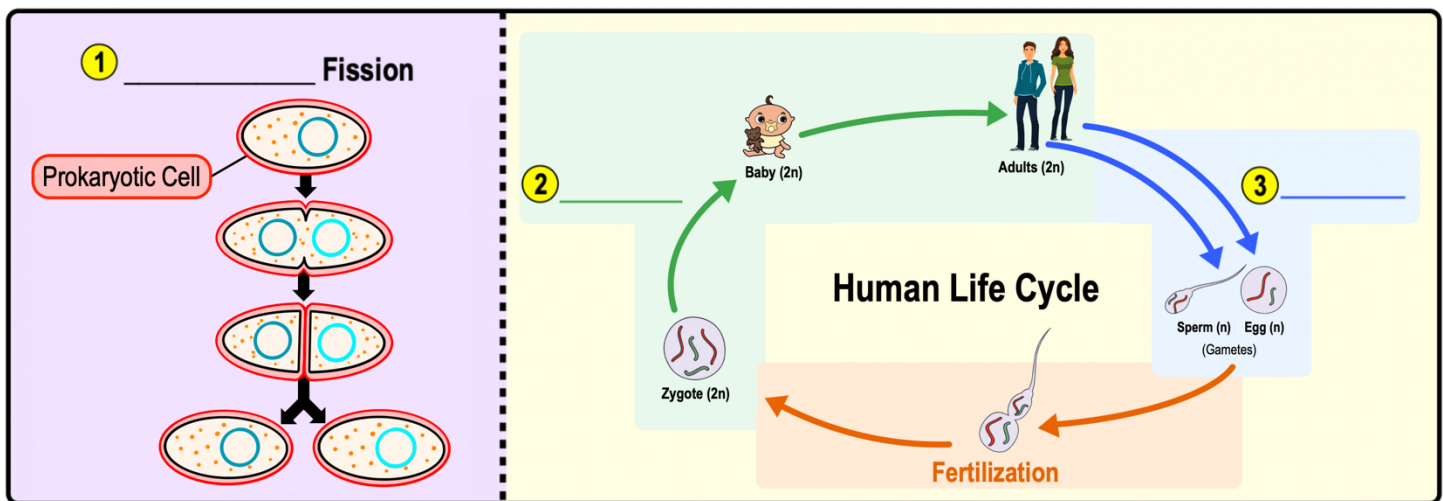
② _____: *eukaryotic* cell division producing _____ cells (body cells).

□ Human somatic cells are _____ ($2n$) since they have _____ copies of every chromosome.

③ _____: *eukaryotic* cell division producing _____ (sex cells).

□ Human gametes are _____ (n) since they have _____ copy of every chromosome.

EXAMPLE: Different Types of Cell Division.



PRACTICE: Which of the following statements about cell division is correct?

- a) It is the process by which one parent cell divides into 2 daughter cells.
- b) It is an unnecessary process once an organism reaches maturity.
- c) It is the process by which two sex cells fuse.
- d) It occurs in 2 stages of mitosis then meiosis in all types of cells.

PRACTICE: Which one of the following best defines binary fission?

- a) The process by which one cell splits into two cells.
- b) The process by which one cell splits into four cells.
- c) The process by which two cells combine to create a new cell.
- d) The process by which gametes are created.

CONCEPT: INTRODUCTION TO CELL DIVISION

Asexual vs. Sexual Reproduction

● All living organisms must _____ (or *generate offspring*) via one of _____ types of reproduction.

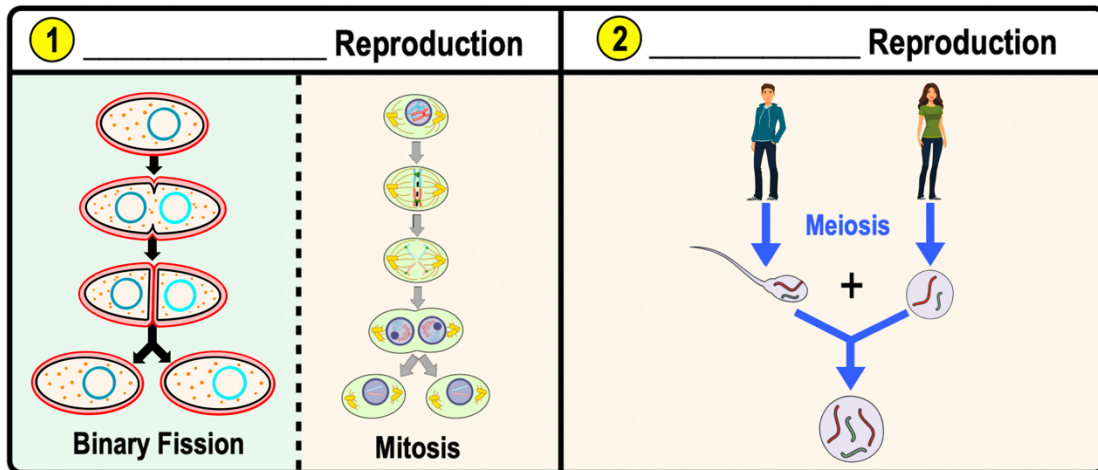
① _____ **Reproduction:** no sexual activity (only _____ parent involved).

□ Only one source of DNA = Genetically _____ offspring.

② _____ **Reproduction:** sexual activity (_____ parents involved).

□ Two sources of DNA = Genetically _____ offspring.

EXAMPLE: Asexual vs. Sexual Reproduction

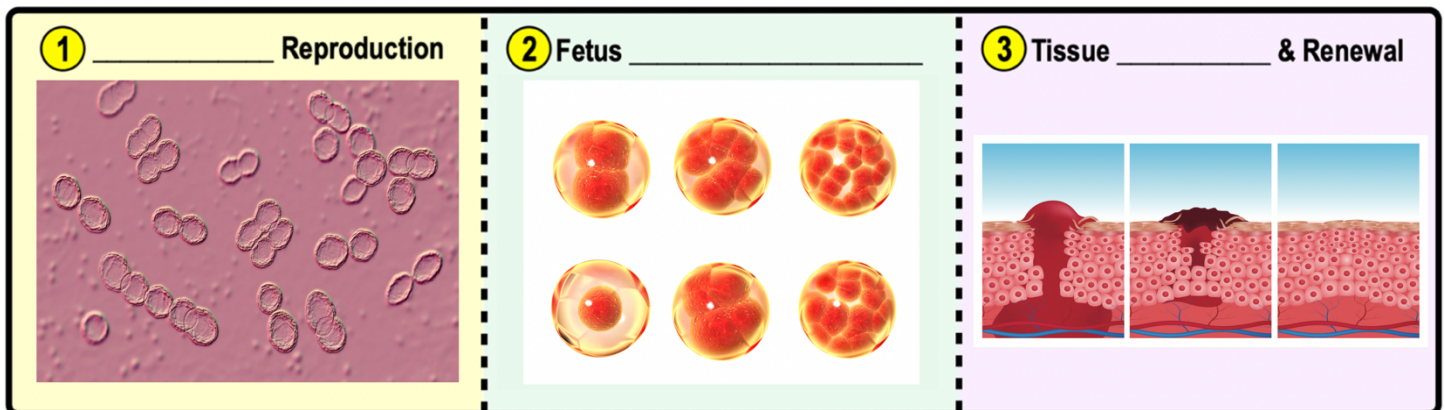


PRACTICE: Asexual reproduction differs from sexual reproduction in that:

- a) Asexual reproduction produces genetically diverse offspring.
- b) Asexual reproduction occurs only in bacteria.
- c) Asexual reproduction produces genetically identical offspring.
- d) Asexual reproduction does not occur in animals.

Importance of Cell Division

● Cell Division is an important process for *reproduction (making more life)*, *fetal development (growth)*, & *tissue repair*.



● Before any cell can divide, it must first _____ its DNA, so each daughter cell can get a copy of the DNA.