

## CONCEPT: INTRODUCTION TO CELL DIVISION

● **Cell Division:** process of a single (parent) cell *dividing* or *splitting* into  $\geq 2$  “\_\_\_\_\_” cells.

● 3 main types of *cell division*:

① \_\_\_\_\_ **Fission:** \_\_\_\_\_ cell division.

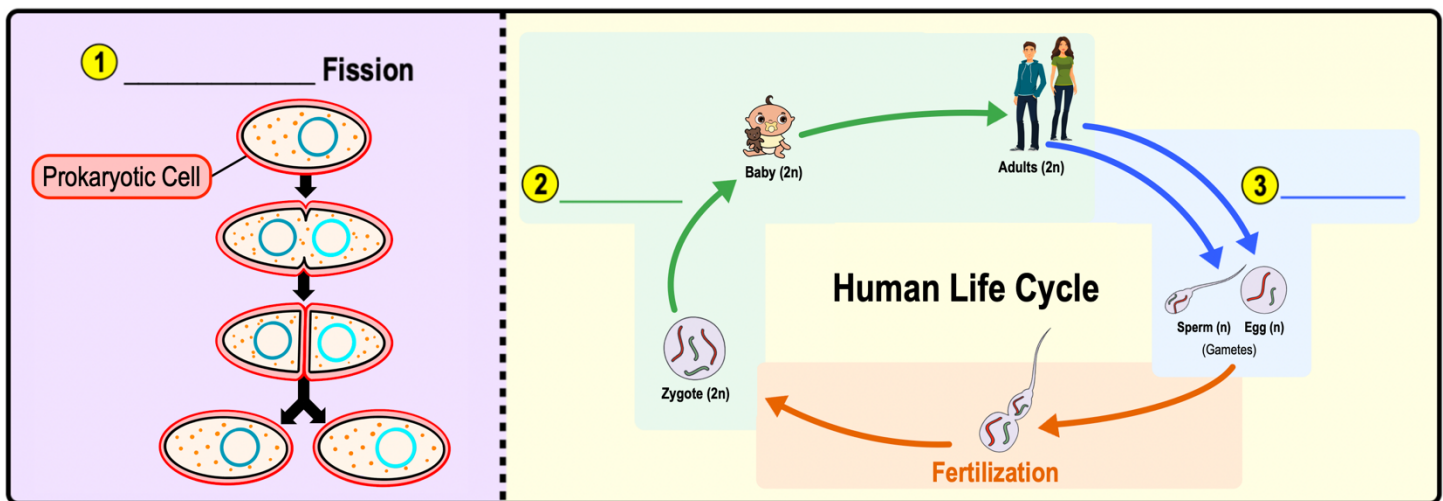
② \_\_\_\_\_: *eukaryotic* cell division producing \_\_\_\_\_ cells (body cells).

□ 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.

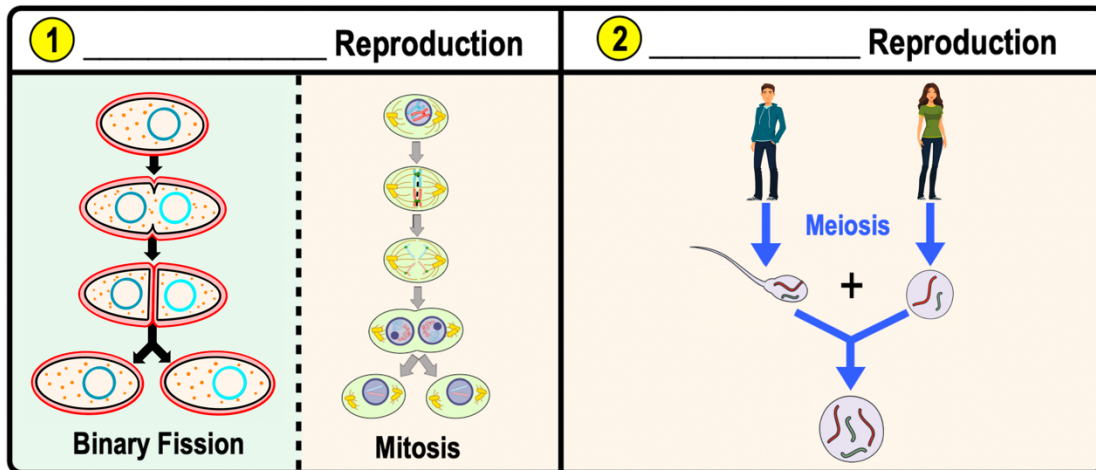
① \_\_\_\_\_ **Reproduction**: no sexual activity (only \_\_\_\_\_ parent involved).

□ Only one source of DNA = Genetically \_\_\_\_\_ offspring.

② \_\_\_\_\_ **Reproduction**: sexual activity (\_\_\_\_\_ parents involved).

□ Two sources of DNA = Genetically \_\_\_\_\_ offspring.

**EXAMPLE:** Asexual vs. Sexual Reproduction

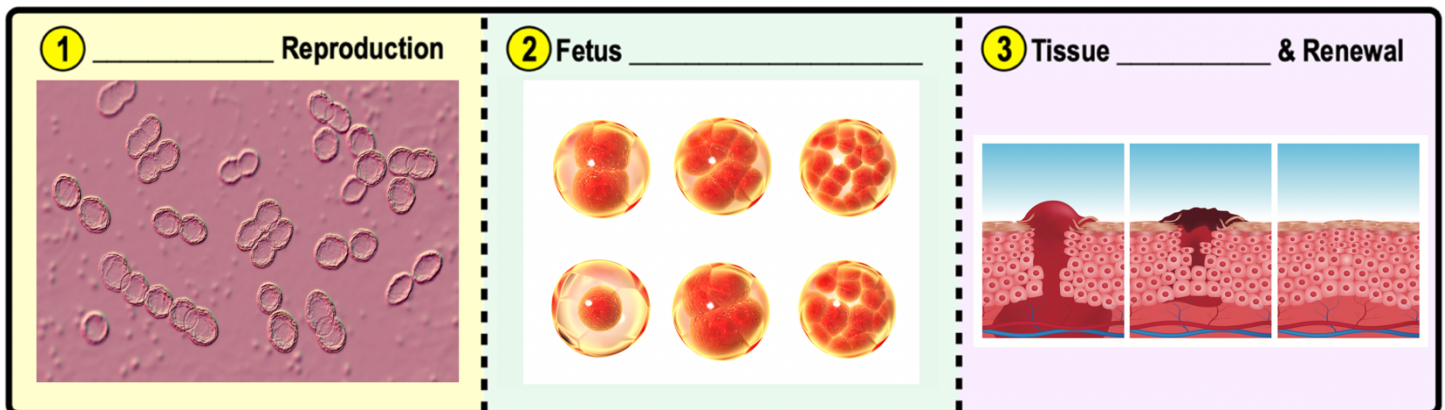


**PRACTICE:** Asexual reproduction differs from sexual reproduction in that:

- 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.