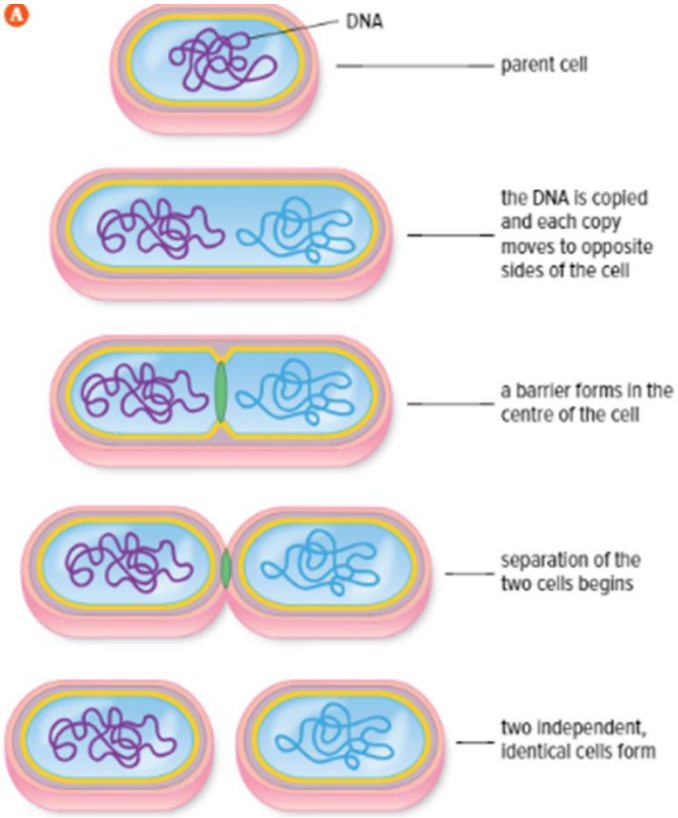
Hemingway Name:

Types of Asexual Reproduction - Part 1

_____

- Exist all around us
- Microorganisms that exist as a single _____ cell
- Reproduces via _____
    - Type of _____ reproduction
- Binary Fission
    - A parent cell splits into two individual, _____ (daughter cells)
    - Daughter cells have identical _____ information (DNA)
    - Colour code the DNA on your diagram

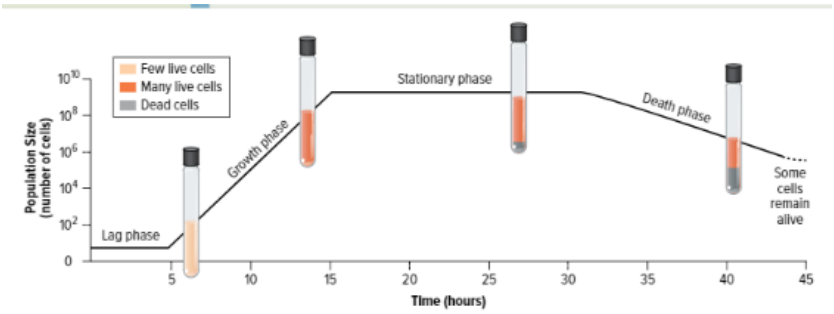


Growth

- After each cycle of binary fission, the number of cells _____. The time it takes for many bacteria to double (doubling time) is _____ minutes
- So under the right conditions, a small colony can grow to _____ in short amount of time
- What conditions affect bacterial growth?

Hemingway Name:

Activity 1-d on page 36 in textbook



Question?

- Do any of your body cells reproduce asexually? If so, how often? Why would this occur?

- All _____ cells reproduce by the cell cycle.

Complete Activity Page 25 in your textbook

Cell Cycle

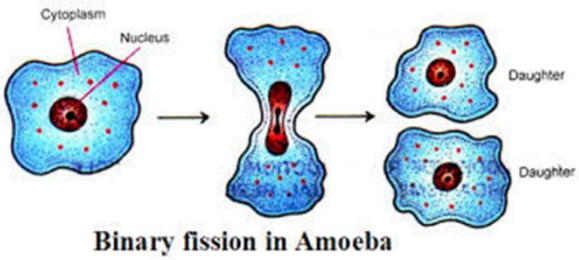
- Currently cells in your body are _____
- Skin cells, stomach cells and many more are being made to replace _____cells
- Cell reproduction is needed for the body to _____
    - Imagine you scrape your knee
    - The wound heals because of the ability of your skin cells to replace the ones that were damaged

Reproduction and the cell cycle

- Replacing damaged cells is only one reason that eukaryotic cells

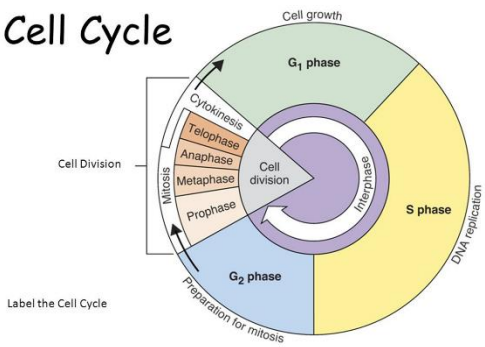
Functions of eukaryotic cell reproduction:

- Replace _____ cells
- Replace _____ cells
- Produce _____ in single-celled organisms (amoebas)



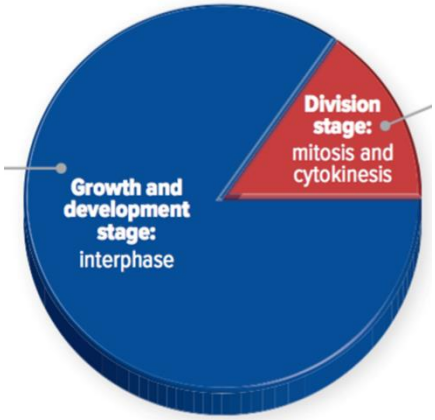
Hemingway Name:

- Eukaryotic cells reproduce by a series of events called the **cell cycle**
- The cell cycle has two stages with different events:
  - **Growth and development**
    - _____
  - **Cell division**
    - _____
    - Cytokinesis



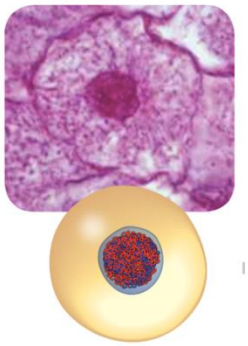
Growth and Development: Interphase

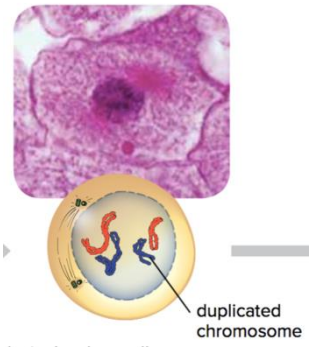
- The phase of _____and working
- _____ of the total time of the cell cycle
- During this time the cell makes _____ of all of its organelles
- Once large enough it will _____ its chromosomes (DNA)
- When the chromosome replicates it is known as _____



Cell Division: Phase 1 of Mitosis (_____)

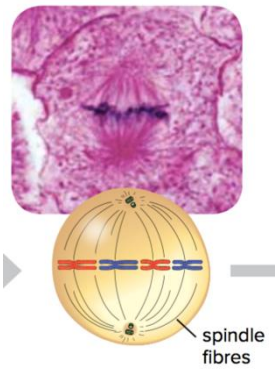
- Sister chromatids formed during Interphase shorten and thicken
  - Each chromosome contains _____ of the same DNA
  - Sister chromatids have joined at the center and now look like an X
  - Nuclear membrane _____ to allow chromosomes to spread out
  - _____ move to opposite poles of the cell
    - Form _____ which will later move the
    - chromosomes





Hemingway Name:

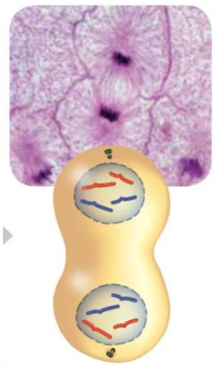
Cell Division: Phase 2 of Mitosis (_____)



- Sister chromatids_____ to the spindle fibers and line up along the "middle plate"
- Spindle fibers guide chromosome _____
- Chromosomes line up along the _____ of the cell

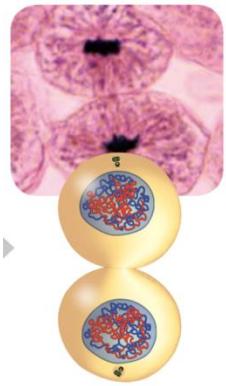
Cell Division: Phase 3 of Mitosis (_____)

- Sister chromatids are pulled _____
- Now called _____



Cell Division: Phase 4 of Mitosis (_____)

- 2 _____ form
- Spindle disappears
- Chromosomes lengthen and thin
- Each nucleus contains a _____ of the cell's DNA



Cell Division: Cytokinesis

- Cytoplasm and organelles are _____
- Two _____ cells form
- The cells then begin _____

Mitosis: Summary

- Results of Mitosis
- 1 parent cell produces _____ identical daughter cells