

IB Biology A

Curriculum Guide for Unit 4: The Cell Cycle

Essential Idea:

The evolution of multicellular organisms allowed cell specialization and cell replacement.

Understandings:

- Surface area to volume ratio is important in the limitation of cell size.
- Mitosis is division of the nucleus into two genetically identical daughter nuclei.
- Chromosomes condense by supercoiling during mitosis.
- Cytokinesis occurs after mitosis and is different in plant and animal cells.
- Interphase is a very active phase of the cell cycle with many processes.

Applications and skills:

- Application: prokaryotes divide by binary fission.
- Skill: identification of phases of mitosis in cells viewed with a microscope or in a micrograph.