

Biology Chapter 10: Study Guide

Section 1

- Definitions

Cell division

- Know the two main reasons why cells divide rather than continue to grow
- Know how to calculate the volume, the surface and the ratio of surface area to volume of a cube
- Know what must occur before a cell divides

Section 2

- Definitions

Mitosis

Interphase

Spindle

Cytokinesis

Cell cycle

Metaphase

Chromatid

Prophas

Anaphase

Centromere

Centriole

Telophase

- Know how cell division differs between eukaryotes and prokaryotes
- Know the two main stages of cell division in eukaryotes
- Know the process that chromosomes go to before entering mitosis
- Know the phases of the cell cycle and what happens at each step
- Know the phases of interphase and what happens at each step
- Know the phases of mitosis in order and what happens at each step
- Be able to give a detailed description of each mitotic phase
- Be able to match a picture with the correct phase name
- Know what is the result of mitosis
- Know what occurs during cytokinesis
- Know the ways in which cytokinesis occurs

Section 3

- Definitions

Cyclin

Cancer

- Know what controlled cell growth is and why a cell does it
- Know what cyclin does in the cell and why
- Know the difference between internal and external regulators and be able to describe at least one example of each
- Know what cancer is and how it relates to cell growth
- Know the importance of the p53 gene

Stem Cells

- Know what stem cells are and where they can come from
- Know what stem cells can be used for
- Know some examples of what stem cells can become
- Know some of the uses of stem cells in medicine
- Know why some groups are against the use of stem cells.