

5.1 The cell cycle has four main stages

They are gap 1, synthesis, gap 2, and mitosis

Gap 1

A cell carries out its normal functions

Synthesis

The combining of parts to make a whole

Gap 2

Cells continue to carry out their normal functions, and additional growth occurs

Mitosis

Is the division of the cell nucleus and its contents

Cells divide at different rates

The rate at which your cells divide is linked to your body's need for those cells. In human cells, the S, G2, and M stages together usually take about 12 hours

Cell size is limited

If cells were too small, they could not contain all of the necessary organelles and molecules

5.2 Chromosomes condense at the start of mitosis

A chromosome is one long continuous thread of DNA that consists of numerous genes along with regulatory information.

Mitosis and cytokinesis produce two genetically identical daughter cells

The combined processes of mitosis and cytokinesis produce two genetically identical daughter cells

Interphase

Interphase plays an important role in preparing the cell to divide. It provides critical time for the duplication of organelles and for DNA

Mitosis

Mitosis divides a cell's nucleus into two genetically identical nuclei, each with its own single, full