

Biology SL / HL Videos

Excel Help

[Excel basics](#)

[Excel: Drawing bar graphs and standard deviations](#)

[Excel: Drawing line graphs and lines of best fit](#)

Topic 1 (SL/HL) – Statistical Analysis

Averages and standard deviations

Topic 2 (SL/HL) – Cells

2.1 Cell theory

[Cell theory and characteristics of life](#)

[Size comparison - Part 1](#)

[Size comparison - Part 2](#)

[Cell size calculation - Part 1](#)

[Cell size calculation - Part 2](#)

[Cell size calculation - Part 3](#)

[Surface area to volume ratio](#)

[Cell differentiation - Part 1](#)

[Cell differentiation - Part 2](#)

Emergent properties

2.2 Prokaryotic cells

[Prokaryotic cell structure and function](#)

2.3 Eukaryotic cells

[Animal cell](#)

[Plant cell and differences to animal cells](#)

[Function of cell organelles](#)

[Function of plant cell wall](#)

[Extracellular components](#)

[Prokaryotic vs. Eukaryotic cells](#)

2.4 Membranes

[Membrane structure](#)

[Diffusion and osmosis](#)

[ATP](#)

[Function of membrane proteins](#)

[Types of Membrane Proteins](#)

[Transport across the membrane](#)

[Transport: exocytosis](#)

[Transport: endocytosis](#)

2.5 Cell division

[The cell cycle](#)

[Chromosome structure](#)

[Binary fission](#)

[Stages of mitosis - Part 1](#)

[Stages of mitosis - Part 2](#)

[Uses of mitosis](#)

Topic 3 (SL/HL) – Chemistry of Life

3.1 Chemical elements and water

[Chemical elements](#)

[Polarity of water](#)

[Properties of water](#)

3.2 Carbohydrates, lipids and proteins

[Introduction to chemical formulas](#)

[Structure of sugars: glucose, ribose](#)

[Carbohydrates: Mono-, di-, polysaccharides](#)

[Structure of amino acids, dipeptides](#)

[Structure of lipids](#)

[Hydrolysis and dehydration reactions](#) - part 1

[Hydrolysis and dehydration reactions](#) - part 2

Energy storage: carbohydrates and lipids

3.3 DNA structure

[Nucleic acids: Structure of a nucleotide](#)

[Structure of DNA](#)

3.4 DNA replication

[Semiconservative replication \(vs conservative\)](#)

[Replication process](#)

3.5 Transcription and translation

[Transcription and Translation in pro- and eukaryotes: overview](#)

[Transcription](#)

[Translation](#)

[Comparing DNA and RNA](#)

3.6 Enzymes

[Characteristics of enzymes](#)

[Enzyme activity](#)

3.7 Cell respiration

[Cell respiration overview – part 1](#)

[Cell respiration overview – part 2](#)

[Anaerobic respiration](#)

[Comparing aerobic and anaerobic respiration](#)

3.8 Photosynthesis

[Photosynthesis process](#)

[Rate of photosynthesis and effect of light, CO₂ and temperature](#)

Topic 5: Ecology and evolution

5.1 Communities and ecosystems 5

[Carbon cycle](#)

Energy flow