

BIOLOGY – YEAR 9 – CELL BIOLOGY

A KEY KNOWLEDGE		
1	Cell	The basic unit of a living organism. Different types of cell have different structures or features so it can carry out specific tasks
2	Eukaryotic	Complex cell found in plants and animals.
3	Prokaryotic	Type of simple cell, has no nucleus or mitochondria. e.g. bacteria
4	Specialised Cells	Adapted to a special function or environment
5	Cell Differentiation	The process in which a cell changes from one cell type to another
6	Light/Optical Microscope	Common and uses visible light and can magnify images to x1500
7	Electron Microscope	Used in large laboratories and Universities. Uses electrons and can magnify images to x500,000
8	Magnification	The ability to make small objects seem larger
9	Magnification =	$\frac{\text{Size of Image}}{\text{Real size of object}}$
10	Resolution	The detail that can be seen of the image under the microscope

B ORGANELLES		
1	Cell Membrane	Surrounds cell and controls what comes in and out
2	Nucleus	Contains the genetic material (DNA) which controls the activities of the cell.
3	Mitochondria	releases energy by the process of respiration.
4	Cytoplasm	Substance where most chemical reactions happen.
5	Cell wall	Cellulose and gives structure and strength to cell.
6	Permanent vacuole	Contains cell sap and helps give structure to plant cell.
7	Chloroplast	Contains chlorophyll a green pigment which absorbs light energy from the sun. The plant uses this to make glucose (food) in a process called photosynthesis.
8	Ribosomes	Protein Synthesis

C CELL STRUCTURES			
1	Cell Membrane	5	Chloroplast
2	Cytoplasm	6	Vacuole
3	Nucleus	7	Cell Wall
4	Animal Cell	8	Plant Cell

