**Term 1 Learning Intentions - Cells in Action**

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| **Outcome** | **Learning Intentions** |
| Cell Structure: prokaryotic and eukaryotic cells at the light and electron microscope levels; cellular organisation | ***Understand differences between prokaryotic and eukaryotic cells***   * Give examples of prokaryotic and eukaryotic cells * Draw, label structures and identify functions in a prokaryotic cell * Draw, label structures and identify functions in a eukaryotic cell * Compare and contrast differences between prokaryotic and eukaryotic cells * Compare and contrast differences between animal and plant cells * Classify organisms as protists (monera), plant, animal, bacteria.   ***Know how to use a light microscope to be able to identify cellular organisation***   * Parts of a light microscope * Identify cell structures that can be seen under a light microscope * Be able to scientifically draw organisms using a light microscope * Understand how to draw scales to identify size of organisms seen under different magnifications with a light microscope. |
| Cell Functioning: specialised parts of cells and their functions. | ***Identify major components of cells and describe the role they play within the cell.***   * Be able to spell names of cell structure correctly. * Know where they are located in cell * Identify their function * Compare and contrast plant and animal cells * Give examples of Protista, plant and animal cells and identify specialised features of some of these cells. |
| Composition of cells: major groups of organic and inorganic substances including carbohydrates, proteins, lipids, nucleic acids, water minerals, vitamins; their general role in cell structure and function | ***Understand the role of biomolecules in cells***   * Define some basic chemical term required in Biology * Understand difference between inorganic and organic molecules * Identify some important inorganic molecules such as water, oxygen, carbon dioxide and ammonia * Identify the 4 main groups of macromolecules, their roles in cells and composition of these structures * Understand role minerals and vitamins have to play. |
| General role of enzymes in biochemical activities of cells | ***Understand the role enzymes have to play in cells***   * Give example of some enzymes. * Define what an enzyme is. * Describe how enzymes work . * Identify the factors that affect enzyme activity. |
| Biochemical processes including photosynthesis and cellular respiration in terms of inputs and outputs. |  |
| Internal and external environments of cells; plasma membranes. |  |
| Membrane transport including diffusion, osmosis, active transport, surface area to volume ratio. |  |
| Cell replication: purposes of cell replication (mitosis and cytokinesis); cell growth, cell size and cell division. |  |