Gulf English School YEAR 7 SCIENCE

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| TOPICS: SKILLS IN SCIENCE, CELLS & THE PARTICLE MODEL |

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| Theme: Identify and demonstrate the skills used in Science. To explore the particle model, cells, tissues, organs and systems. | Level: Year 7 |
| Objectives: To develop an understanding of how our body systems are made from the smallest unit of cells. To apply scientific skills in everyday life and within the laboratory. To understand the particle model in more detail. | |

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| Focussing Statements | Key Words Practical | |
| 1. **Cells, tissues, organs and systems**  * Identify things as being or not. * Describe the life processes. * Use life processes to justify whether something is an organism or not. * Recall that the heart is an example of an organ. * Identify and locate the major organs in humans and plants. * Describe the functions of the major human and plant organs. * Describe what happens in photosynthesis. * Recall some tissues found in the heart and plant roots. * Describe how organs and tissues are linked. * Describe the function of different tissues in some animals and plant organs. * Identify a cell as an animal cell or a plant cell. * Name some of the parts of cells. * Name the parts of animal and plant cells and describe their functions. * Identify and name some specialised cells and describe what they do. * Explain how and why certain cells are specialised. * Describe how cells, tissues, organs and organ systems are linked.  1. **Working Scientifically – Skills in Science**  * Identify and name some parts of a microscope. * Describe how to make a slide and explain what the coverslip is for. * Explain how the parts of a microscope work. * Describe how to use a microscope to look at a specimen on a slide.  1. **The Particle Model**  * Recall some properties of materials. * Classify materials as solids, liquid or gas. * Describe the properties of the three states of matter. * Recognise that solids, liquids and gases need to be handled in different ways because of their different properties. * Recall that all materials are made out of tiny particles.  1. **Working Scientifically – Skills in Science**  * Identify and explain what a scientific question, hypothesis, theory, prediction and observation are. * Make a prediction that is explained using scientific knowledge. * Describe how evidence and observations are used to develop a hypothesis into a theory. * Explain how evidence and observations support or do not support a certain theory. * Know how to draw different types of graphs for different results.   **Assessment – in November on the above topics.** | Cells  Tissues  Organs  Systems  Respiration  Photosynthesis  Xylem  Specimen  Objective lens  Specialised  Vacuole  Chloroplasts  Chlorophyll  Nucleus  Cytoplasm  Mitochondria  Cellulose  Locomotor  Circulatory  Evaporation  Transplant  Properties  Recycling  Toxic  Flammable  Corrosive  Compressed  Volume  Pressure  Hypothesis  Prediction  Scientific Method | Students prepare a slide of their own cheek cells and examine the cells under a microscope. They draw what they see and label their diagram.  E.g. Onion skin cell experiment using microscopes.  Carry out some demonstrations to confirm how particle theory explains observations. For example, show solids do not change shape but liquids do.  Demonstrate the ‘traditional’ experiment investigating the diffusion of |

**Text Book and worksheets**