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| **Long Term Plan** | | | In Y7 students are exposed to the fundamental science that unpins the ambitious knowledge taught in subsequent years. Students become familiar with the idea of a scientific model and will build their practical ability in what will be their first experience of a lab setting. | | |
| **Learning Cycle** | **Key Concepts and Themes** | **Vocabulary** |
| **Year 7: Science** | **HT1** | | Cells | * Observing cells. * Specialised cells. * Movement of substances in cells and unicellular organisms. | Cell​, Magnification​, Specialised cell​, Diffusion,  Unicellular, Multicellular |
| Particles and their behaviour | * The particle model. * States of matter. * Changing state. | Particle, Atom​, Properties​, Mixture, Density, Evaporation, Sublimation, Condensing |
| **HT2** | | Forces | * Describing forces. * Friction. * Balanced and unbalanced forces. | Gravity, Air resistance, Friction, Magnetic force, Weight, Balanced, Unbalanced |
| Structure and function of body systems | * Levels of organisation. * Gas exchange and breathing. * The skeleton, joints and muscles. | Organ system, Gas exchange​, Inhale, Exhale, lung volume, Bone marrow, Joint, ligaments |
| **HT3** | | Elements, atoms and compounds | * Defining an element, an atom, and a compound. * The periodic table and chemical symbols. * Chemical formulae and relative number. | Atom, Compound​, Molecule​, Periodic table, State of matter, Chemical formula |
| **HT4** | | Sound | * Waves, sound, loudness and pitch. * Detecting sound. * Echoes and ultrasound. | Amplitude, Frequency, Wavelength, Peak, Trough, Pitch, Echo, Ultrasound |
| Light | * What happens to light as it travels? * The laws of reflection and refraction. * Seeing colour. | Luminous, Transparent, Translucent, Opaque, Reflection, Refraction, Spectrum |
| **HT5** | | Reproduction | * Adolescence and the menstrual cycle. * Fertilisation and development of a foetus. * Flowers, pollination, seed dispersal and germination. | Adolescence, Fertilisation, Gametes, Gestation, Contraception, Pollination, Germination |
| Reactions | * Chemical reactions, including word and symbol equations. * Conservation of mass. * Exothermic and endothermic reactions. | Physical changes, Chemical changes, Reactants, Products, Oxidation, Combustion, Decomposition, Exothermic, Endothermic |
| **HT6** | | Space | * The Solar System. * The Earth’s movements in space causing: Day and night, years and seasons. * The phases of the moon. | Universe, Galaxy, Satellite, Orbit, Asteroid, Hemisphere, Axis, Eclipse, |
|  | Acids and Alkalis | * Understanding acids and alkalis. * The pH scale and neutralisation. * Making salts. | Acid, Alkali, Base, Indicator, The pH scale, Neutralisation, A salt |
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|  |  | **Skill Development** | | * To decide whether or not given data supports a specific theory. * To be able to carry out a practical activity, following instructions regarding safety. * To be able to use scientific equipment correctly. * To understand the importance of using models in science. | |