**Curriculum Overview for Science**

**Year 8**

|  |  |  |
| --- | --- | --- |
| **Half Term 1: The Science of Us**  **Substantive Knowledge:**  Hierarchy of organisation (cells, tissues, organs, organ systems)  Adaptions to specialised cells.  Arrangement of the periodic table and brief history  Basic structure of atoms (size, nucleus, electrons, protons, neutrons).  Structure and function of the respiratory, circulatory, skeleton, digestive and muscular systems.  How the muscular system utilises moments.  Describe the physical and hormonal stages of puberty and difference between puberty and adolescence, including the role of hormones  Describe the process of fertilisation.  Pregnancy and birth  Explain how drugs, alcohol, smoking and healthy/unhealthy living choices impact pregnancy.  **Disciplinary Knowledge:**  Use a variety of resources to summarise notes  Ask questions and develop a line of enquiry based on observations of the real world.  Make and record observations  Interpret data, linking in scientific concepts | Books | Article homework – reading for meaning, Model reading and highlighting to pick out key details, reading of data, Skim reading |
| Speech | Cell, tissue, organ, organ system, Specialised, differentiation  Specialised, differentiation, Group, period, metal, non-metal Proton, electron, neutron, Breathing (exhale, inhale?), alveoli, Digestion, enzymes, absorption, Heart, vein, artery, capillaries, Bone, skeleton, Muscle, tendon, ligament, cartilage, Muscle, moment, pivot  Neuron, reflex, response, Reproduction, Sperm, ovum, fertilisation, Variation, evolution, adaptation, Puberty, adolescence, hormones, Oestrogen, progesterone, LH, FSH.  Pregnancy, placenta, foetus, |
| Checklist RTL | Recall quiz x 2  Assessment focussed on describing and comparing body systems |
| Home | Article Homework to promote reading like a scientist  Recall quiz x2  Revision for end of unit assessment |
| **Half Term 2: The Science of Us**  **Substantive Knowledge:**  Features of light and sound waves  How light can be affected by density and coloured filters  Describe how we can hear, using the structure of the ear and how we can damage out hearing.  Structure of the eye and how we see.  Describe the role of different lenses and how they work.  **Disciplinary Knowledge:**  Use a variety of resources to summarise notes.  Ask questions and develop a line of enquiry based on observations of the real world.  Make and record observations in practical situations.  Use calculations to inform knowledge.  Analyse impact of processes and inventions. | Books | Article homework – reading for meaning, Model reading and highlighting to pick out key details, reading of data, Skim reading |
| Speech | Amplitude, wavelength, transverse, Longitudinal, sound, particles, Ear, hearing, frequency, Vacuum, Refraction, density, speed, Filter, colour, wavelength, Retina, myopia, hyperopia |
| Checklist RTL | Recall quiz x1  Assessment to analyse different circuits and calculate values  End of unit assessment |
| Home | Article Homework to promote reading like a scientist  Recall quiz x3  Revision for end of unit assessment |