**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 historyBasic 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 hormonesDescribe the process of fertilisation.Pregnancy and birthExplain how drugs, alcohol, smoking and healthy/unhealthy living choices impact pregnancy.**Disciplinary Knowledge:**Use a variety of resources to summarise notesAsk questions and develop a line of enquiry based on observations of the real world. Make and record observationsInterpret 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, differentiationSpecialised, 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, pivotNeuron, reflex, response, Reproduction, Sperm, ovum, fertilisation, Variation, evolution, adaptation, Puberty, adolescence, hormones, Oestrogen, progesterone, LH, FSH.Pregnancy, placenta, foetus,  |
| Checklist RTL | Recall quiz x 2Assessment focussed on describing and comparing body systems |
| Home | Article Homework to promote reading like a scientistRecall quiz x2Revision for end of unit assessment |
| **Half Term 2: The Science of Us** **Substantive Knowledge:**Features of light and sound wavesHow light can be affected by density and coloured filtersDescribe 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 x1Assessment to analyse different circuits and calculate valuesEnd of unit assessment |
| Home | Article Homework to promote reading like a scientistRecall quiz x3Revision for end of unit assessment |