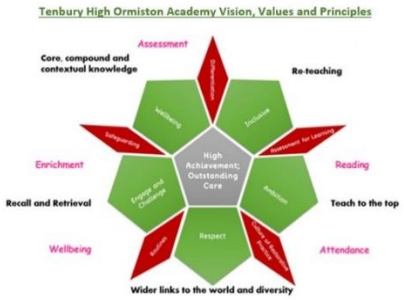
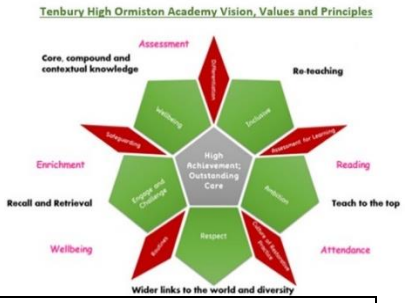
TENBURY HIGH
ORMISTON ACADEMY



Curriculum Overview for Science
Year 8

Half Term 3: CR4, BBL2 **Substantive Knowledge:** ▪ Reproduction in humans (as an example of a mammal) including the structure and function of the male and female reproductive systems and gametes. ▪ The menstrual cycle (without details of hormones) ▪ Fertilisation, gestation and birth, to include the role of the placenta. ▪ Define acids and alkalis in terms of neutralisation reactions ▪ The PH Scale for measuring acidity/alkalinity; and indicators ▪ Reactions of acids with metals to produce a salt plus hydrogen ▪ Reactions of acids with alkali to produce a salt plus water. ▪ Energy changes on changes of state (qualitative) ▪ Exothermic and endothermic chemical reactions (qualitative) ▪ **Disciplinary Knowledge:** Construct line graphs with given axis Describe patterns and trends in given data Recognise real applications of specific scientific ideas. Give specific examples of scientific or technological development, stating the purpose Draw straight forward conclusions from data presented Construct scientific plans which will allow for reliable results to be collected Make order of magnitude calculations Interpret frequency tables, line graphs, bar graph and pie charts		Article homework – reading for meaning, Model reading and highlighting to pick out key details, reading of data, Skim reading
		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,
		Recall test x 2 Written assessment focussed on describing and comparing body systems
		Article Homework to promote reading like a scientist Revision for recall tests
Half Term 4: THb7, OEOO6 **Substantive Knowledge:** ▪ The representation of a journey on distance on a distance-time graph ▪ Speed and the quantitative relationships between average speed, distance, and time ▪ Speed = distance ÷ time. ▪ Relative motion: trains and cars passing each other.		Article homework – reading for meaning, Model reading and highlighting to pick out key details, reading of data, Skim reading
		Amplitude, wavelength, transverse, Longitudinal, sound, particles, Ear, hearing, frequency, Vacuum, Refraction, density, speed, Filter, colour, wavelength, Retina, myopia, hyperopia



▪ Forces being needed to cause objects to stop or start moving, or to change their speed or direction of motion (qualitative) resolving forces with multiple forces acting in parallel. ▪ Change depending on direction of force and its size. ▪ The structure and functions of the gas exchange systems in humans, including adaptations to function. ▪ The role of diffusion in the movement of materials. ▪ The mechanism of breathing to move air in and out of the lungs, using a pressure model to explain the movement of gases, including simple measurements of lung volume. **Disciplinary Knowledge:** Identify scientific evidence that is being used to support or refute ideas or arguments. Identify data as categoric, discrete or continuous Select appropriate ways of presenting scientific data – line graphs, bar charts, pie charts etc. linked to science. Use scientific ideas when describing simple processes or phenomena. Give specific examples of scientific or technological development, stating the purpose Identify possible risks to yourself and others Explain why a piece of equipment is appropriate for an investigation Use simple models to describe scientific ideas Identify strengths and weaknesses of particular models Use straight forward scientific evidence to answer questions, or to support their findings. Draw straightforward conclusions from data presented		Recall test x1 Written assessment to analyse different circuits and calculate values End of term assessment
		Article Homework to promote reading like a scientist Revision for recall tests Revision for end of term assessment