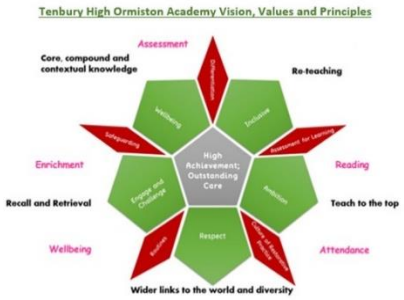
TENBURYHIGH
ORMISTON ACADEMY



Curriculum Overview for Science
Year 7

Half Term 3: BBL2, THB7, THB8 **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. ▪ 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. ▪ The structural adaptations of some unicellular organisms ▪ The effects of recreational drugs (including substance misuse) on behaviour, health and life processes ▪ The impact of exercise, asthma and smoking on the human gas exchange system ▪ The effect of maternal lifestyle on the foetus through placenta. ▪ ▪ **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 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 Use straight forward scientific evidence to answer questions, or to support their findings. Select appropriate ways of presenting scientific data – line graphs, bar charts, pie charts etc. linked to science. Distinguish between opinion and scientific evidence in contexts related to science and use evidence rather than opinion to support or challenge scientific arguments. Find the mean, median and mode of a data set. calculate percentage of a value	   	Model reading and highlighting to pick out key details, reading of data, Skim reading Cell, organelle, chloroplast, vacuole, cell wall, magnify, microscope, eukaryotic, prokaryotic, specialised, differentiation, unicellular, organisation, organism, Extremophiles, sampling, quadrats, density, floating, sinking, End of unit assessment Recall Test Article Homework to promote reading like a scientist Revision for end of unit assessment

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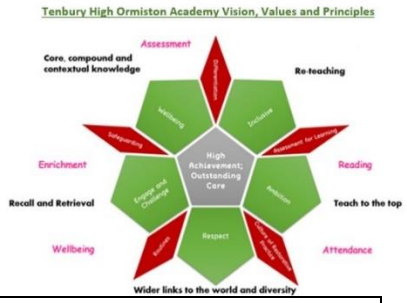
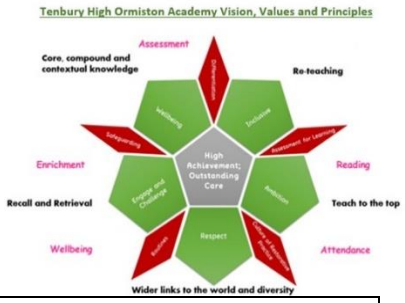


Half Term 4: THB8, Bom7, CR3 **Substantive Knowledge:** ▪ The structural adaptations of some unicellular organisms ▪ The effects of recreational drugs (including substance misuse) on behaviour, health and life processes ▪ The impact of exercise, asthma and smoking on the human gas exchange system The effect of maternal lifestyle on the foetus through placenta ▪ Conservation of materials and mass, reversibility, in melting, freezing, evaporation, sublimation, condensation and dissolving. ▪ Similarities and differences, including density differences, between solids, liquids and gases. ▪ Brownian motion of gases. ▪ Diffusion in terms of the particle model. ▪ Diffusion in liquids and gases by differences in concentration. ▪ Rearrangement of atoms. ▪ Representing chemical reactions using formulae and using equations. ▪ Combustion, thermal decomposition, oxidation and displacement reactions. ▪ Word equations. **Disciplinary Knowledge:** . Use straight forward scientific evidence to answer questions, or to support their findings. Select appropriate ways of presenting scientific data – line graphs, bar charts, pie charts etc. linked to science. Distinguish between opinion and scientific evidence in contexts related to science and use evidence rather than opinion to support or challenge scientific arguments. Find the mean, median and mode of a data set. calculate percentage of a value Identify the strengths and weaknesses of particular models. Describe observations using cause and effect, identifying sources of random/systematic error. Identify a suitable piece of equipment needed to collect reliable data. Explain why a piece of equipment is appropriate for an investigation Explain the need to control variables Use appropriate scientific forms of language to communicate scientific ideas, processes or phenomena.	   	Model reading and highlighting to pick out key details, reading of data, Skim reading , convection, mantle, crust, tectonics, igneous, rocks, crystal, weathering, erosion, deposition, cementation, sedimentary rocks, heat, pressure, metamorphic, rock cycle. Forces, balanced, unbalanced, gravity. End of unit assessment Recall Test Article Homework to promote reading like a scientist Revision for end of unit assessment



Use straightforward scientific evidence to answer questions, or to support their findings. Draw straightforward conclusions from data presented Describe observations using cause and effect, identifying sources of random/systematic error Draw straight forward conclusions from data presented		