Curriculum Overview – (Year 8) (Science)

Unit Title	Learning	How can parents best support?
Nutrition and Digestion September to October	- Learn about the nutrients found in our food which enable us to survive - Learn about the causes and symptoms of having a poor diet - Using practical skills, and AIDCAR to complete the food tests - Learn about the enzymes found in the digestive system and create a model - Develop a deeper understanding of how temperature effect enzyme activity	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Biology topics will build on this key knowledge and skills. Encourage your child to ask questions or share what they are learning about with health care specialists if they go to appointments eg doctors, opticians or even taking a pet to the vet!
Chemical Reactions October to November	- Learn the basics about acids/alkalis and how to identify them on the pH scale - Use the skills acquired to carry out a full scientific investigation using our Acronym “AID CARS” to make indicators, neutralisation reactions and ‘making pure dry salt’ - Learn about how to write word and symbol oxidation equations	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Chemistry topics will build on this key knowledge and skills. Encourage your child to discuss their learning with you and identify household acids and alkalis. Watch video clips from Jon Chase to prompt engagement in practical activities at home https://www.youtube.com/watch?v=mQxknvSKwU4 for additional support.

Light & Sound December to January	- Learn about light waves - Develop practical and mathematical skills acquired to investigate reflection and refraction - Learn about the eye and how we see different colours - Learn about sound waves and the characteristics that effect the speed of sound - Further develop mathematical skills to calculate the speed of sound. - Learn about the structure of the ear and how we hear	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Physics topics will build on this key knowledge and skills. Encourage students to discuss their new knowledge. Allow them to practise practical skills at home. Watch the video for creating speakers; https://www.youtube.com/watch?v=Vll8oYMo1UU
Genetics & Evolution January to March	- Learn about how variation occurs within a species - Learn about what makes up our DNA - Learn about genetic inheritance and the effect of mutations - Learn about evolution by natural selection - Learn about the process of selective breeding - Develop an understanding of why extinction happens	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Biology topics will build on this key knowledge and skills. Watch video clips from Stated Clearly to prompt engagement in practical activities at home https://www.youtube.com/watch?v=GhHOjC4oxh8 , https://www.youtube.com/watch?v=0SCjhI86grU for additional support.

Electricity & Electromagnets March to April	- Learn how to build and draw electrical circuits - Learn about potential difference - Learn how to compare the similarities and differences between how current flows in series and parallel - Develop mathematical skills by calculating resistance and the factors affecting it - Learn about the basics of magnets and electromagnets - Use the skills acquired to carry out a full scientific investigation using our Acronym "AID CARS"	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Physics topics will build on this key knowledge and skills. Encourage your child to ask questions about what they are learning about with electricians etc. Watch video clips to prompt engagement and for additional support. https://www.youtube.com/watch?v=-aNpmCSZHbk
Earth and the Atmosphere April to May	- Learn about the structure of the Earth - Learn about the similarities and differences between sedimentary, igneous and metamorphic rocks, including their formation through the rock cycle - Develop an understanding of the causation of acid rain and weathering - Learn about how the Earth's atmosphere has changed due to global warming and the effects of greenhouse gases - Develop a deeper understanding of the Earth's resources and the importance of recycling	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Chemistry topics will build on this key knowledge and skills. Encourage your child to ask questions about the changes they observe due to pollutants, such as the weathering by acid rain on buildings. Encourage them to recycle wherever possible and discuss the reasons.

Levers, Moments and Pressure May to June	- Develop mathematical skills by calculating moments, work done, Hooke's law and pressure - Learn the effect of using a lever to reduce effort - Use the skills acquired to carry out a full scientific investigation using our Acronym "AID CARS"	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Physics topics will build on this key knowledge and skills. Encourage your child to practise their mathematical skills by completing their homework regularly. Watch video clips to prompt engagement and for additional support. https://www.youtube.com/watch?v=lueqE0lxLyc https://www.youtube.com/watch?v=22VGQM1jCn8 https://www.youtube.com/watch?v=WUWMgI438Lg
Ecosystems June to July	- Learn about how plants get their energy through photosynthesis - Develop an understanding of food chains, food webs and pyramids of numbers - Learn about the conditions that increase the rate of decay - Learn about how plants and animals adapt to their environments in order to survive - Learn about classification - Use the skills acquired to carry out a full scientific investigation using our Acronym "AID CARS" to perform various sampling techniques	Read the knowledge organiser together with a particular focus on the keywords and definitions. Ensure your child understands the basics as future Biology topics will build on this key knowledge and skills. Encourage your child to discuss their learning with you, observe adaptations of plants and animals they see regularly. Students can also perform practical activities at home such as; dissecting a flower/plant, performing their own decay investigation, using sampling techniques in their own gardens. Watch video clips to prompt engagement and for additional support. https://www.youtube.com/watch?v=pSc-y0nEjX8