Science Year 8 Curriculum Overview

What is the Year 8 Science curriculum aiming to achieve?		
What do we want our Year 8 Scientists to be like?	How are we building on prior learning?	How can parents/carers support their child's learning?
• Be excited and enthusiastic about the scientific world around us • Be safe and competent practical scientists • Be able to make links between observations and scientific theory • Be good verbal and written communicators using key terms • Have furthered their understanding of key concepts in all three Science disciplines	• We will make links to and build on the Biology, Chemistry and Physics topics from KS2 • We will build on our working scientifically skills in the areas of analysis, communication, enquiry and problem solving	• Talk to the pupils about what they are learning about in lesson • Be curious about the world around you and discuss with your child • Support your child with homework tasks • Help your child consolidate their school learning e.g. using BBC Bitesize or watching scientific documentaries

How are we organising the Year 8 Science curriculum?			
	Autumn Term	Spring Term	Summer Term
Topics	**Biology**: Breathing and Digestion **Chemistry**: Periodic Table **Physics**: Speed and Gravity	**Biology**: Photosynthesis **Chemistry**: Acids and Alkalis **Physics**: Contact Forces and Pressure	**Biology**: Respiration **Chemistry**: Chemical Energy and Types of Reaction **Physics**: Work and Heating and Cooling
Threshold Concepts	Gas exchange in the lungs is achieved by breathing. Nutrients in our food are broken down and absorbed by the organs of the digestive system. All substances on Earth are made up of the elements found in the periodic table. Speed is how big a distance is covered in a certain time. Gravity exists between all objects with mass.	Producers carry out photosynthesis to produce their own food. Some compounds dissolved in water are acidic, some are alkali. Acid and alkali solutions can react together in neutralisation reactions. Objects in contact with each other can exert forces on one another. Pressure is the amount of force acting over a given area.	The products of photosynthesis can be used by respiration to release energy. Chemical reactions either require an energy input or they release energy. Nothing is created or destroyed in a chemical reactions, of which there are numerous types. Energy is transferred when a force is moved through an object. The amount of thermal energy of an object depends on its mass, temperature and what it is made of. Thermal energy can be transferred by conduction, convection and radiation.
Skills	Analyse patterns and draw conclusions Communicate ideas and construct explanations Devise questions and collect data Examine consequences	Present data and discuss limitations Critique claims and justify opinions Plan variables to test a hypothesis Estimate risks	Review theories Interrogate resources
Enrichment within the curriculum	British Science Week lesson activities and competitions Year 8 Science Trip or guest lectures		
Cross curricular links	• Nutrition and digestion (Food technology) • Mathematical calculations (Mathematics) • Working scientifically literacy skills (English) • Climate and Earth's resources (Humanities)		
Extra-curricular opportunities	Pershore Science Club will run after school providing opportunities for students to make real life links between science in lessons and the outside world.		

What are the intended outcomes of the Year 8 (Science) curriculum?			
	Autumn Assessment	Spring Assessment	Summer Assessment

Opportunities to show progress (Assessments)	**Biology**: Breathing and Digestion test **Chemistry**: Periodic Table test **Physics**: Speed and Gravity test	**Biology**: Photosynthesis test **Chemistry**: Acids and Alkalis test **Physics**: Contact Forces and Pressure test	**Biology**: Respiration tes **Chemistry**: Chemical Energy and Types of Reaction test **Physics**: Work and Heating and Cooling Test
Impact on personal development (SMSC)	Spiritual understanding – science is the study of nature and the curriculum aims to bring about the awe and wonder of the natural world. Social – working together in groups to investigate science practically and understand how science affects society.		
Preparation for the next stage of education	The topics studied in Year 8 are the foundation for GCSE and A Level in Biology, Chemistry and Physics and Combined Sciences which prepare students to be able to follow careers in medicine, engineering, health care, sports science, computer science and the world of finance to name but a few of the pathways available to scientists.		