Heron Hall ACADEMY

Subject : Science	Year 7 Curriculum Map					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
What am I learning?	We start learning skills that a student needs to be successful in Science such as investigations, collecting and presenting data and identifying patterns.	We will look inside organisms to discover what plants and animals are made of. We will learn why substances have different properties in their solid, liquid and gas states.	We will study forces, where they come from and how they change the motion of an object, we will also measure speed and tell the story of a journey with a graph.	Building on prior learning we will look at how the properties of different substances will help us to decide the best way to separate them.	We know that every human is different we will look at these differences and how they are caused. We will also learn about human reproduction.	We end the year by learning what happens in a circuit, how objects become charged. We will also learn about ways of calculating energy in both food and fuels.
Why am I learning this?	These are the skills that you need over the time you study Science at Heron Hall – without these foundations we cannot build on them in future years.	As all organisms are made from cells and all matter is made from particles these two topics set the foundations for many topics that we study later.	This topic is essential as it helps to explain how the same forces that hold the universe together also hold atoms together and help us to move around.	This topic starts to build on practical based skills which are essential for all experiments e.g. filtration and encourages problem solving.	This allows us to understand how variation can help organisms survive in different environments, and how a new life can be created and developed.	This helps us to understand what happens in a circuit as we cannot see inside the wires, we learn about energy transfers which builds from KS2 and into KS4
How will I be supported?	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks
How will I be challenged?	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks

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Subject : Science	Year 8 Curriculum					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
What am I learning?	We will be learning about sound and hearing, changes when you make sound of different pitch and loudness. We will also learn about light in seeing objects	Chemical reactions are very useful in making medicines and substances. We will learn about reactions of metals and acids, and how salts can be made.	We will be learning about how we breathe, and then look at the damage that can be caused by smoking, drinking and taking drugs.	We will learn about magnets, and earth's magnetic fields. We will learn how bells and loudspeakers work. We also learn elements and their physical and chemical properties	We will learn about the periodic table and how elements grouped. We will also learn about what the earth is made from and its structure	We will learn about the night sky, the solar system and the earth. We will also learn about plant and animal life with an ecosystem
Why am I learning this?	Waves is a large topic at GCSE which is broken down into learning so students can describe how sound and light transfer information	Using previous knowledge, students will develop their understanding of reactions to include word and symbol equations which is a fundamental skill.	Linking knowledge students will learn about photosynthesis and respiration; so they can explain how plants and animals get the energy they need for life.	Building on the forces from Y7 magnetism will continue to develop their knowledge of invisible force-fields that act throughout the universe and these affect different materials in different ways.	Use of periodic table to work out atom structure is fundamental (KS3; periodic table in more depth including how to use the data on the table)	We are learning this so that we can explain why plants are so important for the survival of all life on Earth.
How will I be supported?	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of Interactive tasks
How will I be challenged?	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks

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Subject : Science	Year 9 Curriculum Map					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
What am I learning?	Understand the forces acting on an object, explain how it is moving, or not moving. Learning the meaning of pressure in fluids & relate it to floating and sinking.	Students will learn atom conservation, transfers of energy balancing equations and the signs of a physical and chemical reaction. Links to Earth & Atmosphere.	Student will learn adaptations of animals that have led to evolution, & preserving biodiversity, atmosphere & consider the cause & effects of global warming	Students will learn that waves transfer energy, how they interact, uses and damages of waves. Students will make links from energy transfers to respiration.	Students will study photosynthesis & look at the structure of the leaf in more detail. Links to GCSE KS4 key concepts in Biology	Students will study cell division & the role of chromosomes, cell growth differentiation & stem cells the benefits, risks, social & ethical issues.
Why am I learning this?	Student will learn how these physical factors impact their lives and work e.g. gravity.	To understand the properties of a substance. By studying the way a substance interacts with another substance, we can learn its chemical properties	To explain the risks about species becoming extinct, the ecosystems that we rely on to provide us with the air we breathe and the food we eat.	To understand a wide range of physical phenomena including light and the waves.	Understand why we are all different. Ideas about how we inherit variation and how mutation leads to more dramatic types of variation.	Students will link sexual reproduction and leads to variation.
How will I be supported?	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks	Sentence starters Scaffolding Modelling of tasks Interactive tasks
How will I be challenged?	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks	Higher level thinking (e.g. evaluation tasks), challenge tasks

See Year 10 map on the next page.

Subject : Science	Year 10 Curriculum Map					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
What am I learning?	We start by looking at Variables and Experimental skills. Students then study Communicable diseases, Preventing and treating diseases. We conclude with non-communicable diseases	Students will study Electrical circuits and electricity in the home. The next topic will be Chemical changes, Electrolysis and Energy changes	The first topic this term will be molecules and matter followed by Radioactivity	The first topic this term will be Photosynthesis, followed by Respiration and the Human nervous system	Students will study Rates and equilibrium, Crude oil, and Fuels; Organic reactions and Polymers	Students will study Forces in balance and Motion. We conclude with Forces and pressure.
Why am I learning this?	The study of experimental skills will be used throughout to enable learners to obtain and analyse data accurately. Learning about antiseptics and antibiotics in disease control. Understand effects of lifestyle factors – diet, alcohol, and smoking on the incidence of non-communicable diseases at local, national, and global levels	Enhance numeracy skills. Calculate charge flow, resistance, and potential differences in electric circuits. Understand the heating effects of current. The many applications of neutralisation. Electrolysis explains how we split ionic compounds to get useful products and its industrial applications	Each state of matter stores heat differently and energy is needed to move from one state to another. Learn real life uses and danger of radiations, the types, and properties. Clarify misconceptions.	Bioenergetics maintains the balance of oxygen and carbon dioxide needed for survival. Understand the role of sensory and motor neurones in coordination and control. Appreciate how the eye works, vision problems and their corrections	How human activity has impacted climate change. Understand the differences between synthetic and naturally occurring polymers.	Deepen understanding of forces in transport, application of forces in everyday life such as car safety/stopping distances. Gain increased knowledge of the importance of sticking to the speed limit, wearing a seat belt, gravity, weight, and pressure
How will I be supported?	Sentence starters, Scaffolding, Videos Modelling of tasks Interactive tasks, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals
How will I be challenged?	Conducting required practicals and analysing their results Higher level thinking (e.g. evaluation tasks), Exampro Questions – past paper style questions.	Conducting required practicals and analysing their results Higher-level thinking (e.g., evaluation tasks), Exampro	Higher ability reading material. Pushing evaluation skills	Higher ability reading material. Pushing evaluation skills	Higher ability reading material. Pushing evaluation skills	Higher ability reading material. Pushing evaluation skills

		Questions –– past paper style questions.				

Subject : Science	Year 11 Curriculum Map					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
What am I learning?	We start by looking at Variable and Experimental skills. From the above topic students study Photosynthesis and Respiration and then conclude with principles of homeostasis	We move on to study the difference between vector and scalar quantities, speed and velocity. Learners also learn the calculation for velocity. The next topic on the map will be rate and equilibrium	The first topic this term will be the Biological responses, followed by forces. Learners then move on to study organic chemistry and chemical analysis	We start by looking at genetics and reproduction followed by earth resources. We then move on to study a final topic on waves	Students will be taking their summer GCSE exams	Students will be taking their summer GCSE exams
Why am I learning this?	The study of experimental skills will be used throughout the study of science to enable learners obtain and analyse data accurately. Bioenergetics also the maintains the balance of oxygen and carbon dioxide needed for survival	Students will learn how physical factors impact their lives and work. The lessons and activities will help students become aware of factors like friction, gravity and wait. Learners will understand how industries make more profit by changing certain factors.	Learners will study how the human body respond to various stimulus. They will also learn how terminal velocity is achieved and also appreciate how chemist analyse samples in crime scenes	Genetics enable learners to understand the origin of organisms whereas earth resources explains how materials are extracted. Waves will help learners appreciate	Students will be taking their summer GCSE exams	Students will be taking their summer GCSE exams
How will I be supported?	Sentence starters Scaffolding, Videos Modelling of tasks Interactive tasks, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals	Sentence starters Scaffolding, Videos Modelling of tasks Picture Sources, required practicals		
How will I be challenged?	Conducting required practicals and analysing their results Higher level thinking (e.g. evaluation tasks), Exampro Questions	Conducting required practicals and analysing their results Higher level thinking (e.g. evaluation tasks), Exampro Questions	Higher ability reading material. Pushing evaluation skills	Higher ability reading material. Pushing evaluation skills		

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