Gatsby Benchmark 4

'Linking curriculum learning to careers'

Specific career content delivery and the promotion of employability skills

Curriculum area:	Science

Year 7/8		
Autumn term	**Spring term**	**Summer term**
• **Overview of Science topics and assessments** • **Working safely in science** • **Name and give the uses for a range of scientific equipment** • **How Scientist draw pieces of equipment** • **Using a Bunsen burner safely** **Communication** Explaining methods and answers verbally during class discussion. **Problem solving** Finding solutions to Scientific problems given in context such as finding ways to separate a mixture. **Organisation** Students are directed to record their written methods in a logical manner. They are encouraged to follow a specific structure. **Numeracy** Developing and embedding numeracy skills to aid the analysis of data to arrive at valid conclusions.		

Year 9		
Autumn term	**Spring term**	**Summer term**
• **Nutrients** • **Food tests** • **Unhealthy diet** • **Drugs, alcohol and smoking** • **Ecosystem processes** • **Separation techniques** • **Forces and motion** **Numeracy** Reading and interpreting nutritional content values on food packaging; including alcohol units. **Communication** Explaining methods and answers verbally during class discussion using correct scientific language. **Creativity** Students are encouraged to choose and apply their own methods to express their ideas. For example, when presenting data, they can choose what format to use. **Emotional intelligence** Promoting resilience and perseverance when tackling challenging problems.	• **The periodic table** • **Magnetism** • **Chemical reactions** • **Energy** **Organisation** Students are directed to document their work in a logical manner. This is particularly important when working through practical work in order to arrive at valid scientific conclusions. **Communication** Explaining methods and answers verbally during class discussion. **Teamwork** Working together to make discoveries such as which ends of a magnet is the north or south pole. **Numeracy** Developing and embedding numeracy skills to promote fluency of numerical concepts. Students enhance their ability to reason and problem solve with numerical scientific evidence. **Literacy** Promoting the use of correct scientific language in exercise books and during discussions.	• **Adaptation and inheritance** • **Metals and acids** • **Forces and pressure** **Communication** Explaining methods and answers verbally during class discussion using correct scientific language. For example, when describing how a pressure is exerted. **Problem solving** Finding solutions to scientific problems given in context such as interpreting graphs and data and justifying whether data can be deemed to be reliable. Eventually drawing conclusions from the data. **Organisation** Students are directed to document their practical work in a clear pre-set manner. **Emotional intelligence** Promoting resilience and perseverance when tackling challenging problems. **Leadership** Working independently to solve problems and being able to justify a method or solution to others.

Year 10 - Foundation		
Autumn term	**Spring term**	**Summer term**
• **Atomic structure and radiation** • **Cell Biology** • **Particle model of matter** • **Bonding and structure** **Communication** Explaining methods and answers verbally during class discussion using correct scientific language. For example, when describing the structure of the atom. **Organisation** Students are directed to document their practical work in a clear manner. For example, when working through a multi-step percentage problem. **Numeracy** Developing and embedding numeracy skills to promote fluency of numerical concepts. Students enhance their ability to reason and problem solve with number. **Teamwork** Working together to make draw conclusions such as discussing the outcomes of statistical measures. **Emotional intelligence** Promoting resilience and perseverance when tackling challenging problems.	• **More bonding and structure** • **Energy** • **Energy changes** • **Organisation: Animals** • **Bioenergetics: Animals** • **Communicable diseases** **Numeracy** Developing and embedding numeracy skills to promote fluency in doing numerical manipulation. Students enhance their ability to reason, problem solve and arrive at scientific conclusions. **Teamwork** Working together to make draw conclusions such as identifying the points at which energy gets lost in a system. **Organisation** Students are directed to document their work in a clear manner. For example, when showing how they have reached the solution in an energy transfer situation. **Leadership** Working independently to solve problems and being able to justify a method or solution to others. **Problem solving** Finding solutions to Scientific problems given in context such as predicting the spread of a disease in a given situation.	• **Non-communicable diseases** • **Quantitative chemistry** • **Chemical changes** • **Bioenergetics: Plants** • **Electricity** **Organisation** Students are directed to document their practical work in a clear, logical manner. **Communication** Explaining methods and answers verbally during class discussions. **Numeracy** Developing and embedding numeracy skills to promote fluency when performing calculations in Chemistry. **Organisation** Students are directed to document their work in a clear manner. For example, Results Tables and graphs must be drawn accurately so as to allow valid scientific conclusions to be drawn. **Emotional intelligence** Promoting resilience and perseverance when tackling challenging problems. **Literacy** Promoting the use of correct scientific language in exercise books and during discussions.

Year 11		
Autumn term	**Spring term**	**Summer term**
• **Homeostasis and response** • **Rate and extent of chemical change** • **Forces** • **Inheritance, variation and evolution.** • **Organic chemistry** • **Waves** **Communication** Explaining methods and answers verbally during class discussion using correct scientific language and terminology. **Numeracy** Developing and embedding numeracy skills to promote fluency when calculating forces and rates of chemical reaction. Students enhance their ability to reason and interpret the meaning of a particular scientific equation. T**eamwork** Working together to arrive at conclusions, following data collection and analysis. **Problem solving** Identifying the correct formula to apply in a given situation. **Emotional intelligence** Promoting resilience and perseverance when tackling challenging problems.	• **Ecology** • **Chemical analysis** • **Magnetism and electromagnetism** • **Chemistry of the atmosphere** **Communication** Explaining methods and answers verbally during class discussion using correct scientific language. **Organisation** Students are directed to document their work in a clear manner. For example, practical work generally follows a fixed set of steps. **Problem solving** Finding solutions to scientific testing chemical samples to determine what substances they may contain. **Literacy** Enforcing the use of correct scientific language in exercise books and during discussions. T**eamwork** Working together to make draw conclusions such as interpreting information from a graph and drawing relevant scientific conclusions.	• **Using resources** • **Review of topics**