	Mid-Year Expectations	End of Year Expectations
Higher Prior Attainer	**Biology** • Compare and contrast plant, animal and prokaryotic cells. • Describe the transport mechanisms in cells and explain the factors which can affect the rate of transport. • Describe in detail and explain structure and function of organs of the digestive system. • Make scientific predictions, plan, and carry out a range of practical experiments to investigate enzyme activity. • Explain in detail the links between circulatory and respiratory systems. • Explain the adaptations of blood vessels and relate to their function. **Chemistry** • Describe the structure of atoms and isotopes. • Explain using diagrams, the electron configuration for the first 20 elements and how this effects their reactivity. • Explain the difference between elements, compounds, and mixtures. • Write word and balanced symbol equations for the reaction of group one metals and water. • Describe and explain the trend in reactivity down group one and group seven in terms of electron-nucleus attraction.	**Biology** • Describe and explain the structure of heart, blood vessels and explain the causes and effects of coronary heart disease. • Explain the function of organs in a plant, linking to photosynthesis. • Explain the difference between abiotic and biotic factors within an ecosystem, giving examples for each. • Use a range of sampling techniques to determine the distribution of a species within an ecosystem. • Process, analyse and draw conclusions from data collected from their field investigation. • Link ideas of photosynthesis and respiration to efficiencies in decomposition and food webs. • Explain how environmental changes, as well as human activities can lead to extinction and global warming. **Chemistry** • Explain how atoms become ions and draw dot-and-cross diagrams to illustrate the loss/gain of electrons. • Describe how ionic, covalent, and metallic bonds form. • Explain the properties of ionic, giant-covalent, small-molecules and metallic substances. • Describe the relationship between the strength of intermolecular forces and physical properties of materials. • Describe the Earth's early atmosphere and explain how it has changed to the current day. • Explain greenhouse effect and how human activities affect the proportion of greenhouse gases in the atmosphere.

	Mid-Year Expectations	End of Year Expectations
Higher Prior Attainer	**Physics** • Describe the energy stores in each system. • Explain how stores of energy change in a range of everyday situations. • Perform multistage calculations on using energy formulae. • Explain changes of state in terms of the motion of particles. • Plan, carry out and evaluate an experiment to determine density.	**Physics** • Compare longitudinal and transverse waves. • Measure and perform calculations on amplitude, wavelength, frequency, and speed of a wave. • Evaluate the properties of some electromagnetic waves for uses. • Construct basic electrical circuits and compare the concepts of current, potential difference and resistance. • Compare electromagnets and permanent magnets.

	Mid-Year Expectations	End of Year Expectations
Middle Prior Attainer	**Biology** • Identify structures in plant and animal cells. • Compare structure of eukaryotic and prokaryotic cells. • Describe the transport mechanisms in cells. • Identify organs of the digestive system and describe their function. • Carry out a range of practical experiments to investigate enzyme activity. • Describe the links between circulatory and respiratory systems. • Describe the structure of blood vessels, the chambers of the heart and consequences of blockages. **Chemistry** • Describe the basic structure of an atom and describe using diagrams, the electron configuration for the first 20 elements. • Describe the difference between elements, compounds, and mixtures. • Write word equations for the reaction of group one metals and water. • Describe and explain the trend in reactivity down group one and group seven.	**Biology** • Describe the function of organs in a plant, linking to photosynthesis. • Describe the difference between abiotic and biotic factors within an ecosystem. • Use a range of sampling techniques to determine the distribution of a species within an ecosystem. • Use maths skills to process, analyse and draw conclusions from data collected from their field investigation. • Identify and describe how organisms are adapted to their environment. • Outline how environmental changes, as well as human activities can lead to extinction and global warming. **Chemistry** • Describe how atoms become ions and draw dot-and-cross diagrams to illustrate the loss/gain of electrons. • Describe how ionic, covalent, and metallic bonds form. • State properties of ionic, giant-covalent, small-molecules and metallic substances. • Describe the relationship between intermolecular forces and physical properties of materials. • Describe the Earth's early atmosphere and how it has changed to the current day. • Describe the greenhouse effect and list human activities that contribute towards it.

	Mid-Year Expectations	End of Year Expectations
Middle Prior Attainer	**Physics** • Identify the energy stores in a system. • Determine how stores of energy change in everyday situations. • Perform calculations on using energy formulae – rearranging when necessary. • Identify changes of state. Follow a given plan and carry out an experiment to determine density.	**Physics** • Describe the features of longitudinal and transverse waves. • Measure amplitude, wavelength, frequency, and speed of a wave. • List the properties and uses of some electromagnetic waves. • Construct basic electrical circuits and use the concepts of current, potential difference and resistance. • Compare electromagnets and permanent magnets.

	Mid-Year Expectations	End of Year Expectations
Lower Prior Attainer	**Biology** • Identify organs of the digestive system with their function. • Carry out a range of practical experiments to discover enzyme activity. • Describe the links between circulatory and respiratory systems. • Describe the structure of blood vessels, the chambers of the heart and consequences of blockages. • Describe the function of organs in a plant. **Chemistry** • Describe the basic structure of an atom and describe using diagrams, the electron configuration for some elements. • Describe the difference between elements, compounds, and mixtures. • Write word equations for the reaction of group one metals and water. • Describe the trend in reactivity down group one and group seven.	**Biology** • Identify the difference between abiotic and biotic factors within an ecosystem. • Use sampling techniques to determine the distribution of a species within an ecosystem. • Process and analyse data collected from their field investigation. Identify how organisms are adapted to their environment. • Describe how environmental changes, as well as human activities can lead to extinction and global warming. **Chemistry** • Describe how atoms become ions and draw dot-and-cross diagrams to illustrate the loss/gain of electrons. • Describe how ionic, covalent, and metallic bonds form. • State properties of ionic, giant-covalent, small-molecules and metallic substances. • Describe the relationship between intermolecular forces and physical properties of materials. • Describe the Earth's early atmosphere and how it has changed to the current day. • Describe the greenhouse effect and list human activities that contribute towards it.

	Mid-Year Expectations	End of Year Expectations
Lower Prior Attainer	**Physics** • Name the energy stores in a system. • State how stores of energy change in everyday situations. • Perform simple calculations on using energy formulae. • Describe changes of state. • Follow a given plan and carry out an experiment to determine density.	**Physics** • Identify longitudinal and transverse waves. • Measure amplitude, wavelength, and speed of a wave. • List the properties and uses of some electromagnetic waves. • Construct basic electrical circuits and describe the concepts of current, potential difference and resistance. • Investigate electromagnets and permanent magnets.