Singleton Church of England Primary School
Progression of knowledge
Science – Y6 (Cycle A)

	Year 6 – Unit 1 **Healthy Bodies**	**Year 6 – Unit 2** **Evolution and Inheritance**	**Year 6 – Unit 3** **The Titanic**
SUBSTANTIVE CONCEPTS Substantive concepts are concepts that children will come across repeatedly throughout their education in Science.	Plants Living Things and Their Habitats Animals Including Humans Evolution and Inheritance Seasonal Changes Materials Rocks Light Forces Sound Electricity Earth and Space	Plants Living Things and Their Habitats Animals Including Humans Evolution and Inheritance Seasonal Changes Materials Rocks Light Forces Sound Electricity Earth and Space	Plants Living Things and Their Habitats Animals Including Humans Evolution and Inheritance Seasonal Changes Materials Rocks Light Forces Sound Electricity
KEY VOCABULARY	heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, cycle, circulatory system, diet	offspring, sexual reproduction, vary, characteristics, adapted, inherited, species, evolve, evolution	variables, independent variable, dependent variable, control variable, evidence, justify, argument (science), causal relationship, accuracy, precision, scatter graphs, bar graphs, line graphs, force meter
SUBSTANTIVE KNOWLEDGE Substantive knowledge refers to the residual knowledge that children should take away from the unit after it has been taught. It consists of the core facts in terms of Scientific knowledge. In this progression map, you will find a concise summary of the substantive knowledge for each unit.	• Knows the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. • Knows the impact of diet, exercise, drugs and lifestyle on the way their bodies function. • Knows the ways in which nutrients and water are transported within animals, including humans.	• Knows that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. • Knows that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • Knows how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	• Knows how to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. • Knows how to report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other forms (Investigation unit)
MAKING CONNECTIONS **Key knowledge**	**Year 4** • Knows the simple functions of the basic parts of the digestive system in humans. • Knows the different types of teeth in humans and their simple functions. • Construct and interpret a variety of food chains, identifying producers, predators and prey. **Year 5** • Knows the changes as humans develop to old age.	**Year 4** • Knows that environments can change and that this can sometimes pose dangers to living things **Year 5** • Knows the life process of reproduction in some plants and animals	**Year 5** • Knows how to compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

			• Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. • Demonstrate that dissolving, mixing and changes of state are reversible changes. • Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.
Working Scientifically (Taken from the Rising Stars Scheme of work).	• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • Use test results to make predictions to set up further comparative and fair tests. • Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. • Identifying scientific evidence that has been used to support or refute ideas or arguments.	• Identify scientific evidence that has been used to support or refute ideas or arguments	• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. • Take measurements, use a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.