St Clare's Progression in Science – Year 6 Expectations **Pupil Name:** **Class:**

Dimension 1 – Working Scientifically	Dimension 2 – Scientific Understanding				
Aspect 1 – Working Scientifically Y5 & Y6	**Aspect 1 - Biology**			**Aspect 3 - Physics**	
	Living things & their habitats	**Animals, including humans**	**Evolution & Inheritance**	**Light**	**Electricity**
• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting 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. ***e.g.Working Scientifically Exceeding & Excelling*** *100%* ***N.B. Exceeding and Excelling are given as guidance examples only. TA should be used and judgments made based on achievements over and above the statutory requirements for each year group.*** *Taken from Y6 & KS3.*	• describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • give reasons for classifying plants and animals based on specific characteristics. ***e.g.*** ***Exceeding*** ***• Understand and explain the dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules.*** ***Excelling*** ***• Enquire and asking pertinent questions and suggesting reasons for similarities and differences across species.***	• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans. ***e.g.*** ***Exceeding*** ***• Understand and explain content and importance of a healthy human diet: carbohydrates, lipids (fats and oils), proteins, vitamins, minerals, dietary fibre and water, and why each is needed.*** ***Excelling*** ***• Explain the consequences of imbalances in the diet, including obesity, starvation and deficiency diseases.***	• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. ***e.g.*** ***Exceeding*** ***• Understand and explain heredity as the process by which genetic information is transmitted from one generation to the next.*** ***Excelling*** ***• Explain that changes in the environment may leave species less well adapted to compete successfully and reproduce, which may lead to extinction.***	• recognise that light appears to travel in straight lines • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. ***e.g.*** ***Exceeding*** ***• use of ray model to explain imaging in mirrors, pinhole camera and action of convex lens in focusing; the human eye.*** ***Excelling*** ***• Study colours and the different frequencies of light, white light and prisms.***	• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • use recognised symbols when representing a simple circuit in a diagram. ***e.g.*** ***Exceeding*** ***• Understand and design a circuit to achieve a desired purpose. E.g alarm.*** ***Excelling*** ***• Identify and explain the effect of changing one component at a time in parallel and series circuits.***

Evolution & Inheritance	Animals, including humans	Living things & their habitats	Light	Electricity	Overall Judgment
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 2**	**End of Year 6**
Working Scientifically	**Working Scientifically**	**Working Scientifically**	**Working Scientifically**	**Working Scientifically**	**Working Scientifically**

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