Objective	Working Scientifically UKS2						
	General	**Observing and measuring (and observing over time)**	**Comparative and fair tests**	**Identifying and classifying**	**Looking for naturally occurring patterns and relationships**	**Recording and reporting findings**	**Researching using secondary sources**
	Explore and talk about their own ideas.	Make their own decisions about what observations to make, what measurements to use and for how long to make them, and whether to repeat them.	Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions.	Be able, independently, to use simple databases or keys to identify or classify living things, objects or events.	Identify patterns that might be found in the natural environment.	Decide how to record data from a choice of familiar approaches.	Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.
	Ask pertinent questions.	Choose the most appropriate equipment to make measurements and explain how to use it accurately.	Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.	Be able to discuss reasons why living things are placed in one group and not another.	Systematically investigate the relationship between phenomena, e.g. light and shadows.	Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and talk about how scientific ideas have developed over time.	Use secondary sources, e.g. internet links to research objects, events and phenomena that cannot be experienced in the classroom, e.g. planetary movements, animals from around the world.
	Explore ideas and raise different kinds of questions about scientific phenomena.	Recognise that some measurements or observations may need to be repeated.	Be able to state clearly which is the change variable and which is the measurement variable in a fair test.	Suggest reasons for similarities and differences.	Look for different causal relationships in their data and identify evidence that refutes or supports their ideas.	Decide on the most appropriate method to present findings graphically, e.g. using a line graph or bar chart for different types of data.	Gather and record data to help in answering questions.
	Refine a scientific question so that it can be tested.	Repeat observations or measurements appropriately.	Systematically identify the effect of changing one variable at a time.	Begin to understand that broad groupings, such as micro-organisms, plants and animals can be subdivided.	Analyse functions, relationships and interactions more systematically.	Justify what type of presentation is appropriate to use.	
	Understand that some scientific questions cannot be answered by a particular investigation.	Be able to select appropriate ranges or intervals of measurements.	Recognise that some variables may be more significant than others in investigations.	Identify the positive aspects and limitations of some forms of classification.	Find out about how scientific ideas have changed and developed over time as new evidence is discovered, e.g. ideas about the solar system.	Explain findings using data to identify causal relationships.	

Works with Science Bug

Pearson Primary Progress and Assess
Science Progression Map

Child's name: _____

Objective	General	Observing and measuring (and observing over time)	Comparative and fair tests	Identifying and classifying	Looking for naturally occurring patterns and relationships	Recording and reporting findings	Researching using secondary sources
	Be able to suggest changes to questions following collection/analysis of data.	Explain how repeating measurements impacts on data collection.	Be able to justify their choice of method as being appropriate to answer their investigative question.	Use and develop keys and other information records to identify, classify and describe living things and materials.	Recognise when evidence supports an idea or not.	**Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.**	
	Understand a range of enquiries can be used together to explore an answer to a question.	Recognise when measurements or data are unreliable and be able to take steps to improve this.	Be able to use their results to identify when further tests and observations might be needed.	Create more complex forms of classification tools, e.g. databases, branching keys.	Be able to identify and offer explanations for anomalous results.	**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.**	
	Recognise key aspects of a scientific question.	**Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.**	Compare their own results with others' and suggest reasons why there may be differences.	Create and use a variety of sources to identify and classify living things, objects and phenomena.	**Identifying scientific evidence that has been used to support or refute ideas or arguments.**		
			Recognise the limitations of tests.				
			Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.				

Works with Science Bug

Pearson Primary Progress and Assess
Science Progression Map

Child's name: _____

Objective	General	Observing and measuring (and observing over time)	Comparative and fair tests	Identifying and classifying	Looking for naturally occurring patterns and relationships	Recording and reporting findings	Researching using secondary sources
			Using test results to make predictions to set up further comparative and fair tests.				

Works with Science Bug

Child's name: _____

Objective	Knowledge Year 6				
	Biology			Physics	
	Animals, including humans	Evolution and inheritance	Living things and their habitats	Light	Electricity
	Know that the human body contains organs. *Y6 OB L1*	Know that geological time spans millions of years. *Y6 EAI L1*	Recognise common observable characteristics that can be used to group/classify living things. *Y6 CLT L1*	Know that light comes from a source and be able to name some sources of light. *Y6 LS L1*	Explore and describe how to construct circuits with a very dim bulb and others with very quiet buzzers. *Y6 CC L2, L3*
	Know that each organ has a specific function. *Y6 OB L1*	Know that some living things that were on Earth millions of years ago, e.g. dinosaurs, are no longer inhabiting Earth. They are extinct. *Y6 EAI L1*	Know that germs and bacteria are living organisms called micro-organisms. *Y6 CLT L2*	Know that light can travel from a source. *Y6 LS L1*	**Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.** *Y6 CC L2, L3*
	Know that the heart is the organ that pumps blood around the body through blood vessels. *Y6 OB L1*	Understand that evolution is the process of change in living things over time. *Y6 EAI L1, L2*	Understand that micro-organisms form part of the classification system for living things. *Y6 CLT L2*	Know that light can be reflected from shiny surfaces and be able to name some reflectors. *Y6 LS L1*	Explore the variation in how different electrical components function, constructing different circuits and describing findings. *Y6 CC L2, L3, L4*
	Understand that organs can also work together as a body 'system'. *Y6 OB L1, L2*	Understand that some fossils are examples of living things that were once alive on Earth but are no longer living. *Y6 EAI L1*	Identify the conditions needed to support the growth of micro-organisms. *Y6 CLT L3*	Notice how light from a source such as a torch travels. *Y6 LS L2*	**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.** *Y6 CC L2, L3, L4, L5*
	Know that together the heart, blood vessels and blood form the circulatory system. *Y6 OB L2*	Know that humans are a relatively recent species on Earth. *Y6 EAI L1*	**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.** *Y6 CLT L1, L2, L3, L6*	**Recognise that light appears to travel in straight lines.** *Y6 LS L2*	Understand the need for universally recognised symbols for electrical components. *Y6 CC L1*

Works with Science Bug

Key to Science Bug units: CLT: Classifying Living Things, CC: Changing Circuits, LS: Light and Sight, OB: Our Bodies, EAI: Evolution and Inheritance

Pearson Primary Progress and Assess
Science Progression Map

Child's name: _____

Year 6
Knowledge

Objective	Animals, including humans	Evolution and inheritance	Living things and their habitats	Light	Electricity
	Understand that blood picks up oxygen from the lungs and transports it through blood vessels to all of our organs. *Y6 OB L2*	**Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.** *Y6 EAI L1*	Know that there is a scientific system for classifying living things. *Y6 CLT L4*	Know that without light we cannot see. *Y6 LS L3*	Identify recognised electrical component symbols for a bulb, buzzer, battery (cell), wire, switch and motor. *Y6 CC L2*
	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. *Y6 OB L1, L2, L3, L6*	Know that living things reproduce offspring similar to themselves. *Y6 EAI L2*	Identify the observable characteristics used to identify local plants. *Y6 CLT L4, L5*	Understand that an object can be seen when it gives out or reflects light into our eyes. *Y6 LS L3, L4*	**Use recognised symbols when representing a simple circuit in a diagram.** *Y6 CC L1, L2, L3, L6*
	Know that humans need water and food to survive. *Y6 OB L2*	Understand that offspring will bear some similarities to each other, to their parents and to other living things of the same kind. *Y6 EAI L2*	Identify the observable characteristics to classify a specific species of plant, e.g. a buttercup. *Y6 CLT L5*	**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.** *Y6 LS L3, L4, L5*	
	Know that the substances in food that help us to grow and repair our bodies are termed 'nutrients'. *Y6 OB L1, L2*	Recognise that small inherited changes in physical characteristics, e.g. colour, size, shape of limbs etc. over time lead to variation in species. *Y6 EAI L2*	Identify the observable characteristics to classify a specific species of animal, e.g. an earthworm. *Y6 CLT L6*	Know that light can be reflected from surfaces. *Y6 LS L4*	
	Understand that it is the circulatory system that transports water and nutrients around our bodies. *Y6 OB L1, L2*	**Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.** *Y6 EAI L2, L3*	**Give reasons for classifying plants and animals based on specific characteristics.** *Y6 CLT L1, L4, L5, L6*	Know that different surfaces reflect light in different ways. *Y6 LS L4*	
	Describe the ways in which nutrients and water are transported within animals, including humans. *Y6 OB L2, L3*	Know that animals and plants exist and live in different environments. *Y6 EAI L3*		Know that light is more scattered when it is reflected off a dull surface. *Y6 LS L4*	
	Know that body systems respond to a person's physical needs, e.g. to run faster, to digest food. *Y6 OB L3, L4, L5*	Know that not all animals or plants will survive to reproduce. *Y6 EAI L3*		Know that smooth and shiny surfaces reflect light well. *Y6 LS L4*	

Works with Science Bug

Key to Science Bug units: CLT: Classifying Living Things, CC: Changing Circuits, LS: Light and Sight, OB: Our Bodies, EAI: Evolution and Inheritance

Pearson Primary Progress and Assess
Science Progression Map

Child's name: _____

Year 6
Knowledge

Objective

Animals, including humans	Evolution and inheritance	Living things and their habitats	Light	Electricity
Understand that some aspects of a person's lifestyle, e.g. lack of exercise, taking narcotics, will have an effect on the way their body functions. *Y6 OB L4, L5, L6*	Understand that variation in offspring over time can make animals and plants more or less able to survive in particular environments. *Y6 EAI L3, L4, L5*		**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.** *Y6 LS L1*	
Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. *Y6 OB L4, L5, L6*	Know that some adaptations to the environment in plants or animals can be advantageous if they keep the species alive for long enough to reproduce and pass on their features to a new generation. *Y6 EAI L4, L5*		Understand that light travels in straight lines. *Y6 LS L2*	
	Know that living things start from a common ancestor but have evolved to suit the environmental conditions. *Y6 EAI L4, L5*		Know that light cannot travel around objects. *Y6 LS L6*	
	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. *Y6 EAI L4, L5, L6*		Know that some materials let light pass through them. *Y6 LS L6*	
			Understand that light is blocked by opaque materials. *Y6 LS L6*	
			Understand that when opaque materials block the path of light a shadow can be cast. *Y6 LS L6*	
			Know that shadows are similar in shape to the objects which make them. *Y6 LS L6*	

Works with Science Bug

Key to Science Bug units: CLT: Classifying Living Things, CC: Changing Circuits, LS: Light and Sight, OB: Our Bodies, EAI: Evolution and Inheritance

Pearson Primary Progress and Assess
Science Progression Map

Child's name: _____

Objective	Animals, including humans	Evolution and inheritance	Living things and their habitats	Light	Electricity
				Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. *Y6 LS L6*	