Walwayne Court - Science Progression Grid- 2026/7 (Year A) and 2027/8 (Year B)
Last updated: March 2026

Objective needs to be covered in Year A and B to ensure the necessary prior knowledge. Covered in RSE

National curriculum

Substantive Knowledge Progression

Concepts
Science helps us understand the world around us.
Biology
Pupils will know and understand living things and their environments through the study of animals, humans, plants and habitats. They will learn about reproductions, inheritance and evolution through the study of life processes and life cycles.
Child friendly version: Biology is the science of living things.
• Living things and their environment (Animals, humans, plants, habitats)
• Reproduction, inheritance and evolution (Evolution, inheritance, life processes, life cycles)
Chemistry
Pupils will know and understand states of matter through the study of solids, liquids and gases. They will look at the properties of materials including rocks and fossils and will study reversible and irreversible changes in materials.
Child friendly version: Chemistry is about the materials around us and how they can change.
• States of matter (Solids, liquids, gases)
• Materials (properties and changes including reversible/irreversible changes,)
Physics
Pupils will know and understand the concepts and laws that apply to physics. They will study the concept of energy by learning about light, sound and electricity. They will develop an understanding of forces by studying and investigating friction, air resistance, gravity and magnets. They will learn about Earth and space, studying seasons, day and night, the solar system and beyond.
Child friendly version: Physics is how the world around us works.
• Energy (Light, sound, electricity)
• Forces (Friction, air resistance, gravity, magnets)
• Earth and space (Seasons, day and night, solar system and beyond)
• Rocks and fossils

Theme	Reception 3-4 years 4-5 years ELG	Year 1 (taught in Year 1 or 2 depending on whether you are teaching Year A or B)	Year 2 (taught in Year 1 or 2 depending on whether you are teaching Year A or B)	Year 3 (taught in Year 3 or 4 depending on whether you are teaching Year A or B)	Year 4 (taught in Year 3 or 4 depending on whether you are teaching Year A or B)	Year 5 (taught in Year 5 or 6 depending on whether you are teaching Year A or B)	Year 6 (taught in Year 5 or 6 depending on whether you are teaching Year A or B)

Plants- Biology	Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant or an animal.	Plants (Year A) *DE Year 1- Plants (seeds, basic parts of plants and trees, deciduous and evergreen, fruits and vegetables)* Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants (seeds, roots etc), including trees.	Plants (Year B) *DE Year 2- Plants (difference between seeds and bulbs, what plants need to grow, life cycles of plants, adaptation to environment)* Identify and describe the basic structure of a variety of common flowering plants (seeds, roots etc), including trees. To observe and know how seeds and bulbs grow into mature plants. Seeds and bulbs germinate and grow into seedlings. Seedlings grow into mature plants. To find out and describe how plants need water, light and suitable temperature to grow and stay healthy.	Plants (Year A) *DE Year 3- Plants (growth, functions of different parts of a flower and how they are used in photosynthesis, how water is transported, life cycle of flowering plants, pollination and seed dispersal)* Identify, know and describe the functions of different parts of flowering plants: roots, stem/truck, leaves and flowers. Explore and know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate and understand the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			

Animals, including humans- Biology	Being increasingly independent in meeting their own care needs e.g. brushing teeth, using the toilet, washing and drying their hands thoroughly. Understand the key features of the life cycle of a plant or an animal. Begin to understand the need to respect and care for the natural environment and all living things. Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.	Animals including humans (Year A) *DE Year 1 unit- All about Animals (families, mammals, birds, amphibians and reptiles)* Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Animals including humans (Year B) *DE Year 2- Life Cycles (human lifecycles, offspring and parents, animal lifecycles)* To know that animals, including humans, have offspring which grow into adults. Animals including humans (Year B) *DE Year 2- Growth (needs of animals for survival, diet, exercise and hygiene)* To know and describe the basic needs of animals, including humans, for survival (water, food and air). Know and describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Animals including humans (Year B) *DE Year 3- Animals including humans (food groups, nutrition, types of skeleton, human skeleton, muscles)* To identify and know that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify and know that humans and some animals have skeletons and muscles for support, protection and movement.	Animals including humans (Year A) *DE Year 4- Animals including humans (digestive system, teeth, food chains, food webs)* If pupils encounter the Year 4 Animals, including humans topic as the first cycle, they would not have the necessary prior knowledge that animals and humans "get nutrition from what they eat" from the Year 3 topic. Consequently, before teaching about the digestive system in the Year 4 Animals, including humans topic, the pupils will need to be taught that animals and humans get the nutrients they require from the food they eat. Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.	Animals including humans (Year A) *DE Year 5- Animals including humans key stages of a mammal life cycle, gestation periods of mammals, foetal development, changes in puberty, old age)* To describe the changes as humans develop to old age. Describe the key stages of growth and development of humans. Recall some of the changes experienced in puberty.	Animals including humans (Year B) *DE Year 6- Animals including humans (function of the heart and its role in the circulatory system, identify and compare blood vessels, blood, how the body transports water and nutrients, heart rate, drugs and alcohol)* 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.
Living things and	Explore the natural world around them.		Living things and their habitats (Year B)		Living things and their habitats (Year B)	Living things and their habitats (Year A)	Living things and their habitats (Year B)

	Describe what they see, hear and feel whilst outside. Recognise some environments are different to the one in which they live. Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.		*DE Year 2- Living things and their habitats (differences between living things, dead things and things that have never been alive, identify and name plants and animals in microhabitats, diet, food chains)* Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including microhabitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.		*DE Year 4- Living things and their habitats (habitats + classification + conservation)* Recognise that living things can be grouped in a variety of ways using key characteristics. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats.	*DE Year 5- Living things and their habitats (life processes of a plant, life cycles of mammals, compare life cycles of insects and amphibians)* To know and describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Know that reproduction is when an animal or plant produces one or more individuals similar to itself.	*DE Year 6- Living things and their habitats (classification, kingdoms of life, Linnaean system, characteristics of different types of microorganisms, asexual reproduction)* Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.
Properties and changes of materials-							
	Use all their senses in hands-on exploration of natural materials.	Everyday materials (Year A) *DE Year 1- Exploring everyday materials 1 and 2*	Everyday materials (Year B)		States of matter (Year B) *DE Year 4- States of Matter (explore the 3 states of matter, particles, melting*	Properties and changes of materials (Year A) *DE Year 5- Changes of materials(use of evaporation to recover the*	

	Explore collections of materials with similar and/or different properties. Talk about what they see using a wide vocabulary. Talk about the differences between materials and changes they notice.	To know how to distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock To be able to describe the simple physical properties of a variety of everyday materials e.g. hard/soft, flexible/rigid, waterproof/absorbent. Compare and group together a variety of everyday materials based on their simple physical properties.	*DE Year 2- Uses of everyday materials (uses linked to properties)* To know how to distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Identify and compare and know the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard.		*points, freezing and boiling points, evaporation and condensation, the water cycle)* Compare and group materials together, according to whether they are solids, liquids or gases(know that particles are arranged differently). Observe that some materials change state when they are heated or cooled (e.g. melting or freezing), and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. Identify the part played by evaporation (liquid to gas) and condensation (gas to liquid) in the water cycle and associate the rate of evaporation with temperature.	*solute from a solution, reversible changes, chemical reactions, rusting, burning)* Properties and changes of materials (Year B) *DE Year 5- Properties of materials (properties of materials, thermal conductors and insulators, hardness of materials, materials which are soluble in water, separating mixtures)* Give reasons, based on evidence from comparative and fair tests, for the 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.	
Seasonal changes- Earth Sciences							
	Understand the effect of changing seasons on the natural world around them. Understand some important processes and	Seasonal changes (Year A) *DE Year 1- Seasonal Changes* + Teach across three terms.					

	changes in the natural world around them, including the seasons and changing states of matter.	Observe and talk about changes across the four seasons Observe and describe weather associated with the seasons. Understand that it is unsafe to look directly at the Sun.					
Rocks- Earth Sciences							
				Rocks (Year B) *DE Year 3- Rocks (formation and properties of igneous rock, formation and properties of sedimentary and metamorphic rock, weathering and suitability of rocks for different purposes, fossils, different types of soil)* Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties (sedimentary, igneous and metamorphic). Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soil is made from rocks and organic matter.			

Sound- Physics							
					Sound (Year A) *DE Year 4- Sound (identify how sounds are made, identify how vibrations travel to the ear, insulation, volume, pitch, sounds near and far)* Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound's source increases.		

Light- Physics				Light(Year A) *DE Year 3- Light (light sources and non light sources, the sun, reflective materials, shadows)* Recognise that they need light in order to see things and that dark is absence of light. Recognise that light from the sun can be dangerous and that there are ways to protect the eyes. Recognise that shadows are formed when light from a light source is blocked by a solid object. Notice that light is reflected from surfaces. Find patterns in the way that the size of shadows change.			Light (Year B) *DE Year 6-Light (how light travels, reflection, shadows, light, phenomena)* 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.
Electricity- Physics					Electricity (Year B) *DE Year 4 Electricity (safety, components, complete and incomplete circuits, switches)*		Electricity (Year A) *DE Year 6- Electricity (parts of a circuit, voltage, correcting problems in a circuit, investigating output in a circuit, applying*

					Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators and associate metals with being good conductors.		*knowledge of conductors and insulators)* 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.
Forces and magnets- Physics							
	Explore and talk about different forces they can feel.			Forces and magnets (Year A) *DE Year 3- Forces and magnets (contact and non-contact forces, different surfaces, different types of magnets, everyday magnetic materials, magnetic forces at a distance, everyday uses of magnets)*		Forces (Year A) *DE Year 5- Forces (gravity and the work of Isaac Newton, the connection between air resistance and parachutes, factors which affect an object's ability to resist water, the effects of friction on different surfaces, levers and pulleys, gears)*	

				Compare how things move on different surfaces. Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials Describe magnets as having 2 poles. Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	
Evolution and inheritance- Biology							
							Evolution and Inheritance (Year B) *DE Year 6- Evolution and inheritance (variation in offspring, adaptation, learning from fossils, theory of evolution by natural selection, human evolution)* Recognise that living things have changed

							over time and that fossils provide information about living things that inhabited the Earth millions of years ago Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
Earth and space- Earth Sciences							
						Earth and space (Year B) *DE Year 5- Earth and Space (solar system and its planets, heliocentric model, Earth's movement in space, the movement of the moon)* Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies	

						Use the idea of the Earth's rotation to explain day and night, and the apparent movement of the sun across the sky.	

Disciplinary Knowledge Progression

Disciplinary knowledge: Working scientifically

Disciplinary knowledge is taught and embedded within the teaching of each unit of substantive knowledge.

- Methods used to answer questions (use of models, classification, correlations and patterns, experimentation, fair testing)
- Using apparatus and techniques (accurate measurement, collecting and recording data, carrying out procedures safely and accurately)
- Data analysis (processing and presenting data, exploring relationships, communicating results in tables / graphs, identifying correlations)
- Using evidence to develop explanations (using evidence / scientific knowledge to draw conclusions, explain laws, models, concepts and findings)

As part of working scientifically which is embedded throughout all units, pupils will also learn to use a variety of enquiry strategies to answer scientific questions. Different questions lead to different types of enquiry and are not limited to fair testing. By the end of primary school, children will be able to use these enquiry strategies confidently and know that different strategies may be needed at different times.

- Observing over time: (observing or measuring how one variable changes over time)
- Identifying and classifying: (identifying and naming materials/living things and making observations or carrying out tests to organise them into groups)
- Looking for patterns: (making observations or carrying out surveys of variables that cannot be easily controlled and looking for relationships between two sets of data)
- Comparative and fair testing: (observing or measuring the effect of changing one variable when controlling others
- Answering questions using secondary sources of evidence: (answering questions using data or information that they have not collected first hand)

As well as this, pupils will learn about:

- Using models: (Developing or evaluating a model or analogy that represents a scientific idea, phenomenon or process)

Phase 1	Phase 2	Phase 3
EYFS • I can ask simple questions about the world around me. • I can make observations about things I see around me. • I can conduct simple guided investigations with supervision. • I can make choices when performing simple identifying and classifying activities. • I can make some simple comparisons. • I can begin to make some simple predictions based on prior knowledge. • I can use basic observations to help answer questions	During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: **Year 3** • I can ask relevant questions and with support use different types of scientific enquiries to answer them. • I can help to decide how to set up simple practical enquiry and begin to recognise when a test is not fair. • I can make some careful observations and, where appropriate, take accurate measurements using standard units. • I can talk or write about my results. • With support, I can record findings using simple scientific	During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: **Year 5** • I can plan different types of scientific enquiries to answer questions. • I can take measurements, using a range of scientific equipment, with increasing accuracy and precision. • I can record data and results using scientific diagrams and labels, classification keys, tables and graphs. • I can use test results and say whether they support my prediction. • With scaffolding, I can identify scientific evidence that has

with help from the teacher.

- I can make suggestions about how things work based on my observations.
- I can explore the natural world, making observations and drawing pictures of plants and animals.
- I can identify similarities and differences between the natural world around me and contrasting environments, drawing on my own experiences and what has been read in class.

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

Year 1

- I can ask simple questions.
- I can observe closely, using simple equipment (e.g. hand lenses, egg timers).
- With support, I can perform simple tests to investigate the answers to a given question.
- I can identifying how materials and living things are similar and different.
- I can talk about and describe what has happened and make simple recordings (pictures, labels, ticks).

Year 2

- I can ask simple questions and recognise that they can be answered in different ways (fair tests, observation over time, pattern seeking)
- I can observe closely, using simple equipment (e.g. stop watches, rulers etc).
- I can perform simple tests to investigate the answers to a given question.
- I can identify and classify, grouping using basic information.
- I can use my observations and ideas to suggest answers to questions, using simple sentences to describe the answer.
- I can gather and record data to help to answer questions, using given questions or data formats.

language, drawings, labelled diagrams and tables.

- I can report on findings from enquiries, including oral and written explanations.
- I can use results to draw simple conclusions.
- I can identify differences, similarities or changes.
- With scaffolding, I can use straightforward scientific evidence to answer questions or to support my findings.

Year 4

- I can ask relevant questions and use different types of scientific enquiries to answer them.
- I can set up simple practical enquiries, comparative and fair tests.
- I can make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- I can gather, record, classify and present data in a variety of ways to help answer questions.
- I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
- I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- I can identify differences, similarities or changes related to simple scientific ideas and processes.
- I can use straightforward scientific evidence to answer questions or to support my findings.

been used to support or refute ideas or arguments.

Year 6

- I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- I can use 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.
- I can identify scientific evidence that has been used to support or refute ideas or arguments.