



Christ the King

Science Progression in Skills

Biology **Chemistry** **Physics**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working Scientifically	<ul style="list-style-type: none"> • Ask simple questions. • Observe closely, using simple equipment. • Perform simple tests. • Identify and classify. • Use observations and ideas to suggest answers to questions. • Gather and record data to help in answering questions. • Make accurate measurements using standard units and a range of equipment. E.g. thermometers and data loggers. 	<ul style="list-style-type: none"> • Ask simple questions. • Observe closely, using simple equipment. • Perform simple tests. • Identify and classify. • Use observations and ideas to suggest answers to questions. • Gather and record data to help in answering questions. • Make accurate measurements using standard units and a range of equipment. E.g. thermometers and data loggers. 	<ul style="list-style-type: none"> • Ask relevant questions. • Set up simple practical enquiries and comparative and fair tests. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables. • Report on finding from enquiries, including oral and written explanations, displays or presentations of 	<ul style="list-style-type: none"> • Ask relevant questions. • Set up simple practical enquiries and comparative and fair tests. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables. • Report on finding from enquiries, including oral and written explanations, displays or presentations of 	<ul style="list-style-type: none"> • Plan enquiries, including recognising and controlling variables where necessary. • Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs and models. • Report findings from enquiries, including oral and written explanations of 	<ul style="list-style-type: none"> • Plan enquiries, including recognising and controlling variables where necessary. • Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs and models. • Report findings from enquiries, including oral and written explanations of

			<p>results and conclusions.</p> <ul style="list-style-type: none"> • Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests. • Make accurate measurements using standard units using a range of equipment e.g. thermometers and data loggers. 	<p>results and conclusions.</p> <ul style="list-style-type: none"> • Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests. • Make accurate measurements using standard units using a range of equipment e.g. thermometers and data loggers. 	<p>results, explanations involving casual relationships and other presentations.</p> <ul style="list-style-type: none"> • Present findings in written form, displays and other presentations. • Use test results to make predictions to set up further comparative and fair tests. 	<p>results, explanations involving casual relationships and other presentations.</p> <ul style="list-style-type: none"> • Present findings in written form, displays and other presentations. • Use test results to make predictions to set up further comparative and fair tests. • Describe and evaluate their own and other's scientific ideas related to topics in the national curriculum.
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Evolution and Inheritance

- 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 parents.
- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Living Things and their Habitats

- Explore and compare the differences between things that are living, dead, and things that have never been alive.
- 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.
- 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

- Recognise that living things can be grouped in a variety of ways.
- 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 living things.

- Describe the life process of reproduction in some animals.
- Describe the difference in a life cycle of a mammal, bird, insect and amphibian.

- 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.

Animals (including humans)

<ul style="list-style-type: none">• Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.• 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.• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	<ul style="list-style-type: none">• Notice that animals, including humans, have offspring which grow into adults.• Investigate and describe the basic needs of animals, including humans for survival (water, food and air).• Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.	<ul style="list-style-type: none">• Identify that animals, including humans, need the right amount of nutrition, and that they cannot make their own food and they get nutrition from what they eat.• Identify that humans and some other animals have skeletons and muscle for support, protection and movement.	<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• Describe the changes as humans develop from birth to old age.	<ul style="list-style-type: none">• 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.
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Plants

- Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.
- Identify and name the basic structure of a variety of plants.

- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light, and a suitable temperature to grow and stay healthy.

- Identify and describe the functions of different parts of flowering plants.
- Explore the requirements of plants for life and growth and how they vary from plant to plant.
- Investigate ways 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.

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Rocks

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock.
- Recognise that soils are made from rocks and organic matter.

- Compare and group rocks and describe the formation of fossils.
- Relate the simple physical properties of some rocks to their formation.

Materials / States of Matter

<ul style="list-style-type: none">• 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.• Describe the simple physical properties of a variety of everyday materials.• Identify and compare the uses of a variety of everyday materials on the basis of their simple physical properties.	<ul style="list-style-type: none">• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.		<ul style="list-style-type: none">• Compare and group materials together.• Observe that some materials change state when they are heated/cooled.• Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	<ul style="list-style-type: none">• 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.• Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.• 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	
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					<p>mixtures might be separated, including through filtering, sieving and evaporating.</p> <ul style="list-style-type: none">• 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 soda.	
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Seasonal Change

- Observe changes across the four seasons
- Observe and describe weather associated with the seasons and how day length varies.

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**Earth and
Space**

- 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.

Sound

- 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 the 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 source increases.

Light

- Recognise that they need light in order to see things and that dark is the absence of light
- Notice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Recognise that shadows are formed when the light from a light source is blocked by an opaque object
- Find patterns in the way that the size of shadows change.

- 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.

**Forces
(including
magnets)**

- Compare how things move on different surfaces
- Notice that some forces need contact between two 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 two poles
- Predict whether two 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 gravity acting between the Earth and the falling object.
- Identify the effect of drag forces, such as 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.

Electricity

- 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

- 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.