Our Lady of Lourdes RC Primary School
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Our Lady of Lourdes Catholic Primary School
Science Curriculum Year Group End Points

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working scientifically This concept involves learning the methodologies of the discipline of science.	**Animals including humans** **Living things in their habitats** **Plants and all living things** **Materials**	**Animals including humans** **Plants and all living things** **Materials** • Ask simple questions. • perform simple tests.	**Uses of everyday materials** **Living things in their habitats** **Plants** **Animals including humans** • Observe closely, using simple equipment. • Use observations	**Rocks & fossils** **Forces and magnets** **Animals including humans** **Plants** **Light** • Use results to draw simple conclusions and suggest improve ments, new questions, and predictions	**Electricity** **States of matter** **Sound** **Animals including humans** **Living things in their habitats** • Gather, record, classify and present data in a variety of ways to help in answering questions. • Make accurate measurements	**Space** **Animals including humans** **Forces** **Properties and changes of materials** **All living things** • Plan enquiries, including recognising and controlling variables where necessary. • Report findings from enquiries,	**Animals including humans** **Evolution and inheritance** **Electricity** **Light** **All living things** • Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work. • Use test results to make predictions to

			and ideas to suggest answers to questions.	for setting up further tests. • Use straightforward, scientific evidence to answer question s or to support their findings.	using standard units, using a range of equipment, e.g. thermometers and data loggers.	including oral and written explanations of results, explanations involving causal relationships, and conclusions. • Take measurements, using a range of scientific equipment, with increasing accuracy and precision	set up further comparative and fair tests. • Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.

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Biology **Understand plants** This concept involves becoming familiar with different types of plants, their structure and reproduction	Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore the natural world around them, making	**Plants and all living things** • Identify and name a variety of common plants, including garde n plants, wild plants and trees and those classified as deciduous and evergreen. • Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.	**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.	**Plants** • Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers. • Explore 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 the way in which water is transported wit hin plants.	**Living things in their habitats** • Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.		

	observations and drawing pictures of animals and plants.						
Understand animals and humans This concept involves becoming familiar with different types of animals, humans and the life processes they share	Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore the natural world	**Plants and all living things** • 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.	**Animals including humans** • Describe and compare the structure of a variety of common animal s (birds, fish, amphibians, reptiles, mammals and invertebrat es, including pets). • Investigate and describe the basic needs of animals,	**Animals including humans** • Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. • Identify that humans and some animals	**Animals including humans** • 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,	**Animals including humans** • Describe the changes as humans develop to old age.	**Animals including humans** • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. • Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions. • Describe the ways in which nutrients

	around them, making observations and drawing pictures of animals and plants.	• Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	including human s, for survival (water, food and air). • Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.	have skeletons and muscles for support, protection and movement.	predators and prey.		and water are transported within animals, including humans.
Investigate living things This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.		**Plants and all living things** • Identify and name a variety of plants and animals in their habitats, including micro -habitats.	**Animals including humans** **Living things and their habitats** • Explore and compare the differences bet ween things that are living, that are dead and that have	**Animals including humans** **Plants** • Recognise that environments can change and that this can sometimes pose dangers to specific habitats.	**Animals including humans** **Living things in their habitats** • Recognise that environments can change and that this can sometimes pose dangers to specific habitats. • Recognise that living things can be	**Animals including humans** **All living things** • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • Describe the life process of reproduction in	**Animals including humans** **All living things** • Describe how living things are classified into broad groups according to common observable characte ristics.

			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. • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain,		grouped in a variety of ways. • Explore and use classification keys.	some plants and animals.	• Give reasons for classifying plants and animals based on specific characteristics.

			and identify and name different sources of food.				
Understand evolution and inheritance This concept involves understanding that organisms come into existence, adapt, change and evolve and become extinct.						**All living things** • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.	**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. • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

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Chemistry	Materials	Use of everyday materials	Rocks	States of matter	Properties and changes of materials	
Investigate materials This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.	• 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. • Compare and group together a variety of everyday materials on the basis of their simple physical properties. • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	• Describe the simple physical properties of a variety of everyday materials. • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.	• Compare and group together different kinds of rocks on the basis of their simple, physical properties. • Relate the simple physical properties of some rocks to their formation (igneous or sedimentary). • Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock. • Recognise that soils are made from rocks and organic matter.	• Compare and group materials together, according to whether they are solids, liquids or gases. • Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. • Identify the part played by evaporation and condensation in the water cycle	• Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets. • Understand how 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,	

				and associate the rate of evaporation with temperature.	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, oxidisation and the action of acid on bicarbonate of soda.	

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Physics **Understand movements, forces ad magnets** This concept involves understanding what causes motion.			**Forces and 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.		**Forces** • Explain that unsupported objects fall towards the Earth because of the force of 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. • *Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.* • *Understand that force and motion can be transferred through mechanical*	

			• Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing.		*devices such as gears, pulleys, levers and springs.* • Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.	
Understand light and seeing **This concept involves understanding how light and reflection affect sight**			**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.			**Light** • Understand 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 eyes. • Use the idea that light travels in straight lines to explain why shadows have

			• Recognise that shadows are formed when the light from a light source is blocked by a solid object. • Find patterns in the way that the size of shadows change.			the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. • 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.
Investigate sound and hearing This concept involves understanding how sound is produced, how it travels and how it is heard				**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.		

Understand electrical circuits This concept involves understanding circuits and their role in electrical appliances				**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		**Electricity** • 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.

				whether or not a lamp lights in a simple series circuit. • Recognise some common conductors and insulators, and associate metals with being good conductors		
Understand the Earth's movement in space This concept involves understanding what causes seasonal changes, day and night	**Seasonal changes** • Observe changes across the four seasons. • Observe and describe weather associated with the seasons and how day length varies.				**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.	