Our Lady and St Patrick's Catholic Primary School **Curriculum Intent:** Science

	COMPONENTS of KNOWLEDGE						
	EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Plants	Talk about some of the things they have observed such as plants. Make observations of plants and explain why some things occur.	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, including trees	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: roots, stem/trunk, 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 within plants explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal		*describe the life process of reproduction in some plants and animals*	
Vocabulary ***Prior vocab but from different topic**	**Leaf** **Flower** **Sun** **Water** **Plant** **Stem** **Growth**	**Prior** **Plant, stem** **New** **deciduous, evergreen, flower, wild, garden, roots, leaves, bud, seeds, roots, trunk**	**Prior** **plants** **New** **bulbs, water, light, air, grow, healthy, temperature,**	**Prior** **Seeds, air, light, water, roots, stem/trunk, leaves, flowers, *life cycle** **New** **pollination, seed formation, seed dispersal, nutrients transported, nectar, pollen, anther**			
Animals including humans	Knows some of the things that make them unique. Talk about some of the similarities and differences in relation to friends or family.	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,	notice that animals, including humans, have offspring which grow into adults. find out about and describe the basic needs of animals, including humans, for survival (water, food and air)	identify 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 that humans and some other animals have skeletons and muscles for	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,	describe the changes as humans develop to old age	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

	Talk about some of the things they have observed such as animals.	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.	describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	support, protection and movement	identifying producers, predators and prey		
Vocabulary ***Prior vocab but from different topic**	**Animal names** **Family** **Friend** **Parents** **Brother** **Sister**	**Prior** **New** **fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, pets, senses**	**Prior** ***grow, water, food, air** **New** **offspring, life cycles, change, adults, basic needs, survival, exercise, food types (fruit and veg, bread, rice, pasta, milk, dairy, foods high in fat and sugar, meat, fish, eggs, beans), hygiene**	**Prior** **food types, water,** **New** **Nutrition, carbohydrates, protein, vitamins and minerals, fat, sugar, fruits and veg, dietary fibre, balanced diet, skeleton, muscles, support, protection, movement, names of bones, vertebrate, invertebrate**	**Prior** ***mouth, teeth, food chain, predator, prey, nutrition, carnivore, herbivore, omnivore,** **New** **Digestive system, canine, incisor, molar, pre-molar, saliva, tongue, rip, tear, chew, grind, cut, oesophagus (gullet), stomach, small intestine, large intestine, rectum, anus, producer, consumer,**	**Prior** **human** **New** **development, toddler, puberty, teenager, gestation, elderly**	**Prior** **Nutrients, water, diet, exercise, offspring *adapted, adaptation, suited, suitable, reproduction** **New** **Circulatory system, heart, blood, blood vessels, pumps, oxygen, carbon dioxide, lungs, drugs, lifestyle,**
Materials *Yr 1 Everyday materials *Yr 2 Uses of everyday materials *Yr 4 States of matter *Yr5 Properties and changes of materials	Can talk about some of the things they have observed such as natural and found objects. Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.	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 suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses compare how things move on different surfaces. find out how the shapes of solid objects made from some materials can		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 or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	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 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	

	Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. Begin to be interested in and describe the texture of things.	compare and group together a variety of everyday materials on the basis of their simple physical properties	be changed by squashing, bending, twisting and stretching			mixtures might be separated, including through filtering, 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 and the action of acid on bicarbonate of soda	
Vocabulary ***Prior vocab but from different topic**	**Fast** **Slow** **Smooth** **Rough** **Bumpy** **Material** **Fabric** **Soft** **Hard**	**Prior** **New** **natural, man-made, dead, alive, wood, plastic, glass, metal, water, rock, properties, hard, soft, material**	**Prior** **wood, plastic, glass, metal, water, rock** **New** **Suitable unsuitable, use, object, property, fabrics, stretchy, flexible, waterproof, absorbent, transparent, translucent, opaque, shape, change, twist, squash, bend, stretch, roll, squeeze**		**Prior** ***temperature** **New** **States of matter, solid, liquid, gas, air, oxygen, powder, grainular/grain, crystals, change state, ice/water/steam, water vapour, heating, cooling,, degrees celcius, melt, freeze, solidify, melting point, boil, boiling point, evaporation, condensation, water cycle, precipitation, transpiration**	**Prior** **rigid, hard, soft, stretchy, flexible, waterproof, absorbent, melting** ***electrical/thermal conductivity** **New** **dissolve, solution, insoluble, solute, solvent, particle, mixture, filtering, sieving, residue, reversible/non reversible changes, burning, rusting,**	
Seasonal changes	Developing an understanding changes over time.	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies.					
Vocabulary	**spring, summer, autumn, winter, light dark, hot, cold, sun, wind,**	**Prior** **Spring, Summer, Autumn, Winter**					

Our Lady and St Patrick's Catholic Primary School **Curriculum Intent:** Science

	rain, cloud, snow, fog	**seasons, day, night, weather,**					
Living things and their habitats	Developing an understanding of growth, decay and changes over time Shows care and concern for living things and the environment. Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world.		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.		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 can change and that this can sometimes pose dangers to 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 some plants and animals	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
Vocabulary ***Prior vocab but from different topic**	**Grow** **Alive** **Dead** **Desert** **Jungle** **Hot** **Cold** **Light** **Dark**		**Prior** ***dead, alive** **New** **living, habitats, microhabitats, food chains**		**Prior** ***fish, amphibians, reptiles, birds, mammals** **New** **Classification keys, environment, vertebrates, invertebrates, human impact, positive, negative (impact).**	**Prior** ***life cycle, germination, pollination, seed formation, seed dispersal, pollen, reproduction, mammal, amphibian, insect, bird, fish, reptile, eggs, live young** **New** **sexual, asexual, stamen, stigma, plantlets, runners,**	**Prior** ***fish, amphibians, reptiles, birds, mammals, classification keys, environment, vertebrates, invertebrates,** **New** **fungus, mushrooms, arachnid, mollusc, insect, crustacean, organism, micor-organism**
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			
Vocabulary ***Prior vocab but from different topic**				**Prior** ***rock, soil, absorb** **New** **stone, pebble, boulder, fossils, grains, crystals, texture, marble, chalk, granite, sandstone, slate, sandy soil, clay soil, chalky soil, peat,**			
Light and Sound Light 3+6 Sound 4				recognise that they need light in order to see things and that the 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 a solid object find patterns in the way that the size of shadows changes	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.		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
Vocabulary ***Prior vocab but from different topic**				**Prior** ***transparent, opaque, translucent** **New** **Light, light source, darkness, reflect, reflective, mirror, shadow, block, direction,**	**Prior** **New** **sound, sound source, noise, vibration, travel, solid, liquid, gas, pitch, tune, high, low, volume, loud, quiet, fainter, muffle, strength of vibrations, insulation, instrument,**		**Prior** **Light, light source, darkness, reflect, reflective, shadow, block, absorb, direction, *transparent, opaque, translucent** **New**

					percussion, strings, bass, woodwind, tuned instrument		
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 on 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 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.	
Vocabulary ***Prior vocab but from different topic**				**Prior** **New** **Force, contact force, non contact force, magnetic force, magnet, strength, bar/ring/button/horseshoe magnets, attract, repel, magnetic material, metal, iron, steel, non magnetic, poles, north/south pole**		**Prior** **New** **Fall, Earth, gravity, weight, mass, air resistance, water resistance, friction, moving surfaces, mechanisms, levers, pulleys, gears, force, transfers**	
Electricity					Pupils should be taught to: identify common appliances that run on electricity		associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

					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		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
Vocabulary ***Prior vocab but from different topic**					**Prior** **New** **electricity, appliance, device, mains, plug, electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell, battery, positive/negative, connect, connection, short circuit, wire, crocodile clip, bulb, bright/dim, switch, buzzer, motor, faster/slower, conductor, insulator, metal/non metal**		**Prior** **electricity, appliance, device, mains, plug, electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell, battery, positive/negative, connect, connection, short circuit, wire, crocodile clip, bulb, bright/dim, switch, buzzer, motor, faster/slower, conductor, insulator, metal/non metal** **New** **terminal, bulb, bright/dim, buzzer, volume, motor, voltage, current, resistance,**
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	
Vocabulary ***Prior vocab but from different topic**						**Earth, planets, sun, solar system, moon, celestial body, spherical, rotation, spin, night and day, names of planets, dwarf planet, orbit, geocentric model, heliocentric model, shadow clocks, sundials, astronomical clocks**	
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 their parents identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Vocabulary ***Prior vocab but from different topic**							**adapt, environment, evolution**

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