St. Anthony's Catholic Primary School Science Progression Map Topics

	EYFS – Understanding the World	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	**3 – 4 Year olds** Use all their senses in hands on exploration of natural materials. Plant seeds and care for growing plants. Understand the key features of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. **Reception** Explore the natural world around them. Forest School Planting and growing (herbs, cress, veg, flowering plants) Outdoor play and exploration Observation and drawing of plants. Songs and poems about plants Describe what the see, hear and feel whilst outside Focused observation of natural world Describing and commenting	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.			Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Key Vocabulary	Seasons, different, change, grow, leaves, bark, trunk, seed, flower, petal, nest,	From EYFS: Petal, leaf, seed, tree, trunk, flower Berry, blossom, bud, bulb, branch, fruit, habitat, identify, leaf, plant, roots, stem, deciduous, evergreen, wild names of locally found plants	growth, grow healthy, light, nutrients, seed, bulb, fruit, vegetable, seedling, fully grown, mature, shoot, soil, water, light, temperature, suitable, reproduce, insects, germinate	Absorb, fertiliser, plant life cycle, pollination, seed dispersal, seed formation, temperature, transported, parts of a plant, life cycle.			

St. Anthony's Catholic Primary School Science Progression Map Topics

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals (Including Humans)	**3 – 4 Year olds** Understand the key features of an animal. Begin to understand the need to respect and care for the natural environment and all living things. Use all their senses in hands-on exploration of natural materials. Make healthy choices about food, drink, activity and tooth brushing. **Reception** Explore the natural world around them. Forest School Growing and caring frogs/butterflies/bees/stick insects Observation and drawings of animals Human growth and change Describe what they see, hear and feel whilst outside Focused observation of natural world Describing, naming and commenting on animals, nature hunts, (Physical Development)Know and talk about the different factors that support their overall health and wellbeing (incl) exercise, helathy eating, toothbrushing	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	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). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Identify that animals, including humans, need the right types and amount of nutrition. Know that animals cannot make their own food. Know animals get their nutritional needs from what they eat. Can identify that humans and some other animals have skeletons and muscles for support, protection and movement.	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	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
Key Vocabulary	Name of common body parts (head, arm, hand, legs, neck etc), Life cycle Grow Young Baby Healthy Strong Teeth Fruit Vegetables. Magnifying glass	Names of common animals, Names of body parts(including shoulder, elbow, ankle, knee, hips), including animals (wing, claw, tail, beak, fur, feather, fin, scales) Carnivore, herbivore, omnivore, senses, Hear/hearing, see/seeing/sight, touch/touching, taste/tasting reptiles, amphibians mammals fish birds	Vocabulary (Year 1 +) Adult, baby, toddler, child, teenager, elderly, pregnancy, basic needs (water, food, air), hygiene, Healthy, unhealthy, grow, Lungs, gills, spawn, tadpole, egg, chick, hatchling, life cycle Revision of amphibian, mammal, and bird	Vocabulary (KS1+) Nutrition, nutrients, balanced diet, carbohydrate, proteins, fats, fibre, water, vitamins, minerals, skeleton, protection, bones, ribs, skull, spine, support, joints, endoskeleton, exoskeleton, hydrostatic skeleton, backbone, vertebrate, invertebrate, contract, relax, muscles, ball joint, socket joint,	Vocabulary (As previous +) digestive system, digestion mouth, tongue, moistens, saliva, swallowing, oesophabus, trasports, absorb, stomach, acid, enzymes, small intestine, large intestine, energy, faeces, anus, vitamins, teeth, incisors, canines, molars, grinding, chewing, food chain,	Adolescence, adolescent, arthritis, gestation period, life expectancy, menstruation, pregnant, puberty	internal organs, heart, lungs, liver, kidney, brain, skeleton, digest, digestion, circulatory system, respiration, blood vessels, red/white blood cells, pulse, aorta, artery, atrium, bronchi, capillaries, carbon dioxide, oxygen, , diaphragm, pulmonary vein/artery, ventricles, red blood, lifestyle, nicotine, diet, exercise, drugs, nutrients, alcohol, substances.

St. Anthony's Catholic Primary School Science Progression Map Topics

				hinge joint, gliding joint	producers, consumer, prey, predators, From KS1: carnivore , herbivore, omnivore.		

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Living things and their habitats	**3 – 4 year olds** Use all their senses in hands on exploration of natural materials. Begin to understand the need to respect and care for the natural environment and all living things. **Reception** Explore the natural world around them Outdoor play and exploration Hands on experience of natural world. Discuss how we care for the natural world (growing plants and animals) Close observation of the natural world. Growing and caring for plants and animals Recognise some environments are different to the one in which they live. Contrasting environments (Arctic, African Savannah, Jungle)		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. 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.
Key Vocabulary			Alive, living, dead, never alive, feed, food, food chain, breathe, excrete, grow, reproduce, move Habitat, rainforest, ocean, woodland, seashore, shelter, leaf litter conditions, hot, warm, cold, dry, damp, wet, bright, shady, dark,		From KS1: amphibians, birds, reptiles, fish, mammals, vertebrate, invertebrate, insects, flowering plants, grasses, non-flowering plants, mosses, ferns. classify, classification keys, environment, positive human impact, negative human impact, pollution, dangers	Anther, asexual reproduction, carpel, external fertilisation, fertilisation, filament, germination, gestation, internal fertilisation, larva, metamorphosis, pollen, pollination, seed dispersal, seed formation, sepal, sexual reproduction, sperm, stamen, style, stigma	Bacteria, fauna, fermentation, flora, fungi/fungus, genus, microbes, micro-organism, organism, species Name invertebrates: arachnid, mollusc, insect and crustacean

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces and Magnets	**3 and 4 Year olds** Explore and talk about different forces they can feel Explore how things work **Reception** Explore the natural world around them. Using tools and building, Magnet trays, pushing , pulling, stretching floating and sinking, Pulleys, cogs, pegs, wind up toys, messy play, baking and cooking, mud kitchen, playdough disco, malleable area.			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. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet.		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.	
Key Vocabulary	Magnet Pull Push Twist Bend Stretch Sink/ loat			force, push, pull. open, surface, magnet, magnetic, attract, repel, magnetic poles, North, South, bar magnet, button magnet, compass, contact,		friction, water resistance, air resistance,gravity, force meter gears, levers, mechanisms, Newton, non-contact force, pulleys, reliable, springs, transference of force and motion, water resistance, weight	

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Light	**3 and 4 Year olds** Talk about differences between materials and changes they notice **Reception** Explore the natural world around them. Torches, filters, light boxes, exploring shadows and mirrors			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 a solid object. Find patterns in the way that the size of shadows change			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
Key Vocabulary				Light, see, dark, reflect, surface, natural, star, Sun, Moon, shadow, clocked, solid, absorb, beam, block, direction of light, bright, dim, dull, light source, mirror, opaque, reflect, reflective, shiny, artificial, torch, candle, lamp, sunlight, dangerous, protect.			From Year 3 : Light, reflect, reflection, mirror, light source, shadows, travels, straight, object, cornea, lenses, iris, pupil, prism, rainbow, periscope, filters, refraction

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electrcity	**3 and 4 year olds** Explore how things work **Reception** Explore the Natural world around them. Battery operated toys, torches, whisks.			Introduced to simple circuits through DT project.	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.
Key Vocabulary	Computer Whisk Operate Battery turn				mains, appliance, Battery, electricity, electrical circuit cell, complete circuit, wire, bulb, buzzer, danger electrical safety, motor, crocodile clips, wood, insulators, conductors, connection, switch, open , closed, brightness, dim, shock, negative, positive, rechargeable, symbols		voltage brightness& volume switches on/off series circuit working safely with electricity circuit diagram electrical safety sign. Thomas Edison

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sound	**3 and 4 Year olds** (Expressive arts) Listen with increased attention to sounds. Play instruments. **Reception** (Expressive arts) Explore and engage in music.				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.		
Key Vocabulary	Sound Listen High Low Loud Quiet Deep Music Instrument				Ear, sound, hear, volume, loud, faint, fainter, pitch, sound source, sound wave, travel, tune, tuning fork, vibrate, vibration, air, echo, insulation, instrument, percussion, string, woodwind, brass		

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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.
Key Vocabulary						evolution, adaptation, inherited traits, adapted traits, natural selection, survival of, the fittest, inheritance, Charles Darwin, genes, chromosomes, DNA, evolution, variation, parent, offspring, fossil records, fossilisation, environment,

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal changes	**3 – 4 Year olds** Plant seeds and care for growing plants. **Reception** Explore the natural world around them. Outdoor play and exploration – welly walks, snow play, observations and natural art, ice melting, growing plants in spring Understand the effect too changing seasons on the natural world around them. Notice weather and seasonal features (clothes, leaves etc), weather recording, weather reporter role play,stories, observing natural world in different seasons, Sun safety.	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Observe changes to the natural environment across the 4 seasons. Observe changes in the temperature across the 4 seasons. Observe changes in the rainfall across the 4 seasons .	``````				
Key Vocabulary	Seasons Cold Warm Hot Fire Plants Nests Leaves Trees	Autumn, dark, light, daylight, Sun, Eartg, hours, night, moon movement, season, shadow, spring, summer, winter , temperature, Names common types of weather and features					

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Earth and Space	**Reception** **Recognise some environments that are different to the one in which they live (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	
Key Vocabulary		Space Moon Stars Rocket Vehicle Travel				Asteroids, axes/Axis, celestial body, comets, galaxy, light years, meteors, orbit, phases of the moon, planet, revolve, rotation, shadow clocks, spherical, spin, solar system, star, sun, sundials, time zone Name of planets A	

St. Anthony's Catholic Primary School Science Progression Map Topics

Topic	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Materials	**3 and 4 Year olds** Use all their senses in hands on exploration of natural materials. Explore and talk about difference they can feel. Talk about differences between materials and changes they notice **Reception** Explore the natural world around them Hands on experiences of natural materials and processes – heating, melting ice, nature tables, water play, curiosity boxes, forest school, cooking, messy play, junk modelling, recycling sorting.	**Everyday Materials** 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. Compare and group together a variety of everyday materials on the basis of their simple physical properties.	**Uses 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 particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**Rocks and Soils** 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.	**States of 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 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.	**Properties and changes of Materials** 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 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. 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.	
Key Vocabulary	Float Sink Heavy Light Smooth Stretchy, Rough Freeze Melt Change	From EYFS : rough, smooth, shiny, dull, hard, soft, stretchy material, wood, plastic glass, paper, fabric, cardboard, metal, water, rock, wool, properties, , stiff, transparent, waterproof, not waterproof, bendy not bendy, absorbent not absorbemt, elastic foi	brick, rock, changes, concrete, elastic, fabric, flexible, man-made, natural, opaque, properties, reflective, rigid, rubber, shape, squash, stretch, strong, suitable, translucent, transparent, twist, use/useful, weak	Absorb, extinct, organic matter, crystals, fossils, grains, igneous, impermeable, layers, magma, metamorphic, mineral, molten, , permeable, rock, sediment, sedimentary, soil ,granite, marble, sand, clay, limestone, chalk, palaeontology/palaeontologists	Solid,, solidify, melt, freeze, liquid, Air, boiling point, boiling, evaporate/ evaporation, condensation/ condensing, gas, changing state, heat, warm, cool, degrees Celsius, thermometer, temperature, freezing, freezing point, gaseous, grain, matter, melting, melting point, particles, powder, , water vapour	Burning, dissolve, electrical conductor, filter, insoluble, irreversible change, mixture, reversible change, rust, sieving, soluble, solute, solution, solvent, thermal conductor, thermal insulator	