St Anthony's Catholic Primary School
We are God's Work of Art

PSQM Primary Science Quality Mark

Science progression of knowledge overview

EYFS Understanding the World, People and Communities	Children in EYFS will: • know past and present events in their own lives and in the lives of their families. • know that other children don't always enjoy the same things, and are sensitive to this. • know some similarities and differences between themselves and others. • know some similarities and differences among, families, communities and traditions. • know how to use their senses to make observations and talk about changes in seasons. • know how to share their knowledge.		
	KS1	LKS2	UKS2
Plants	• know a variety of common wild and garden plants, including deciduous and evergreen trees. • know the basic structure of a variety of common flowering plants, including trees.	• know the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. • 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 through experimentation the way in	

		which water is transported within plants • know the life cycle of flowering plants, including pollination, seed formation and seed dispersal	
	KS1	LKS2	UKS2
Living things and their habitats	• know the differences between things that are living, dead, and things that have never been alive. • know that most living things live in habitats to which they are suited. • know a variety of plants and animals including micro-organisms and their habitats, their habitats. • know how different habitats provide for the basic needs of different	• know that living things can be grouped in a variety of ways • know how to group living things in their local and wider environment and use classification keys. • know that environments can change and that this can sometimes pose dangers to living things.	• know the differences in the life cycles of a mammal, an amphibian, an insect and a bird • know the life process of reproduction in some plants and animals • know 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

	kinds of animals and plants, and how they depend on each other. • know that animals obtain their food from plants and other animals. • know different sources of food and use a simple food chain.		• give reasons for classifying plants and animals based on specific characteristics
	KS1	LKS2	UKS2
Animals including Humans (human focus)	• know the basic parts of the human body • know which part of the body is associated with each sense. • Know the basic needs of animals, including humans, for survival (water, food and air) • Know how exercise, diet and hygiene impact on the human body.	• know that humans and some other animals have skeletons and muscles for support, protection and movement. • know the organs and simple function of the digestive system in humans. • know the different types of teeth in humans and their simple functions	• describe the changes as humans develop to old age • know the impact of diet, exercise, drugs and lifestyle on the way their bodies function. • know the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
	KS1	LKS2	UKS2

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Animals including Humans (animal focus)	• know a variety of common animals including fish, amphibians, reptiles, birds and mammals. • know a variety of common animals that are carnivores, herbivores and omnivores. • know how a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) vary in structure	• 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. • construct and interpret a variety of food chains, identifying producers, predators and prey.	• know the ways in which nutrients and water are transported within animals, including humans.
	KS1 Everyday materials and use of everyday materials	LKS2 States of matter	UKS2 Properties and changes of materials
Materials	• know the difference between an object and the material from which it is made.	• Know how to compare and group materials together, according to whether they are solids, liquids or gases	• Know how to compare and group together everyday materials on the basis of their properties, including

	• know a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • know the simple physical properties of a variety of everyday materials. • know how to compare and group together a variety of everyday materials on the basis of their simple physical properties. • know how to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. • know that the shapes of solid objects made from	• through observation, know 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) • know the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	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 know 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

	some materials can be changed by squashing, bending, twisting and stretching		• know how to demonstrate that dissolving, mixing and changes of state are reversible changes. • know 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.
	KS1	LKS2	UKS2
Electricity		• know that common appliances that run on electricity. • know how to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires,	• know that the brightness of a lamp or the volume of a buzzer changes dependent on the number and voltage of cells used in the circuit • know how to compare and give reasons for variations in how

		bulbs, switches and buzzers • know 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 • know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • know some common conductors and insulators, and associate metals with being good conductors	components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • know how to use symbols when representing a simple circuit in a diagram.
Light		• know that they need light in order to see	• know that light appears to travel in straight lines

		things and that dark is the absence of light • notice that light is reflected from surfaces. • know that light from the sun can be dangerous and that there are ways to protect their eyes • know that shadows are formed when the light from a light source is blocked by an opaque object • can find patterns in the way that the size of shadows change	• know that light travels in straight lines. • know that objects are seen because they give out or reflect light into the eye • know that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • know that light travels in straight lines. • know why shadows have the same shape as the objects that cast them
Rocks		• know how to compare and group together different kinds of rocks on the basis of their	

		appearance and simple physical properties • know how in simple terms fossils are formed when things that have lived are trapped within rock • know that soils are made from rocks and organic matter	
Evolution and Inheritance			• know that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • know that living things produce offspring of the same kind, but normally offspring vary and are

			not identical to their parents • know how some animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
Forces and Magnets			
		• know how things move on different surfaces • know that some forces need contact between 2 objects, but magnetic forces can act at a distance • know that magnets attract or repel each other and attract some materials and not others	• know that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • know the effects of air resistance, water resistance and friction, that act between moving surfaces

		• know how to 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 • know that magnets have 2 poles. • have the knowledge to predict whether 2 magnets will attract or repel each other, depending on which poles are facing	• know that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect
Sound			
		• know how sounds are made, associating some of them with something vibrating. • know that vibrations from sounds travel	

		through a medium to the ear. • know how to find patterns between the pitch of a sound and features of the object that produced it • know how to find patterns between the volume of a sound and the strength of the vibrations that produced it • know that sounds get fainter as the distance from the sound source increases	
Earth and Space			• know the movement of the Earth and other planets relative to the sun in the solar system • know the movement of the moon relative to the Earth

			• know the sun, Earth and moon as approximately spherical bodies • know that the Earth's rotation explains day and night and the apparent movement of the sun across the sky.