Our Lady and St Benedict's Catholic Academy
Science Overview

Term	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7 (St Margaret Ward)
Autumn 1	**The Natural World** Children will explore the natural world around them through Autumnal and listening walks in the school grounds and the forest area. Children will learn about how the season of Autumn changes from summer. Children will learn about how	**The Natural World** Children will know the names of body parts: shoulders, elbows, knees, ankles. Children will know the 5 senses. Children will deepen their Autumn knowledge.	**Seasonal Changes through out the year** Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies	**Living things and their habitats** 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	**Rocks** Sc3/3.1a compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Sc3/3.1b describe in simple terms how fossils are formed when things that have lived are trapped within rock Sc3/3.1c recognise that soils are made from	**Electricity** Sc4/4.2a identify common appliances that run on electricity Sc4/4.2b construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Sc4/4.2c identify whether or not a lamp will light in a simple	**Properties and changes of materials** Sc5/3.1a 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 Sc5/3.1b know that some materials will	**Light** Sc6/4.1a recognise that light appears to travel in straight lines Sc6/4.1b 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 Sc6/4.1c explain that we see things because light travels from light sources to our	**Safety** An introduction into the use of laboratory equipment and rules and basic science skills. **Atoms** Atomic structure and use of Periodic table.

	to stay safe on Bonfire Night.		**Animals, including humans** Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of	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	rocks and organic matter.	series circuit, based on whether or not the lamp is part of a complete loop with a battery Sc4/4.2d recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit Sc4/4.2e recognise some common conductors and insulators, and associate metals with being good conductors.	dissolve in liquid to form a solution, and describe how to recover a substance from a solution Sc5/3.1c use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating Sc5/3.1d give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	eyes or from light sources to objects and then to our eyes Sc6/4.1d use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	

			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	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.			Sc5/3.1e demonstrate that dissolving, mixing and changes of state are reversible changes Sc5/3.1f 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.		

			and label the basic parts of the human body and say which part of the body is associated with each sense.						
Autumn 2	**The Natural World** Children will know how materials change when cooking, cooling and heating and will experiment with this through food tasting sessions.	**The Natural World** Children will forage in the local environment for ingredients and resources to make creative	**Animals, including humans** Identify and name a variety of common animals includin	**Animals, including humans** Notice that animals, including humans, have offspring which grow into adults	**Rocks** **Animals, including humans** Sc3/2.2a identify that animals, including humans, need the right types and amount of nutrition, and	**Living things and their habitats** Sc4/2.1a recognise that living things can be grouped in a variety of ways Sc4/2.1b explore and use classification keys to help	**Properties and changes of materials** Sc5/3.1a compare and group together everyday materials on the basis of their properties, including their hardness, solubility,	**Electricity** Sc6/4.2a associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit	**Cells** Cell structure and use of microscopes. **Forces** Types of forces; Balanced and unbalance

	Children will collect Autumnal sticks and leaves to create an Autumn leaf.	works of art.	g 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	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.	that they cannot make their own food; they get nutrition from what they eat Sc3/2.2b identify that humans and some other animals have skeletons and muscles for support, protection and movement.	group, identify and name a variety of living things in their local and wider environment Sc4/2.1c recognise that environments can change and that this can sometimes pose dangers to living things.	transparency, conductivity (electrical and thermal), and response to magnets Sc5/3.1b know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Sc5/3.1c use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	Sc6/4.2b 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 Sc6/4.2c use recognised symbols when representing a simple circuit in a diagram.	d forces **Atoms** Separation techniques

			(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.				Sc5/3.1d give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic Sc5/3.1e demonstrate that dissolving, mixing and changes of state are reversible changes Sc5/3.1f 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.		
Spring 1	**The Natural World** Children will make collections of natural materials to investigate and talk about. Children will experiment with freezing and melting and make winter collages. Children will learn about the season of Winter and how it is different to Autumn.	**The Natural World** Children will deepen their knowledge of Winter. Children will know how the dinosaurs died. Children will look at volcanoes and how to make an explosive reaction.	**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,	**Uses of every day materials**	**Animals, including humans** Sc3/2.2a 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 Sc3/2.2b identify that humans and some other animals have skeletons and muscles for support,	**States of matter** Sc4/3.1a compare and group materials together, according to whether they are solids, liquids or gases Sc4/3.1b 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)	**Forces** Sc5/4.2a explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Sc5/4.2b identify the effects of air resistance, water resistance and friction, that act between moving surfaces Sc5/4.2c recognise that some mechanisms including levers, pulleys and gears	**Evolution and inheritance** Sc6/2.3a recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Sc6/3.2b recognise that living things produce offspring of the same kind, but normally	**Forces (continued)** Types of forces; Balanced and unbalanced forces Atoms (continued) Separation techniques

			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		protection and movement.	Sc4/3.1c identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	allow a smaller force to have a greater effect	offspring vary and are not identical to their parents Sc6/2.3c identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution	

			properties.						
Spring 2	**The Natural World** Children will know that a butterfly comes from an egg. They will learn about the life cycles of different animals including frogs and chickens and have these animals in class. Children will know how to respect and care for living things. Children will learn about the season of Spring and how it is different to Winter.	**The Natural World** Children will deepen their knowledge of Spring. Children will observe changes and growth of chicks. Children will know the life cycle of a chick in more detail and be able to order the phases of the cycle.	**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,	**Uses of every day materials**	**Plants** Sc3/2.1a identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Sc3/2.1b 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 Sc3/2.1c investigate the way in which water is transported within plants	**Sound** Sc4/4.1a identify how sounds are made, associating some of them with something vibrating Sc4/4.1b recognise that vibrations from sounds travel through a medium to the ear Sc4/4.1c find patterns between the pitch of a sound and features of the object that produced it	**Earth and Space** Sc5/4.1a describe the movement of the Earth, and other planets, relative to the Sun in the solar system Sc5/4.1b describe the movement of the Moon relative to the Earth Sc5/4.1c describe the Sun, Earth and Moon as approximately spherical bodies Sc5/4.1d use the idea of the Earth's rotation to explain day and night, and the apparent movement of the	**Animals including humans** Sc6/2.2a identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Sc6/2.2c describe the ways in which nutrients and water are transported within animals, including humans.	**Energy** Types of energy; Efficiency **Systems** Animal reproduction; Plant reproduction; the skeleton **Reactions** Acids and alkali's; neutralisation.

		Children will look at different wild animals and their habitats and some of their diets. Children will identify plastic and metal and consider the impact these materials have on their environment.	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.		Sc3/2.1d explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Sc4/4.1d find patterns between the volume of a sound and the strength of the vibrations that produced it. Sc4/4.1e recognise that sounds get fainter as the distance from the sound source increases	sun across the sky.		

Summer 1	**The Natural World** Children will learn about which animals live in water and abut their habitats and diets. Children will know that seeds can turn into plants. Children will begin to understand how it takes time to grow fruit and vegetables. Children will plant and grow a fruit/vegetable /herb in the playground Children will learn about the season of Summer and how it is	**The Natural World** Children will know the names of the 4 seasons and weather associated with them. Children will know how to care for a plant and grow their own fruit. Children will explore floating and sinking and consider what materials have what	**Plants** 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.	**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.	**Forces and magnets** Sc3/4.2a compare how things move on different surfaces Sc3/4.2b notice that some forces need contact between 2 objects, but magnetic forces can act at a distance Sc3/4.2c observe how magnets attract or repel each other and attract some materials and not others		**Animals including humans** Sc5/2.2a describe the changes as humans develop to old age.	**Impact of alcohol, drugs, lifestyle and exercise.** Sc6/2.2b recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function	**Systems (continued)** Animal reproduction; Plant reproduction; the skeleton **Reactions (continued)** Acids and alkali's; neutralisation.

	different to Spring.	effect on this.			Sc3/4.2d 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 Sc3/4.2e describe magnets as having 2 poles Sc3/4.2f predict whether 2 magnets will attract or repel each other, depending on which poles are facing.				

Summer 2	**The Natural World** Children will explore and talk about forces including magnets, sinking and floating and stretching. Children with experiment with mixing colours.	**The Natural World** Children will know that this time of year is Summer and have a deeper understanding of what happens in summer.	**Plants** 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.	**Living things and their habitats**	**Light** Sc3/4.1a recognise that they need light in order to see things and that dark is the absence of light Sc3/4.1b notice that light is reflected from surfaces Sc3/4.1c recognise that light from the sun can be dangerous and that there are ways to protect their eyes Sc3/4.1d recognise that shadows are formed when the light from a light source is	**Animals including humans** Sc4/2.2a describe the simple functions of the basic parts of the digestive system in humans Sc4/2.2b identify the different types of teeth in humans and their simple functions Sc4/2.2c construct and interpret a variety of food chains, identifying producers, predators and prey.	**Living things and their habitats** Sc5/2.1a describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Sc5/2.1b describe the life process of reproduction in some plants and animals.	**Living things and their habitats** Sc6/2.1a 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 Sc6/2.1b give reasons for classifying plants and animals based on specific characteristics.	**Radiation** Light; Reflection and refraction **Fields** The solar system; stars and the moon. **Electricity** Static charge

					blocked by a solid object Sc3/4.1e find patterns in the way that the size of shadows change.				