



CLORE SHALOM SCIENCE CURRICULUM

	UNIT NAME	KEY CONCEPT	CORE LEARNING	VOCAB
RECEPTION Development matters (3-4 and Reception)				
Autumn 1	All about our bodies and our senses How can we recycle?	Living things and their habitats (B) Everyday Materials(P)	Name and describe people who are familiar to them. Talk about members of their immediate family and community Talk about the differences between materials and changes they notice.	Body parts 5 senses Family members Materials Hard soft Recycling
Autumn 2	Waterproof clothing for Teddy Bears Patterns in the natural world	Everyday materials (P) Plants (B)	Talk about the differences between materials and changes they notice. Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.	Waterproof Different materials Absorb Patterns Seasons Weather
Spring 1	What can we find in our environment?	Living things and their habitats (B)	Describe what they see, hear and feel whilst outside. Begin to understand the need to respect and care for the natural environment and all living things.	Environment Natural Living things/alive Breathe, air
Spring 2	What material makes a good boat?	Everyday materials (P)	Explore and talk about different forces they can feel.	Force Push/pull Float/sink
Summer 1	Mini beasts and lifecycles.	Plants (B)	Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal.	Plants Seeds Grow Life cycle



		Living things and their habitats (B)	Begin to understand the need to respect and care for the natural environment and all living things. Describe what they see, hear and feel whilst outside. Explore the natural world around them.	Mini beasts
Summer 2	What habitats are there?	Living things and their habitats (B)	Describe what they see, hear and feel whilst outside. Begin to understand the need to respect and care for the natural environment and all living things. Understand the effect of changing seasons on the natural world around them.	Habitat Seasons and birthdays Countries Healthy
YEAR ONE				
Autumn 1	What are the seasons?	Seasonal Changes (P)	<ul style="list-style-type: none"> • Name the four seasons • Recall simple changes associated with each season • Observe and name types of weather (e.g. rain, sun, wind, clouds) • Observe changes across the four seasons • Identify what to observe • Use descriptive words, photos and pictures to record changes • Collect evidence of changes (e.g. leaves, seeds, flowers) • Observe and describe weather associated with the seasons and how day length varies. • Identify what to measure about the weather • Use prepared tables and charts to record data 	*Seasons *Summer *Spring *Winter *Autumn Daylight *Weather Change Month <i>*repeated vocabulary from reception</i>
Autumn 2	What are things made of?	Everyday Materials (C)	<ul style="list-style-type: none"> • 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. • Identify some properties of materials (e.g. see through, waterproof, absorbent). 	Object *Material *Hard *Soft Stretchy elastic Dull



			<ul style="list-style-type: none"> • 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 (both visible and non-visible) 	Rough Transparent Opaque
Spring 1	All sorts of animals	Animals Including Humans (B)	<ul style="list-style-type: none"> • 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. 	Sense Carnivore Herbivore Omnivore Reptiles Mammal Body parts Nocturnal Amphibians
Spring 2	Finding out about plants	Plants (B)	<ul style="list-style-type: none"> • Make observations of plants, including flowers and vegetables they have planted • Identify the leaf, root, stem and flower of a plant • Identify the trunk, branch, roots and leaves of a tree • Know that plants produce seeds • Identify differences between plants • Identify and describe the basic structure of a variety of common flowering plants, including trees • Name some common plants • Name some plants that live in the garden • Name some plants that live in the wild • Name some trees in the local environment • Recognise that different plants live in the local environment • Use simple identification guides to name plants in the local environment • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees 	Stem Root Flower Leaves Petals Wild plants Bulb Weed Deciduous Evergreen *Seed Trunk Branch



<p>Summer 1</p>	<p>Finding out about plants</p>	<p>Plants (B)</p>	<ul style="list-style-type: none"> • Make observations of plants, including flowers and vegetables they have planted • Identify the leaf, root, stem and flower of a plant • Identify the trunk, branch, roots and leaves of a tree • Know that plants produce seeds • Identify differences between plants • Identify and describe the basic structure of a variety of common flowering plants, including trees • Name some common plants • Name some plants that live in the garden • Name some plants that live in the wild • Name some trees in the local environment • Recognise that different plants live in the local environment • Use simple identification guides to name plants in the local environment • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees 	
<p>Summer 2</p>	<p>What are the seasons?</p>	<p>Seasonal Changes (P)</p>	<ul style="list-style-type: none"> • Name the four seasons • Recall simple changes associated with each season • Observe and name types of weather (e.g. rain, sun, wind, clouds) • Observe changes across the four seasons • Identify what to observe • Use descriptive words, photos and pictures to record changes • Collect evidence of changes (e.g. leaves, seeds, flowers) • Observe and describe weather associated with the seasons and how day length varies. • Identify what to measure about the weather • Use prepared tables and charts to record data 	
<p>YEAR TWO</p>				



Autumn 1	Different materials for different uses.	Uses of everyday materials (C)	<ul style="list-style-type: none"> Name different everyday materials Identify different uses of materials All objects are made of materials because of suitable properties A material can be suitable for different purposes and an object can be made of different materials. Objects made of some materials can be changed by bending, stretching, squashing and twisting John Boyd Dunlop invented the pneumatic tyre and the properties of the tyre How metal is made 	Waterproof Absorbent Properties Metal ore Refining Fair test
Autumn 2	Different materials for different uses.	Uses of everyday materials (C)	<ul style="list-style-type: none"> Objects made of some materials can be changed by bending, stretching, squashing and twisting Some materials can't have their shape changed Some materials are more suited to certain objects because of their properties John McAdam improved conditions of roads 'McAdamisation' Charles Macintosh invented waterproof fabric Plastic causes pollution in seas and oceans How plastic harms sea animals The process of recycling Why recycling is important (link to previous lesson on plastic pollution) What materials can be recycled 	Twist Bend Squash Suitable Invent Waterproof Plastic Pollution Recycling
Spring 1	The life cycle of animals	Animals Including Humans (B)	<ul style="list-style-type: none"> Animals, including humans, have offspring which grow into adults. In humans and some animals, offspring will be young, such as babies or kittens, that grow into adults. In other animals, such as chickens or insects, there may be eggs The young of some animals do not look like their parents 	Offspring Reproduce Life cycle Fact file Exercise Healthy Hygiene



			<ul style="list-style-type: none"> • Sequence and describe life cycle of different animals • Sequence and describe life cycle of humans • What animals need to survive: food, air, water. • To grow into healthy adults, they need the right amounts and types of food and exercise. • Good hygiene is important in preventing infections and illnesses. 	
Spring 2	The life cycle of plants	Plants (B)	<ul style="list-style-type: none"> • Plants may grow from either seeds or bulbs. • Seeds and bulbs then germinate and grow into seedlings which then continue to grow into mature plants. • Mature plants may have flowers which then develop into seeds, berries, fruits etc. • Seeds and bulbs need to be planted outside at particular times of year and they will germinate and grow at different rates. • Plants need light, water and food to grow well and stay healthy. 	germinate shoot seedling pollen nectar
Summer 1 and 2	Where is the best place to live?	Living Things and their Habitats (B)	<ul style="list-style-type: none"> • All objects are either living, dead or have never been alive. • Living things are plants (including seeds) and animals. Dead things include dead animals and plants and parts of plants and animals that are no longer attached e.g. leaves and twigs, shells, fur, hair and feathers • An object made of wood is classed as dead. • Objects made of rock, metal and plastic have never been alive (again ignoring that plastics are made of fossil fuels). • Animals and plants live in a habitat to which they are suited, which means that animals have suitable 	Suitable survival basic needs food chain habitat micro-habitat conditions adaptation food chain



			<p>features that help them move and find food and plants have suitable features that help them to grow well.</p> <ul style="list-style-type: none"> • The habitat provides the basic needs of the animals and plants – shelter, food and water. • Within a habitat there are different micro-habitats. The conditions within them affect which plants and animals live there. The plants and animals in a habitat depend on each other for food and shelter. • The way that animals obtain their food from plants and other animals can be shown in a simple food chain 	
YEAR THREE				
Autumn 1	Do rocks rock?	Rocks (C)	<ul style="list-style-type: none"> • Compare and group together different kinds of rocks based on their appearance and physical properties. • Describe in simple terms how fossils are formed. • Recognise that soils are made from rocks and organic matter. 	<ul style="list-style-type: none"> • Igneous • Sedimentary • Metamorphic • Magma • Sediment • Permeable • Impermeable • Fossilisation. • Palaeontology • Erosion
Autumn 2	Finding out about light	Light(P)	<ul style="list-style-type: none"> • Recognise that light is needed 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 • Understand that shadows are formed when the light from a light source is blocked by an opaque object • Find patterns in the way that the size of shadows change 	<ul style="list-style-type: none"> • Light • Light Source • Reflect • Ray • Shadow • Translucent



Spring 1	What animals need to survive.	Animals Including Humans (B)	<ul style="list-style-type: none"> • Identify that animals, including humans, need the right types and amount of nutrition, and that they get nutrition from what they eat not from themselves • Understand that humans and some other animals have skeletons and muscles for support, protection and movement 	<ul style="list-style-type: none"> • Nutrients • Energy • Saturated and unsaturated fats. • Invertebrate • Vertebrate • Muscles • Tendons • Joints
Spring 2	How do plants grow?	Plants (B)	<ul style="list-style-type: none"> • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • describe why healthy roots and a healthy stem are needed for plants to grow • recognise that the leaves of a plant are associated with healthy growth and more specifically nutrition • know that fertilisers contain minerals • understand that plants absorb minerals from the soil • describe how changes to light and fertiliser affect plant growth • 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 • describe how the stem has a role in support and nutrition (transport of water) • describe why plants need flowers • describe the role of bees and insects in pollination • describe how pollen and seeds are dispersed 	<ul style="list-style-type: none"> • nutrients • evaporation



			<ul style="list-style-type: none"> • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 	
Summer 1 and Summer 2	What are magnets and how do they work?	Forces and Magnets (P)	<ul style="list-style-type: none"> • Compare how things move on different surfaces • Note that some forces need contact between 2 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 (magnetic materials) • Describe magnets as having 2 poles • Predict whether 2 magnets will attract or repel each other, depending on which poles are facing 	<ul style="list-style-type: none"> • Forces • Friction • Surface • Magnet • Magnetic • Push • Pull • Gravity
YEAR FOUR				
Autumn 1	Teeth and Digestion	Animals Including Humans (B)	<ul style="list-style-type: none"> • describe the role of each organ in the digestive system • describe the simple functions of the basic parts of the digestive system in humans • describe the role of each type of teeth in digestion • identify the different types of teeth in humans and their simple functions • explain how they should look after their teeth and recognise why they need to do so • state that animals have different diets and may have different kinds of teeth 	<ul style="list-style-type: none"> • Digest • Large intestine • Small intestine • Stomach • Oesophagus
Autumn 2	What is electricity and how does it work?	Electricity (P)	<ul style="list-style-type: none"> • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers 	<ul style="list-style-type: none"> • Circuit • Component • Incomplete



			<ul style="list-style-type: none"> • make drawings of simple working circuits (pictorial only circuit symbols covered in year 6) • make circuits from drawings provided • 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 • describe the effect of making and breaking one of the contacts on a circuit • explain why some circuits work and others do not • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • describe how switches work • construct a home-made switch • construct simple circuits and use them to test whether materials are electrical conductors or insulators • recognise some common conductors and insulators, and associate metals with being good conductors 	<ul style="list-style-type: none"> • Complete • Conductor • Insulator • Appliance • Mains powered • Battery powered
Spring 1 and Spring 2	How do materials change?	States of Matter (C)	<ul style="list-style-type: none"> • 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). 	<ul style="list-style-type: none"> • Solid • Liquid • Gas • Heating • Cooling • state change melting point boiling



			<ul style="list-style-type: none"> Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature 	<ul style="list-style-type: none"> boiling point evaporation, condensation temperature water cycle
Summer 1	Sound Waves	Sound(P)	<ul style="list-style-type: none"> identify how sounds are made, associating some of them with something vibrating identify what is vibrating in a range of musical instruments generalise that sounds are produced when objects vibrate describe how sounds are generated by specific objects suggest ways of producing sounds 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 distinguish between pitch and volume (loudness) know that altering vibrations alters the pitch or volume suggest how to change the loudness of the sounds produced by a range of musical instruments explore how to vary the pitch and volume of sounds from a variety of objects or instruments 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 describe what they observe when they move further away from the source of a sound 	<ul style="list-style-type: none"> Vibrating Sound waves Pitch Volume Amplitude
Summer 2	Classification of animals	Living Things and	<ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways. 	<ul style="list-style-type: none"> Classification



		their Habitats (B)	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • classification keys • environment • human impact • positive • negative • migrate • hibernate
YEAR FIVE				
Autumn 1	What happens when materials change?	Properties and changes of materials (C)	<ul style="list-style-type: none"> • Everyday materials on the basis of their properties: hardness, solubility, transparency, conductivity (electrical and thermal), and magnetism • Know that 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 changes • Explain that some changes result in the formation of new materials, and that this kind of change is usually irreversible 	<ul style="list-style-type: none"> • Melting • Freezing • Conductor • Insulator • Filtering • Irreversible • Reversible
Autumn 2 and Spring 1	What is beyond our planet?	Space (P)	<ul style="list-style-type: none"> • The Earth and other planets relative to the sun • Describe the movement of the moon relative to the Earth • Describe the sun, Earth and moon as approximately spherical bodies 	<ul style="list-style-type: none"> • Orbit • Rotate • Axis • Geocentric model • Heliocentric model • Astronomer • Star



			<ul style="list-style-type: none"> • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky 	<ul style="list-style-type: none"> • Planet • Spherical bodies
Spring 2	How do plants reproduce?	Living Things and their Habitats (B)	<ul style="list-style-type: none"> • Identify parts of a flower. • Give one difference between sexual and asexual reproduction. • Describe ways plants can be pollinated. • Identify plants that reproduce asexually. • Describe ways to grow new plants other than from seed. • Identify the stages in the process of sexual reproduction. • Identify different types of mammals. • Give three facts about Jane Goodall. • Describe threats faced by chimpanzees. • Identify familiar animals that undergo metamorphosis. <p>Order the stages of the life cycles of mammals, birds, insects and amphibians.</p>	<ul style="list-style-type: none"> • Asexual reproduction • Fertilise • Naturalist • Reproduction • Runner • Sexual Reproduction • Tuber
Summer 1	How do humans reproduce?	Animals Including Humans (B)	<ul style="list-style-type: none"> • Explain what gestation periods are for different animals, including humans. • Describe the changes as humans develop from fertilisation to birth. • Explain how babies grow and develop into children. • Describe and explain the main changes that occur during puberty. • Describe and explain the main changes that take place in old age. <p>Describe and explain the stages of human development.</p>	<ul style="list-style-type: none"> • fertilisation • prenatal • gestation • reproduce • adolescence • puberty • menstruation • adulthood • life expectancy
Summer 2	Forces and resistance	Forces (P)	<ul style="list-style-type: none"> • To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object by identifying forces acting on objects. 	<ul style="list-style-type: none"> • Air resistance • Water resistance • Mechanisms • Weight



			<ul style="list-style-type: none"> • To identify the effects of air resistance, water resistance and friction by identifying forces acting on objects. • To identify forces acting on objects. • To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object by measuring the force of gravity pulling on objects. • To explore the effect gravity has on objects and how gravity was discovered. • To identify the effects of air resistance by investigating the best parachute to slow a person down. • To investigate the effects of air resistance. • To identify the effects of water resistance by creating and racing streamlined boats. • To explore the effects of water resistance. • To identify the effects of friction by investigating brakes. • To investigate the effects of friction. • To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect by exploring and designing a simple mechanism. • To explore and design mechanisms. 	<ul style="list-style-type: none"> • Mass • Streamlined
YEAR SIX				
Autumn 1	How does science build a classification system?	Living Things and their Habitats (B)	<ul style="list-style-type: none"> • describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals • give reasons for classifying plants and animals based on specific characteristics 	<ul style="list-style-type: none"> • Micro-organism • Characteristics • Invertebrates • Taxonomist • Classify • Key • Species
Autumn 2	How does light travel?	Light (P)	<ul style="list-style-type: none"> • Draw scientific drawings of how light travels in straight lines 	<ul style="list-style-type: none"> • Refraction • Prism



			<ul style="list-style-type: none"> • Investigate reflection and refraction 	<ul style="list-style-type: none"> • Colours • Spectrum • Absorb • Incidence
Spring 1	All about circuits	Electricity (P)	<ul style="list-style-type: none"> • Draw, label and use circuit symbols • Investigate voltage in a circuit • Investigate variation in components 	<ul style="list-style-type: none"> • Circuit symbol • Voltage • Motor • Cells
Spring 2	Keeping healthy	Animals Including Humans(B)	<ul style="list-style-type: none"> • To identify the importance of the circulatory system • To recognise the features of a healthy lifestyle • To describe how nutrients, water and oxygen are transported within the body 	<ul style="list-style-type: none"> • Capillaries • Blood vessels • Circulatory system • Heart • Diet • Lifestyle • Exercise • Nutrients • Transport • Drugs • Alcohol
Summer 1 and Summer 2	Adapting over time	Evolution and Inheritance (B)	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Characteristics • Inheritance • Adaptation • Evolution • Natural selection • Fossil • Adaptive traits • Inherited traits • Extinction