

Intent:

Pupils should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time. With guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should use simple measurements and equipment (for example, hand lenses and egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.

Pupils will be taught practical scientific methods, processes and skills through the teaching of content.

Term	Week/s	Topic/Theme <i>Steam</i>	Learning Outcome/s Knowledge and Skills To know, to use, to apply...	Literacy Link Numeracy Link SMSC Link
Autumn	1-8	Living Things and Their Habitats	<ul style="list-style-type: none"> explore the differences between things that are living, dead, and things that have never been alive compare the differences between things that are living, dead, and things that have never been alive 	Literacy: speaking and listening Numeracy: counting SMSC: Enjoy learning about the world around them
	9-15	Plants	<ul style="list-style-type: none"> observe how seeds and bulbs grow into mature plants describe how seeds and bulbs grow into mature plants 	Literacy: speaking and listening, reporting Numeracy: counting, measuring SMSC: Enjoy learning about the world around them, Investigate moral and ethical issues
Spring	1-6	Animals Including Humans	<ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults 	Literacy: speaking and listening Numeracy: SMSC: Enjoy learning about others, Enjoy learning about themselves
	6-12	Uses of Everyday Materials	<ul style="list-style-type: none"> identify the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses 	Literacy: speaking and listening Numeracy: time SMSC: Enjoy learning about the world around them
Summer	1-5	Animals Including Humans	<ul style="list-style-type: none"> investigate the basic needs of animals, including humans, for survival (water, food and air) describe the differences between things that are living, dead, and things that have never been alive 	Literacy: speaking and listening, reporting Numeracy: counting, measuring SMSC: Enjoy learning about the world around them, Investigate moral and ethical issues
	6-12	Living Things and Their Habitats	<ul style="list-style-type: none"> 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 describe how different habitats provide for the basic needs of different kinds of plants describe how animals and plants depend on each other 	Literacy: speaking and listening Numeracy: counting SMSC:
Whole Year		Working Scientifically	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. 	

Intended impact:

Pupils will understand that all living things have characteristics that are needed for keeping them alive and healthy. Pupils will begin to ask questions about their local environment and identify a variety of plants and animals in their environment. This will prepare them for comparing different habitats that animals are found in – both familiar and unfamiliar. Pupils will begin to recognise the basic needs of animals and humans. Pupils will use their scientific skills to help them explore questions about the world around them as they move into Year 8.

Intent: Pupils should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time. With guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should use simple measurements and equipment (for example, hand lenses and egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language. Pupils will be taught practical scientific methods, processes and skills through the teaching of content.

Term	Week/s	Topic/Theme <i>Steam</i>	Learning Outcome/s Knowledge and Skills To know, to use, to apply...	Literacy Link Numeracy Link SMSC Link
Autumn	1-8	Living Things and Their Habitats	<ul style="list-style-type: none"> identify and name a variety of plants in their habitats, including microhabitats identify and name a variety of animals in their habitats, including microhabitats 	Literacy: speaking and listening, listing Numeracy: counting, recognising numbers, use tally charts SMSC: Enjoy learning about the world around them
	9-15	Plants	<ul style="list-style-type: none"> find out how plants need water, light and a suitable temperature to grow and stay healthy describe how plants need water, light and a suitable temperature to grow and stay healthy 	Literacy: speaking and listening Numeracy: counting, measurement, using scales SMSC: Enjoy learning about the world around them, Investigate moral and ethical issues
Spring	1-6	Animals Including Humans	<ul style="list-style-type: none"> describe the importance for humans of exercise describe the importance for humans of eating the right amounts of different types of food describe the importance for humans of hygiene. 	Literacy: speaking and listening Numeracy: SMSC:
	6-12	Uses of Everyday Materials	<ul style="list-style-type: none"> investigate how the shapes of solid objects made from some materials can be changed by: <ul style="list-style-type: none"> squashing, bending, twisting and stretching. 	Literacy: speaking and listening Numeracy: time SMSC:
Summer	1-5	Living Things and Their Habitats	<ul style="list-style-type: none"> describe how animals obtain their food from plants and other animals use a simple food chain to support this description identify and name different sources of food 	Literacy: speaking and listening Numeracy: counting, measurement, using scales SMSC: Socialise with other pupils and other people
	6-12	Forces and Magnets	<ul style="list-style-type: none"> compare how things move on different surfaces notice that some forces need contact between two objects notice that magnetic forces can act at a distance observe how magnets attract or repel each other observe how magnets attract some materials and not others compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet 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. 	Literacy: speaking and listening Numeracy: counting SMSC:
Whole Year		Working Scientifically	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. 	

Intended impact: Pupils have consolidated their learning. They are able to explore and test ideas about their environment and are beginning to develop their own ideas about relationships and functions. They are starting to ask questions and draw simple conclusions using scientific language. This will prepare them for the next stage of learning.

Intent:

Pupils will have a range of scientific experiences to enable them to raise their own questions about the world around them. They will start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; recognise when a simple fair test is necessary and help to decide how to set it up; talk about criteria for grouping, sorting and classifying; and use simple keys. They will begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. They will help to make decisions about what observations to make, and will learn how to use new equipment appropriately. They will collect data from their own observations and measurements, recording and analysing this data. With help, pupils will look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, they will identify new questions arising from the data. They should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. Pupils will use relevant scientific vocabulary correctly to discuss their ideas and communicate their findings.

Practical scientific methods, processes and skills will be taught and learned through the teaching of the curriculum content.

Term	Week/s	Topic/Theme <i>Steam</i>	Learning Outcome/s Knowledge and Skills To know, to use, to apply...	Literacy Link Numeracy Link SMSC Link
Autumn	1-8	Light	<ul style="list-style-type: none"> recognise that they need light in order to see things recognise that dark is the absence of light notice that light is reflected from surfaces recognise that light from the sun can be dangerous recognise that there are ways to protect their eyes from the sun 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 	Literacy: speaking and listening Numeracy: counting, recognising patterns SMSC: Enjoy learning about the world around them, Be creative
	9-15	Rocks	Rocks <ul style="list-style-type: none"> 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. 	Literacy: speaking and listening, research reporting Numeracy: counting, measuring SMSC: Use imagination, cooperate with others Links to Geography and rocks and soils in the local environment
Spring	1-6	Plants	Plants <ul style="list-style-type: none"> identify the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 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) explore how the requirements for life of plants 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: <ul style="list-style-type: none"> pollination, seed formation and seed dispersal. 	Literacy: speaking and listening Numeracy: SMSC:
	6-12	Animals Including Humans	Animals Including Humans <ul style="list-style-type: none"> identify that animals, including humans, need the right types and amount of nutrition 	Literacy: speaking and listening Numeracy: time SMSC:

			<ul style="list-style-type: none"> • identify that animals, including humans, cannot make their own food; they get nutrition from what they eat • identify that humans and some other animals have skeletons for support, protection and movement. • identify that humans and some other animals have muscles for support, protection and movement. 	
Summer	1-5	Electricity	Electricity <ul style="list-style-type: none"> • identify common appliances that run on electricity • construct a simple series electrical circuit • identifying and naming basic parts of a simple series electrical circuit, 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 • apply knowledge of switch and circuit to whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators • associate metals with being good conductors. 	Literacy: speaking and listening Numeracy: SMSC:
	6-12	States of Matter	States of Matter <ul style="list-style-type: none"> • compare materials according to whether they are solids, liquids or gases • group materials together, according to whether they are solids, liquids or gases • observe that some materials change state when they are heated or cooled • measure or research the temperature at which change of state happens in degrees Celsius (°C) • identify the part played by evaporation in the water cycle • identify the part played by condensation in the water cycle • associate the rate of evaporation in the water cycle with temperature. 	Literacy: speaking and listening Numeracy: counting SMSC: Reflect on own success
Whole Year		Working Scientifically	<ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes <p>using straightforward scientific evidence to answer questions or to support their findings.</p>	

Intended impact:

Pupils have a solid foundation and understanding of areas of learning and this will scaffold their learning in Years 10 and 11. They are asking questions and making decisions about the world around them. They are beginning to identify naturally occurring patterns and relationships and can use relevant scientific equipment. Pupils are collecting data based on their own observations and measurements and drawing conclusions from this data. Using the correct scientific language is preparing them for following the ASDAN Science course in KS4.

