PICKHURST ACADEMY
SCIENCE MEDIUM TERM PLAN

WHERE EVERY CHILD COUNTS

OUR CORE VALUES

We want all of our children to **BE P.I.C.K.H.U.R.S.T**

Proud	Inquisitive	Confident	Kind	Healthy	Understanding	Respectful	Successful	Trustworthy

INTENT

Snap Science provides a comprehensive curriculum that is designed to meet the needs of all pupils and foster a lifelong intellectual curiosity and rigour. It is cohesively structured and allows children to apply their prior knowledge to new contexts. At its core is a child-centred approach, tailored to enhancing pupils' understanding of key questions about their world. Its emphasis is not just on Scientific knowledge but on working Scientifically in a range of ways. Following from children's feedback the scheme was chosen to allow as many opportunities, where conceptually appropriate, for them to explore their understanding in a practical context. One of the fundamental ideas of the scheme is that all children work from a shared starting point to answer the same key questions. Teachers are expected to modify the delivery of the scheme to meet the needs of their classes whilst retaining this core approach.

Year 3

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Autumn 1	**Rock Detectives (Rocks)** • To compare and group together rocks based on their appearance.	**Rock Detectives (Rocks)** • To be able to identify different types of rock and their uses.	**Rock Detectives (Rocks)** • To recognise where and how rocks are used and explain how their properties make them suitable for their purpose.	**Rock Detectives (Rocks)** • To investigate if all rocks are as hard as each other.	**Rock Detectives (Rocks)** • To understand and explain how fossils are made.	**Rock Detectives (Rocks)** • Consolidation/Assessment Week

Autumn 2	**Amazing Bodies – Animals Including Humans** • To identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food	**Amazing Bodies – Animals Including Humans** • To know that humans and some animals have skeletons and muscles for support, protection and movement.	**Amazing Bodies – Animals Including Humans** • To identify different muscles in our body and what they do	**Amazing Bodies – Animals Including Humans** • Apply my understanding of the human muscular and skeletal system to an investigation.	**Amazing Bodies – Animals Including Humans** • To draw conclusions based on data gathered in an investigation	**Amazing Bodies – Animals Including Humans** *Big Finish/Assessment*
Spring 1	**The Power of Forces (Forces and Magnets)** • To explore how a force is required to make something start to move.	**The Power of Forces (Forces and Magnets)** • To explore how air can make things move.	**The Power of Forces (Forces and Magnets)** • To explore how objects move on different surfaces.	**The Power of Forces (Forces and Magnets)** • To explore the characteristics of materials that are magnetic.	**The Power of Forces (Forces and Magnets)** • To know that a magnet has two poles and investigate how magnets attract or repel each other.	***Big Finish/Assessment***
Spring 2	**Can you see me? (Light)** • LO1: To recognise that light is needed in order to see things and that dark is the absence of light • LO2: To investigate how different objects reflect different amounts of light	**Can you see me? (Light)** • To explain how a mirror works and describe how images in mirrors may look 'different'.	**Can you see me? (Light)** • To identify how shadows are formed.	**Can you see me? (Light)** • To identify what affects the shape of a shadow.	**Can you see me? (Light)** • To investigate how to change the size of a shadow.	**Can you see me? (Light)** • To recognise that light from the sun can be dangerous and that there are ways to protect the eyes.
Summer 1	**How does your garden grow? (Plants)** • To identify and describe the functions of different	**How does your garden grow? (Plants)** • To know the function of leaves and explore the outcome	**How does your garden grow? (Plants)** • To know the similarities and differences between	**How does your garden grow? (Plants)** • To understand how water is transported within a plant.	**How does your garden grow? (Plants)** • To understand the function of the stem within a plant.	**How does your garden grow? (Plants)** • To know the main stages of a flowering plant's life

	parts of flowering plants.	of a plant losing its leaves.	a variety of roots, and to relate these to the function of roots.			cycle and discuss them sequentially.
Summer 2	**How does your garden grow? (Plants)** • To identify and compare the parts of flowers and describe their functions.	**How does your garden grow? (Plants)** • To understand the process of insect pollination.	**How does your garden grow? (Plants)** • To demonstrate knowledge about the different parts of plants.	**How does your garden grow? (Plants)** • To use secondary research to expand my knowledge of rare species of plants.	**How does your garden grow? (Plants)** • To determine and explain why bees are important to our ecosystem and how we can protect them.	**How does your garden grow? (Plants)** • Big Finish/Assessment
Year 4						
Term	**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**
Autumn 1	**Good Vibrations (Sound)** • To describe what I know about sounds.	**Good Vibrations (Sound)** • To investigate how sound travels.	**Good Vibrations (Sound)** • To explore how to make sound louder or quieter.	**Good Vibrations (Sound)** • To investigate how sound changes over various distances.	**Good Vibrations (Sound)** • To explore how the pitch of a sound can be changed.	**Good Vibrations (Sound)** • To develop a hypothesis using a scientific theory and conduct a fair test.
Autumn 2	**In a State (States of Matter)** • To classify and compare a variety of materials.	**In a State (States of Matter)** • To collect, present and interpret data about melting ice.	**In a State (States of Matter)** • To plan an investigation about evaporation.	**In a State (States of Matter)** • To carry out an investigation about evaporation.	**In a State (States of Matter)** • To identify and understand the stages of the water cycle.	**In a State (States of Matter)** • To consolidate learning of states of matter.
Spring 1	**Switched On (Electricity)** • To sort electrical products according to their power source.	**Switched On (Electricity)** • To make and record electrical circuits.	**Switched On (Electricity)** • To identify and correct problems with circuits.	**Switched On (Electricity)** • To sort materials by testing for a property that makes them suited to replace a wire in a circuit.	**Switched On (Electricity)** • To investigate the link between a material's properties (conductor or insulator) and its use.	**Switched On (Electricity)** • To review and consolidate my knowledge on electricity.
Spring 2	**Where does all that food go? (Animals Including Humans)** • To share what we know about food and nutrition and to	**Where does all that food go? (Animals Including Humans)** • To investigate where our food goes after it has	**Where does all that food go? (Animals Including Humans)** • To describe how food is broken down in the	**Where does all that food go? (Animals Including Humans)** • To identify the different teeth that humans have and	**Where does all that food go? (Animals Including Humans)** • To recognise how to look after our	**Where does all that food go? (Animals Including Humans)** • To construct food chains and webs

	ask questions about what happens to food after it has been eaten.	been eaten.	digestive system and how to demonstrate this practically.	understand their functions	teeth and explain its importance	for a particular habitat.
Summer 1	**Who am I? (Living Things and their Habitats)** • To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	**Who am I? (Living Things and their Habitats)** • To understand that closed questions are necessary to classify species accurately.	**Who am I? (Living Things and their Habitats)** • To know the key characteristics of vertebrates.	**Who am I? (Living Things and their Habitats)** • To know the key characteristics of invertebrates.	**Who am I? (Living Things and their Habitats)** • To research the lifecycles of vertebrates and invertebrates and make comparisons.	**Who am I? (Living Things and their Habitats)** • Assessment
Summer 2	**Human Impact** • To give examples of positive and negative ways in which humans change the environment.	**Human Impact** • To plan a litter survey.	**Human Impact** • To carry out a litter survey, collecting and presenting data.	**Human Impact** • To research and present information about the impact of litter on animals.	**Human Impact** • To understand the potential human impact on food chains in a habitat.	**Human Impact** • To understand the human impact on habitats around the world.

Year 5

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Autumn 1	**Earth and Space** • To know the shape and position of the planets in the solar system.	**Earth and Space** • To describe and compare the movements of different planets in space.	**Earth and Space** • To explore the movement of the Earth during night and day.	**Earth and Space** • To explore how the Sun helps us tell the time.	**Earth and Space** • To explore and understand time zones around the world.	**Earth and Space** • To the phases of the moon and to explain why they occur.
Autumn 2	**Forces** • To investigate how surface area and materials affect friction.	**Forces** • To understand how to use an arrow to represent the force acting on an object.	**Forces** • To use evidence to explain how objects fall through the air.	**Forces** • To explore the effects of water resistance.	**Forces** • To explore gears, levers and pulleys.	**Forces** • To create a mechanism.
Spring 1	**Properties of Materials** • To compare materials according	**Properties of Materials** • To know the properties and	**Properties of Materials** • To understand that different materials	**Properties of Materials** • To understand the properties of a	**Properties of Materials** • To know the properties of	**Properties of Materials** • To understand the properties of

	to their properties.	uses of thermal conductors and insulators.	have different properties that make them suited to particular jobs.	range of materials and their purposes within buildings.	metals and their suitability to different jobs.	plastics and their usage in the world around us.
Spring 2	**Changes of Materials** • To compare and group together everyday materials based on evidence from comparative and fair tests, including their conductivity of electricity.	**Changes of Materials** • To understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.	**Changes of Materials** • To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	**Changes of Materials** • To demonstrate that dissolving, mixing and changes of state are reversible changes.	**Changes of Materials** • To 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.	**Changes of Materials** • To 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.
Summer 1	**Living Things and their Habitats** • To compare the life cycles of different animals.	**Living Things and their Habitats** • To define what a mammal is and describe its life cycle.	**Living Things and their Habitats** • To define an amphibian and describe its life cycle.	**Living Things and their Habitats** • To define what insects are and describe the different types of life cycle, including the process of metamorphosis.	**Living Things and their Habitats** • To define what a bird is and describe its life cycle.	**Living Things and their Habitats** • To apply my understanding of existing life cycles to a new species that will thrive.
Summer 2	**Animals Including Humans** • To describe the process of sexual reproduction in many flowering plants, naming parts of the flower and explaining their importance within the process.	**Animals Including Humans** • To recognise that flowers are not all the same and identify how they are different.	**Animals Including Humans** • To describe how plants can reproduce asexually, by creating new plants from different parts of the parent plant rather than by producing seeds.	**Animals Including Humans** • To recognise patterns in data about the life cycles of humans and other mammals.	**Animals Including Humans** • To understand that humans(female) experience physical and developmental changes during adolescence.	**Animals Including Humans** • To understand that humans(male) experience physical and developmental changes during adolescence.

Year 6

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Autumn 1	**Everything Changes (Evolution and Inheritance)** • To identify ways in which living things of the same kind vary and to begin to think about why these variations exist.	**Everything Changes (Evolution and Inheritance)** • To recognise how organisms can be bred to select particular characteristics in their offspring.	**Everything Changes (Evolution and Inheritance)** • To explore ways in which living things are adapted to suit the environments in which they live and to help them survive.	**Everything Changes (Evolution and Inheritance)** • To evaluate variables that contribute to the extinction of living things.	**Everything Changes (Evolution and Inheritance)** • To recognise that fossils allow us to study things that have lived in the past and provide evidence of evolution.	**Everything Changes (Evolution and Inheritance)** • To describe the process of natural selection.
Autumn 2	**Light up your World (Light)** • To consolidate key ideas about the behaviour of light, including light sources and shadows	**Light up your World (Light)** • To describe how a mirror reflects an image of an object	**Light up your World (Light)** • To apply understanding of how light travels to explain how a periscope and other applications of mirrors work	**Light up your World (Light)** • To investigate the relationship between shadow size and an independent variable	**Light up your World (Light)** • To understand that white light is made of many colours and these can be separated out	**Light up your World (Light)** • Review and Reflect: To give examples to explain the way that light behaves
Spring 1	**Body Pump (Animals Including Humans)** • To describe how the human circulatory system works.	**Body Pump (Animals Including Humans)** • To describe how the human circulatory system works.	**Body Pump (Animals Including Humans)** • To investigate and describe the main functions of the heart.	**Body Pump (Animals Including Humans)** • To understand the composition of the blood and its function.	**Body Pump (Animals Including Humans)** • To explain the function of valves, veins, arteries and capillaries in the human circulatory system.	**Body Pump (Animals Including Humans)** • To explain how water helps humans' and other animals' bodies to function
Spring 2	**Nature Library (Living Things)** • To demonstrate understanding of the process of classification and apply the process of classification to plants.	**Nature Library (Living Things)** • To explore the classification of animals and recognise the main groups of vertebrates and invertebrates.	**Nature Library (Living Things)** • To recognise that micro-organisms are groups of living things and explain what they are.	**Nature Library (Living Things)** • To recognise that the classification system for living things has changed through history and is still changing	**Nature Library (Living Things)** • To explore, how scientists handle disagreements in science.	**Nature Library (Living Things)** • To use evidence and apply existing knowledge to classify and name an unknown animal or plant

Summer 1	**Danger! Low Voltage** • To represent a simple circuit in a diagram and describe how it works.	**Danger! Low Voltage** • To use a switch in a simple circuit, show it in a diagram and describe how it works.	**Danger! Low Voltage** • To demonstrate the effects of changing the current flowing through components in a circuit.	**Danger! Low Voltage** • To demonstrate how circuits can be represented in, and constructed from, diagrams.	**Danger! Low Voltage** • To research how electricity is generated and transmitted to the classroom, and discuss electricity generation in the future.	**Danger! Low Voltage** • To present information on how electricity is generated and transmitted to the classroom, and to discuss its generation in the future.
Summer 2	**Residential Trip**	**Body Health** **(Animals including humans)** • To describe the impact of diet and exercise on human health and evaluate healthy eating guidance • To use secondary sources to investigate how scientific ideas were developed in the past.	**Body Health** **(Animals including humans)** • To investigate variables that affect pulse rate	**Body Health** **(Animals including humans)** • To identify the impact exercise has on the way the body functions	**Body Health** **(Animals including humans)** • To identify and present the long-term effects on the body of drug use	**Body Health** **(Animals including humans)** • To reflect and consolidate learning about a healthy lifestyle