Samuel Allsopp
Primary & Nursery School

SCIENCE CURRICULUM LONG TERM PLANNING OVERVIEW DOCUMENT

	Week	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1		**Seasonal Changes**	**Habitats**	**Movement and Nutrition**	**Digestion and food**	**Mixtures and separations**	**Classifying Big and Small**
	1	Wonderful weather	Life processes.	Skeletons	The human digestive system. WS-To evaluate a model	Mixtures. **WS-To research using a range of secondary sources.**	Carl Linnaeus and classification
	2	Seasonal Activities	It feels good to be alive **WS-To classify objects into groups.**	The bones in our body. **WS- To measure and sort data.**	Human teeth	Sieving. **WS- To draw and annotate a diagram to explain a concept.**	Cold-blooded vertebrates
	3	How do trees change?	Introduction to habitats	Muscles and Movement	Investigating dental hygiene. **WS-To plan an enquiry. Controlled, measured and independent.**	Filtering. **WS- To identify testable questions and how to answer them.**	Warm-blooded vertebrates
	4	Daylight hours. **WS-To record in a pictogram**	Woodland habitats **WS- To carry out research to find answers to questions.**	Eating for survival. **WS-To gather and compare data to answer questions**	Teeth of carnivores, herbivores and omnivores. **WS-To classify animals based on diet.**	Solutions. **WS-To make observations about solutions.**	Invertebrates
	5	Observing over time. **WS-to gather data about seasons**	Rainforest and Ocean habitats	Nutrient groups. **WS-Record information using secondary sources.**	Producers, predators, and prey in the food chain. **WS-To analyse trends and form conclusions.**	Dissolving. **WS- TO plan a fair test, considering variables and measurements**	Plants
	6	Weather reports	Food chains	Balanced diets	Poo Clues **WS- To construct a results table for recording observations.**	Evaporation	Micro-organisms
Autumn 2		**Everyday materials**	**Microhabitats**	**Forces and Magnets**	**Electricity and Circuits**	**Properties and Changes**	**Light and Reflection**
	1	Knowledge To identify everyday materials. **WS To sort objects into groups**	**WS-To classify a variety of minibeasts.**	To recognise how electrical appliances are powered. **WS-To record and classify qualitative data.**	To recognise how electrical appliances are powered. **WS- To record and classify qualitative data.**	To determine the hardness of materials and link this to their uses. **WS-To evaluate the hardness test to determine the degree of trust in the results.**	To describe the pathway of light. **WS-To use evidence to form conclusions.**
	2	To recognise the difference between objects and materials.	**WS- To recognise how scientists answer questions.**	To construct an electrical circuit. **WS- To draw a scientific diagram.**	To construct an electrical circuit. **WS -To draw a scientific diagram.**	To determine the transparency of different materials and link this to their uses. **WS-To plan and draw a table of results.**	To describe how we see. **WS- To draw scientific diagrams.**
	3	To describe the properties of materials.	To recognise that living things live in habitats to which they are suited. **WS-To gather and record data to answer a question.**	To explain the use of switches in a circuit.	To explain the use of switches in a circuit.	To determine the conductivity of different materials and link this to their uses. **WS-To write a detailed method**	To explain how shadows change. **WS- To pose questions.**
	4	To group materials based on their properties (absorbency) **WS -To make observations and record data.**	**WS-To ask questions and plan how to carry out an experiment.**	To explain the use of materials as electrical conductors or insulators. **WS- To write a method.**	To explain the use of materials as electrical conductors or insulators. **WS- To write a method**.	To demonstrate reversible changes. **WS-To write a prediction using prior knowledge of the states of matter.**	To investigate what affects the angle of the reflected ray. **WS- To record results as a line graph.**
	5	To group materials based on their properties (waterproofness). **WS-To plan a test and suggest what might happen.**	**WS-To carry out an experiment and record data in a table.**	To investigate what affects bulb brightness. **WS- To pose questions and plan ways to test them.**	To investigate what affects bulb brightness. **WS- To pose questions and plan ways to test them**	To demonstrate irreversible changes. **WS- To analyse observations about rusting and use them to support a conclusion.**	To explain how a periscope works.
	6	To group materials based on their properties (toughness). **WS-To answer questions based on results.**	To identify a variety of flowering plants.	To explain how to be safe around electricity.	To explain how to be safe around electricity.	To demonstrate irreversible changes. **WS-To measure the circumference of a balloon accurately.**	To explain how mirrors are helpful. Science in action:

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Spring 1		**Sensitive Bodies**	**Uses of everyday materials**	**Rocks and Soils**	**States of Matter**	**Earth and Space**	**Evolution and Inheritance**
	1	To name parts of the human body. **WS-To sort body parts into groups.**	To recognise that objects are made from materials that suit their uses. **WS-To recognise that objects can be grouped**	To group rocks using their appearance. **WS-To observe the appearance of rocks closely, using a magnifying glass.**	To identify solids using their properties. **WS-To ask relevant questions about the properties of solids.**	To compare the contributions of Ptolemy, Alhazen and Copernicus to models of the Solar system. **WS-To pose testable questions about the solar system**	To explain why there are differences within a species. **WS-To group factors.**
	2	To name the body parts used for each sense. **WS-To spot patterns in data.**	To recognise that objects are made from materials that suit their uses.	To group rocks using their physical properties. **WS-To make predictions, suggest improvements and explain observations over time.**	To identify liquids and gases using their properties. **WS-To use results to draw simple conclusions about the properties of liquids.**	To describe the movement and shapes of the celestial bodies in our Solar System. **WS-To develop a model to represent the Solar System**	To recognise the inheritance of characteristics in plants and animals.
	3	To identify the body parts used for the sense of taste and touch. **WS-To use the senses to make observations.**	To recognise that the shape of some solid objects can be changed. **WS-To record data in a table.**	To describe the process of fossil formation. **WS-To present research on fossil formation.**	To describe melting and freezing. **WS-To use thermometers to take accurate measurements before and after melting.**	To describe the movement of the Moon relative to the Earth. **WS-To design and draw a table.**	To explain why adaptation is necessary.
	4	To identify the body parts used for the sense of smell and sight.	To compare the suitability of materials for particular uses. **WS-To gather data and use it to answer a question.**	To identify fossils and group rocks accordingly. **WS-To use the fossil record to answer questions about the past.**	To describe condensing and evaporating. **WS-To make predictions for new values about evaporation rates.**	To explain the causes of day and night and the seasons. **WS-To draw a diagram to explain day and night.**	To model how natural selection affects population size. **WS-To evaluate the degree of trust and pose new questions for further enquiry.**
	5	To identify the body part used for the sense of hearing. **WS-To investigate how sound changes as you move further away.**	To recognise that the strength of some materials can be changed. **WS-To record data in a block graph.**	To compare soils and how they were formed. **WS-To record the drainage rate for different soils in a bar chart.**	To describe the different stages of the water cycle. **WS-To record the stages of the water cycle using a labelled diagram.**	To devise a sundial to tell the time. **WS-To calibrate and use a sundial to measure time.**	To describe the theory of evolution. **WS-To consider evidence used to inform theories.**
	6	To recognise how the senses are used in everyday life.	To compare the suitability of materials for particular uses.	To describe a soil sample using sedimentation. **WS-To draw and label a diagram.**	To describe how temperature affects evaporation rates and the water cycle. **WS-To research climate change and the water cycle.**	To describe some uses of satellites and the problems posed by space junk. **WS-To use temperature data to make predictions about climate change.**	o recognise evidence that can be used for evolution. **WS-To consider the degree of trust in the evidence used.**

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Spring 2		**Comparing animals**	**Life cycles and health**	**Light and shadows**	**Sound and vibrations**	**Life cycles and reproduction**	**Circuits batteries and switches**
	1	To identify and group animals.	To identify different stages of the human life cycle.	To explain the role of light sources. **WS-To plan and draw a results table.**	To describe how sounds are made. **WS-To observe closely how different instruments create a sound.**	To describe the life cycle of a plant, including the reproductive stage. **WS-To observe and compare equivalent parts in different flowers.**	To use recognised symbols for electrical components.
	2	To describe a variety of animals.	To know which offspring come from which parent animal.	To compare light reflecting on different surfaces.	To describe how sounds are heard through different mediums **WS-To research how whales and dolphins communicate underwater.**	To describe the life cycle of a mammal. **WS-To research the life cycles of different mammals.**	To predict and present results for electrical circuits. **WS-To use standardised symbols when drawing diagrams.**
	3	To compare the features of animals.	To observe and measure growth in humans. **WS-To use simple measuring equipment.**	To recognise which materials cast a shadow. **WS-To ask testable questions and plan how to answer them.**	To describe the relationship between vibration strength and volume. **WS-To present results using a bar chart.**	To describe the life cycle of a bird and compare it with that of a mammal. **WS-To pose questions to compare the life cycles of different birds**.	To recognise a link between the number of components and resistance. **WS-To explain results using scientific knowledge.**
	4	To identify animals that are carnivores, herbivores and omnivores. **WS-To research using non-fiction texts.**	To identify and list the basic needs for survival for humans and animals. **WS-To use secondary sources to research.**	To summarise how shadows change throughout the day. **WS-To evaluate a method.**	To describe the relationship between volume and distance. **WS-To suggest which variables to measure and for how long.**	To describe the life cycle of an amphibian. **WS-To suggest how temperature may affect egg hatching.**	To identify ways to change voltage within an electrical circuit. **WS-To design a results table.**
	5	To recognise animals that make suitable pets. **WS-To gather and record data to help in answering questions.**	To recognise the importance of exercise and personal hygiene. **WS-To make observations over time.**	To investigate how the distance of the light source affects the size of its shadow. **WS-To find patterns in data and form conclusions.**	To describe pitch and how to change it. **WS-To design simple results tables.**	To describe the life cycle of an insect and compare it with that of an amphibian. **WS-To use data to describe a relationship and make predictions.**	To investigate how voltage affects bulb brightness. **WS-To plan an enquiry.**
	6	To describe and compare the structure of animals.	To identify how to have a balanced diet. **WS-To interpret collected results.**	To tell a story using shadow puppets.	To describe pitch and how to change it. **WS-To design simple results tables.**	To describe asexual reproduction in plants. **WS-To represent root growth over time on a line graph.**	To apply knowledge of circuits and components to a practical solution.

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Summer 1		**Introduction to plants**	**Plant and Growth**	**Plant Reproduction**	**Classification and changing habitats**	**Unbalanced forces**	**Circulation and Health**
	1	To identify plants in the school grounds. **WS-To plan an investigation**.	To recognise that seeds need certain conditions for growth. **WS-To plan comparative tests.**	To identify the growth and survival needs of plants. **WS-To pose relevant questions.**	To group animals in various ways. **WS-To record data in different ways.**	To describe gravity and its effects. **WS-To analyse data to write a conclusion.**	To identify factors that affect our health and how to reduce their negative impact. **WS-To evaluate sources of information.**
	2	To identify parts of a flowering plant. **WS-To draw and label a diagram.**	To recognise that seeds and bulbs contain what they need to grow into a plant. **WS-To measure with a ruler.**	To describe the relationship between structure and function in plants. **WS-To design simple results tables**.	To group plants in various ways. **WS-To apply and create classification keys.**	To describe air resistance and its effects. **WS-To plan a fair test to investigate air resistance.**	To summarise the key structures and purpose of the circulatory system.
	3	To identify and name wild and garden plants. **WS-To sort flowers into groups.**	To describe what seeds need to germinate. **WS-To record data in a table.**	To investigate how water is transported in plants. **WS-To plan a simple enquiry.**	**WS-To make careful observations.** **To make and use classification keys.**	To describe water resistance and its effects. **WS-To design a results table.**	To identify the key roles of blood. **WS-To evaluate a model.**
	4	To identify and name deciduous and evergreen trees. **WS-To measure and compare leaves**.	To describe the effect of light on plant growth. **WS-To observe using a magnifying glass**.	To explore the role of flowers in the life cycle of a plant. **WS-To complete, read and interpret data in a bar chart.**	To recognise and describe different habitats and their inhabitants. **WS-To gather, record, classify and present data.**	To describe friction and its effects. **WS-To evaluate a method.**	To explore the relationship between animal size and heart rate. **WS-To interpret patterns in data.**
	5	To recognise that new plants come from seeds and bulbs. **WS-To recognise that observations do not always match predictions.**	To identify stages of a plant's life cycle. **WS-To draw and label diagrams.**	To apply knowledge of plant life and growth. **WS-To identify and suggest changes to an enquiry.**	To recognise the impact humans can have on habitats. **WS-To research using an information sheet.**	To describe the effects of levers, pulleys and simple machines on movement. **WS-To draw and label a diagram.**	To investigate the relationship between exercise and heart rate. **WS-To write a method**
	6	To recognise the importance of a scientist's role. **WS-To use observations to find answers to questions.**	To recognise what plants need for healthy growth.	To explore seed dispersal methods. **WS-To use results to draw conclusions**.	To recognise the impact of natural disasters on habitats.	To describe the relationship between lever length and effort. **WS-To draw an accurate line graph.**	To describe the relationship between heart rate and fitness. **WS-To draw a line graph.**

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	Week	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Summer 2		**Investigating science through**	**Plant-based materials**	**Does hand span affect grip strength?**	**How does the flow of liquids compare?**	**Human timeline/Does the size of an asteroid affect its impact strength?**	**Are some sunglasses safer than others?**
	1	To observe changes across the seasons. **WS-To spot patterns in data.**	To describe how materials can be reused.	To revise the units Movement and nutrition and Rocks and soil. **WS-To plan a pattern seeking enquiry.**	To revise the units States of matter and Classification and changing habitats. **WS-To plan a comparative test.**	To describe how humans change from babies through to old age. **WS-To use a line graph to identify patterns in height and predict values.**	To revise the units Circulation and health and Light and reflection. **WS-To plan a comparative test.**
	2	To describe and compare the features of animals. **WS-To carry out research to find specific information.**	To identify human-made and natural materials. **WS-To group based on characteristics.**	To revise the units Movement and nutrition and Plant reproduction. **WS-To gather and record data.**	To revise the unit Electricity and circuits. **WS-To gather and record data.**	To identify changes in males and females as a result of puberty.	To revise the units Light and reflection and Circuits, batteries and switches. **WS-To gather and record data.**
	3	To identify differences in animal features. **WS-To use a ruler to measure.**	To identify suitable materials based on their properties.**WS-To perform a test and gather data.**	To revise the unit Forces and magnets. **WS-To conclude and evaluate the investigation.**	To revise the units States of matter and Sound and vibrations. **WS-To conclude and evaluate the investigation.**	To explore the gestation periods of humans and other animals. **WS-To plot data on a scatter graph.**	To revise the units Light and reflection and Circulation and health. **WS-To conclude and evaluate the investigation.**
	4	To describe the properties of everyday materials. **WS-To plan how to carry out a test.**	To identify a material to help plant growth.**WS-To use observations to answer a simple question.**	To revise the unit Uses of materials. **WS-To use sets of data to inform design.**	To revise the unit Digestion and food. **WS-To observe carefully and apply these observations to problem solve.**	To revise the units Earth and space and Life cycles and reproduction. **WS-To plan a comparative test.**	To revise the units Classifying big and small, Evolution and inheritance, Light and reflection and Circulation and health. **WS-To use further data to inform a conclusion.**
	5	To identify animals that are carnivores, herbivores and omnivores.	To choose materials to create a suitable plant pot. Working scientifically To identify and classify living things.	To revise the units Light and shadows and Movement and nutrition. **Working scientifically** **To report on my findings using a shadow puppet display.**	To revise the unit States of matter. **WS-To report on my findings.**	To revise the units Unbalanced forces and Mixtures and separation. **WS-To gather and record data.**	To revise the units Light and reflection and Circulation and health. **WS-To report on findings in the form of an advert.**
	6					To revise the units Separating mixtures and Unbalanced forces. **Working scientifically** **To conclude and evaluate the investigation.**	