Oak Hill Academy West London
an Aspirations Academy

Whole School Science Curriculum

TERM	AUTUMN 1 & AUTUMN 2		SPRING 1 & SPRING 2		SUMMER 1 & SUMMER 2	
ASPIRATIONS FOCUS	BELONGING	CURIOSITY & CREATIVITY	HEROES	SPIRIT OF ADVENTURE	LEADERSHIP & RESPONSIBILITY ENTERPRISE	FUN and EXCITEMENT
YEAR 3	LOCATION, LOCATION, LOCATION	STONES AND BONES	AWESOME ANCIENT EGYPTIANS	AVENGERS ASSEMBLE!	PLANT POWER	ALL THE WORLD'S A STAGE
SCIENCE Biology Chemistry Physics	ROCKS and SOILS - compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. - recognise that soils are made from rocks and organic matter. -Different types of rocks and how they are formed-rock cycle.	ANIMALS, INCLUDING HUMANS - 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. - identify that humans and some other animals have skeletons and muscles for support, protection and movement. Rocks and Soils - describe in simple terms how fossils are formed when things that have lived are trapped within rock.	SCIENCE INVESTIGATION SKILLS -ask relevant questions using different types of enquiry, using appropriate and relevant scientific key vocabulary -set up simple practical enquiries, make simple comparisons and identify aspects of a fair test -making simple observations using a range of equipment and recording findings using appropriate units of measurement (e.g. thermometer, degrees) - begin to sort, classify and record information using basic scientific structures (e.g. Venn diagrams, bar charts, tables, oral presentation / feedback) -summarising their findings via a basic conclusion using scientific vocabulary.	FORCES AND MAGNETS - compare how things move on different surfaces -notice 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 on the basis of whether they are attracted to a magnet, and identify some magnetic materials -describe magnets as having 2 poles -predict whether 2 magnets will attract or repel each other, depending on which poles are facing	PLANTS - identify and 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) and how they 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 pollination, seed formation and seed dispersal.	LIGHT AND SHADOW - recognise that they need light in order to see things and that dark is the absence of light. - notice that light is reflected from surfaces. -Can recognise that light from the sun can be dangerous and that there are ways to protect their eyes. -Can recognise that shadows are formed when the light from a light source is blocked by a solid object. -Can find patterns in the way that the size of shadows change.

Significant Scientists	Mary Anning	Leonardo Da Vinci	William Smith	Sir Humphry Davy	Tom Hart Dyke	Isaac Newton
YEAR 4	DESTINATION EUROPE	ROCK BAND	TIME COP	I'M A CHILD, GET ME OUT OF HERE!	ENTERPRISE: WELCOME TO HONEYDUKES!	ALL THE WORLD'S A STAGE
SCIENCE Biology Chemistry Physics	**STATES OF MATTER** -Can compare and group materials together, according to whether they are solids, liquids or gases. -Can 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). Can name some materials that will dissolve in liquid to form a solution and describe how to recover a substance from a solution. ask relevant questions using different types of enquiry, using appropriate and relevant scientific key vocabulary -set up simple practical enquiries, make simple comparisons and identify aspects of a fair test	**SOUND & ELECTRICITY** -Can identify how sounds are made, associating some of them with something vibrating. -Can recognise that vibrations from sounds travel through a medium to the ear. -Can find patterns between the pitch of a sound and features of the object that produced it. -Can find patterns between the volume of a sound and the strength of the vibrations that produced it. -Can recognise that sounds get fainter as the distance from the sound source in -Can 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. -construct a simple series electrical circuit, identifying and naming its basic parts, 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 and associate this with whether or not a lamp lights in a simple series circuit	**LIVING THINGS AND THEIR HABITATS** -Can recognise that living things can be grouped in a variety of ways -Can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment -	**ANIMALS, INCLUDING HUMANS** -Can describe the simple functions of the basic parts of the digestive system in humans. -Can identify the different types of teeth in humans and their simple functions. -Can construct and interpret a variety of food chains, identifying producers, predators and prey. **LIVING THINGS AND THEIR HABITATS** - recognise that environments can change and that this can sometimes pose dangers to living things **STATE OF MATTER** Can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**STATES OF MATTER** -Can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. -Can compare and group materials together, according to whether they are solids, liquids or gases. -Can 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). ask relevant questions using different types of enquiry, using appropriate and relevant scientific key vocabulary set up simple practical enquiries, make simple comparisons and identify aspects of a fair test	**SCIENCE INVESTIGATION SKILLS** -ask relevant questions using different types of enquiry, using appropriate and relevant scientific key vocabulary -set up simple practical enquires, make simple comparisons and identify aspects of a fair test -making simple observations using a range of equipment and recording findings using appropriate units of measurement (e.g. thermometer, degrees) - begin to sort, classify and record information using basic scientific structures (e.g. Venn diagrams, bar charts, tables, oral presentation / feedback) -summarising their findings via a basic conclusion using scientific vocabulary Can find patterns between the pitch of a sound and features of the object that produced it. -Can find patterns between the volume of a sound and the strength of the vibrations that produced it. -Can recognise that sounds get fainter as the distance from the sound source in

		- recognise some common conductors and insulators, and associate metals with being good conductors. set up simple practical enquires, make simple comparisons and identify aspects of a fair test				
Significant Scientists	**John Dalton**	**William Gilbert**	**Aristotle**	**Carl Linnaeus**	**Marie Curie**	
YEAR 5	**JOURNEY TO THE AMAZON**	**MISSION: SPACE**	**TIME COP**	**THE CIRCLE OF LIFE**	**THE GREAT OAKHILL SEWING BEE**	**ALL THE WORLD'S A STAGE**

SCIENCE Biology Chemistry Physics	Plants (RAINFOREST ANIMALS AND PLANTS) -Can explore the part that flowers play in the life -cycle of flowering plants, including pollination, seed formation and seed dispersal.	EARTH AND SPACE -Can describe the movement of the Earth, and other planets, relative to the Sun in the solar system. -Can describe the movement of the Moon relative to the Earth. -Can describe the Sun, Earth and Moon as approximately spherical bodies. -Can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. Forces -Can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object identify the effects of air resistance, water resistance and friction, that act between moving surfaces recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	PROPERTIES AND CHANGES OF MATERIALS -Can 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. -Can name some materials that will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Can use knowledge of solids, liquids and gasses to decide how mixtures might be separated, including through filtering, sieving and evaporating. -Can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. -Can 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 not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	LIVING THINGS AND THEIR HABITATS ANIMALS INCLUDING HUMANS SRE SCIENCE – PUBERTY/SEX ED -Can compare Life cycles -Can Ask questions about growing up and Puberty -Can Observe animals and life cycles in local environment -Can describe the changes as humans develop to old age. -Can describe the life process of reproduction in some plants	ANIMALS INCLUDING HUMANS (CONTD.) Can describe the changes as humans develop to old age. -Can explore the part that flowers play in the life -cycle of flowering plants, including pollination, seed formation and seed dispersal. Can compare Life cycles	SCIENCE INVESTIGATION SKILLS -ask and plan a range questions using different types of enquiry, with an introduction to recognising and using changing and controlling variables -beginning to understand and engage in the processes of a scientific write up (e.g. prediction, hypothesis, equipment, procedure, conclusion) -consistent use of appropriate and relevant scientific key vocabulary throughout -identifying the appropriate equipment to use, and beginning to use this with some accuracy and precision -recording data in a range of interesting and complex scientific diagrams and labels, classifications keys, tables, and bar and line graphs - reporting and presenting findings via conclusions, oral, written and visual presentations drawing on casual relationships and explanations, with a degree of trust and accuracy in results -using scientific evidence from their findings or research to support or nullify their hypothesis appropriately

Significant Scientists	George Washington Carver	Issac Newton/ Stephen Hawking/ Zhang Heng	Marie Curie	David Attenborough	Jane Goodall	

YEAR 6	NATURAL DISASTERS	SHEDDING SOME LIGHT	YOUR COUNTRY NEEDS YOU!	AT THE HEART OF THE JUNGLE	MAKING MEMORIES	ALL THE WORLD'S A STAGE
SCIENCE Biology Chemistry Physics	LIVING THINGS AND THEIR HABITATS - Can 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. -Can give reasons for classifying plants and animals based on specific characteristics.	LIGHT -Can 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. -Can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. -Can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	ELECTRICITY (HISTORY AND USE) - Can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. -Can 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. -Can use recognised symbols when representing a simple circuit in a diagram.	ANIMALS INCLUDING HUMANS -Can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. -Can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. -Can describe the ways in which nutrients and water are transported within animals, including humans.	EVOLUTION AND INHERITANCE: FOSSILS -Can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. -Can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. -Can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	SCIENCE: 'CONSOLIDATION INVESTIGATIONS' ALL TOPICS COVERED -ask and plan a range questions using different types of enquiry, with an introduction to recognising and using changing and controlling variables -beginning to understand and engage in the processes of a scientific write up (e.g. prediction, hypothesis, equipment, procedure, conclusion) -consistent use of appropriate and relevant scientific key vocabulary throughout -identifying the appropriate equipment to use, and beginning to use this with some accuracy and precision -recording data in a range of interesting and complex scientific diagrams and labels, classifications keys, tables, and bar and line graphs - reporting and presenting findings via conclusions, oral, written and visual presentations drawing on casual relationships and explanations, with a degree of trust and accuracy in results -using scientific evidence from their findings or research to support or nullify their hypothesis appropriately

Significant Scientists	David Attenborough	Thomas Edison	Samuel Morse	William Harvey Florence Rena Sabin	Thomas Darwin	