



Outwood Primary Science Overview

Year Group	Autumn	Spring	Summer	
EYFS: Development Matters – Understanding the World	Seasons: Autumn, harvesting, keeping healthy, hand-washing, looking after wildlife, importance of exercise . . Identifying, classifying and grouping Pattern seeking Observing over time	Seasons: Winter, observing changes around them, feeding the birds, looking after the environment, habitats for mini-beasts, keeping healthy, looking after yourself, keeping warm in winter, healthy eating . Identifying, classifying and grouping Pattern seeking Observing over time	Seasons: Spring, sowing seeds, planting bulbs etc. keeping healthy, looking after yourself Scientist: David Attenborough Identifying, classifying and grouping Pattern seeking Observing over time	Seasons: Summer, growing and changing, caterpillar to butterflies etc. keeping healthy, looking after yourself – sun safety Scientist: David Attenborough Identifying, classifying and grouping Pattern seeking Observing over time
Outdoor learning opportunities: EYFS provision allows for daily outdoor learning opportunities				
Nat Curriculum 2014				
Y1	Everyday Materials: Identify & name everyday materials; describe physical properties; compare & group materials based on simple physical properties Scientist: Albert Einstein Observing over time Comparative and fair testing Identifying, classifying and grouping Pattern seeking	Animals including Humans: identify & name; carnivores, herbivores & omnivores; draw & label human body parts Scientist : Elizabeth Blackwell Pattern seeking Identifying, classifying and grouping Comparative and fair testing Observing over time	Plants: identify, name & describe common wild & garden flowering plants including trees Scientist: Elizabeth Britton Identifying, classifying and grouping Observing over time Pattern seeking Comparative and fair testing Research using secondary sources	
Seasonal Changes Throughout year: observe changes in seasons; in weather, day length Identifying, classifying and grouping Observing over time Pattern seeking				
Working Scientifically throughout the year - build on EYFS plus: identify, classify; gather data; observe & make comparisons; ask Q's; perf simple tests				
Outdoor learning opportunities: Building rain gauges, monitoring weather patterns, flower identification in the school grounds, planting a wild garden, looking at plants and trees in the school grounds				



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Y2	<p style="text-align: center;">Uses of Everyday Materials:</p> <p>Identify & compare – variety of materials for particular uses (wood, metal, plastic, bricks, . . .) Find out how shapes of solids can be changed by squashing, bending, twisting & stretching</p> <p style="text-align: center;">Scientist: Ruth Benerito</p> <p style="text-align: center;">Identifying, classifying and grouping Comparative and fair testing Pattern seeking Observing over time</p>	<p style="text-align: center;">Animals including humans:</p> <p>Animals have off-spring that grow to adults; what animals need to survive; importance of human exercise, food types/amount and hygiene</p> <p style="text-align: center;">Scientist: Maria Sibylla Merian</p> <p style="text-align: center;">Pattern seeking Research using secondary sources Observing over time</p>	<p style="text-align: center;">Plants:</p> <p>Seeds & bulbs grow; what plants need to be healthy;</p> <p style="text-align: center;">Scientist: Marianne North</p> <p style="text-align: center;">Comparative and fair testing Observing over time Pattern seeking</p>	<p style="text-align: center;">Living Things & their Habitats:</p> <p>Explore difs between living, dead & never lived things; identify how living things suit the habitat usually found; simple food chains; identify & name plants/animals incl micro habitats</p> <p style="text-align: center;">Scientist: Identifying, classifying and grouping Pattern seeking</p>	
<p>Working Scientifically throughout the year - build on Y1 plus: observe closely, perform simple tests; gather & record data to help answer Q's</p>					
<p>Outdoor learning opportunities: Use materials to plan and create something for the outdoors (such as bird boxes or feeders from recycled materials), plant bulbs (indoor and outdoor) and maintain the garden, search for micro-habitats in the school grounds and observe/photograph changes. Explore how to support micro habitats</p>					
Y3	<p style="text-align: center;">Rocks:</p> <p>Compare & group dif types of rocks based on properties and appearance; how fossils are formed; soil is made from organic matter & rocks, Life cycle of volcanoes and impact</p> <p style="text-align: center;">Scientist: Florence Bascom</p> <p style="text-align: center;">Identifying, classifying and grouping Comparative and fair testing Pattern seeking Observing over time</p>	<p style="text-align: center;">Plants:</p> <p>Identify and describe functions of dif parts of flowering plants; investigate how water is transported; explore life-cycle of flowering plants</p> <p style="text-align: center;">Scientist: Elizabeth McClintock</p> <p style="text-align: center;">Identifying, classifying and grouping Observing over time</p>	<p style="text-align: center;">Forces Including Magnets:</p> <p>Compare how things move on dif surfaces; observe how magnets repel and attract some materials; compare & group magnetic /non-magnetic materials; 2 poles of magnets; predictions</p> <p style="text-align: center;">Scientist: William Gilbert</p> <p style="text-align: center;">Identifying, classifying and grouping Comparative and fair testing Pattern seeking Observing over time</p>	<p style="text-align: center;">Animals including Humans:</p> <p>Importance of nutrition for living things; purpose of skeleton & muscles</p> <p style="text-align: center;">Scientist: Eva Crane</p> <p style="text-align: center;">Comparative and fair testing Research using secondary sources</p>	<p style="text-align: center;">Light:</p> <p>We need light to see; light is reflected from surfaces; sun can be dangerous to eyes; find patterns in shadow size</p> <p style="text-align: center;">Scientist: Christiaan Huygens</p> <p style="text-align: center;">Comparative and fair testing Pattern seeking Observing over time</p>



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Working Scientifically throughout the year - build on KS1 plus: comparative & fair tests, bar-charts, labelling diagrams; group; identify; describe; make predictions; investigate; find patterns – use diff scientific enquiry skills

Outdoor learning opportunities:

Use soil from school grounds – identify/photograph/mark out the areas. Looking at plants in the grounds comparing location and efficiency. Choose and identify locations for different plant purposes based on soil/water/light. Use outdoor space for light/shadows. Look at nature – explore where plants are located in regard to light/shade and investigate why.

Y4

Animals including Humans:
digestive system; teeth and their functions; food chains – producers, predators & prey

Scientist: Joy Adamson

Identifying, classifying and grouping
Pattern seeking
Research using secondary sources
Observing over time
Comparative and fair testing

Living Things & their Habitats:

Rec that living things can be grouped; use classification keys to group, name & identify living things; changing of environments can be dangerous for living things

Scientist: Carl Linnaeus

Local environment; climate change; impact on habitats; helping habitats; global awareness

Scientist: Esther Lederburg

Identifying, classifying and grouping
Pattern seeking
Research using secondary sources
Observing over time

Electricity:
Identify common appliances run on electricity; simple series circuits – identifying & naming basic parts (cells, wires, bulbs, switches & buzzers)

Scientist: Thomas Edison

Comparative and fair testing
Pattern seeking
Observing over time

Identifying, classifying and grouping

Research using secondary sources

Sound:
Vibrations & sound; travels to the ear; patterns of pitch and the object; patterns I vibrations 7 volume; increase & decrease of sound

Scientist: Galileo Galilei

Comparative and fair testing
Observing over time
Identifying, classifying and grouping

Research using secondary sources

States of Matter:
Compare S, L & G; the water cycle; observe how some materials change state when heated/cooled

Scientist: Bose-Einstein Condensate

Comparative and fair testing
Observing over time
Pattern seeking
Identifying, classifying and grouping
Research using secondary sources

Working Scientifically throughout the year build on from Y3: ask Q's and use Scientific enquiries to find answers; comparative & fair tests; gather, record classify & present data; suggest improvements & raise further Q's

Outdoor learning opportunities:



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	Observe what happens to the water outside (frozen on cold days etc) build a model water cycle – leave in varied areas of the school grounds and observe over time Human impact on school grounds and dangers. States of matter				
Y5	<p>Living Things & their Habitats: Descr dif in life-cycles of a mammal, amphibian, insect and a bird; life processes of reproduction in some plants & animals</p> <p>Scientist: Rachel Carson</p> <p style="background-color: red; color: white; text-align: center;">Comparative and fair testing</p> <p style="background-color: magenta; color: white; text-align: center;">Pattern seeking</p> <p style="background-color: yellow; color: black; text-align: center;">Observing over time</p> <p style="background-color: cyan; color: black; text-align: center;">Identifying, classifying and grouping</p> <p style="background-color: teal; color: white; text-align: center;">Research using secondary sources</p>	<p>Forces: Gravity acts between Earth & falling object: identify effects of air, water-resistance & friction between moving surfaces; rec that some mechanisms (gears, pulleys & levers) allow a smaller force to have a greater effect</p> <p>Scientist: Katherine Johnson</p> <p style="background-color: cyan; color: black; text-align: center;">Identifying, classifying and grouping</p> <p style="background-color: red; color: white; text-align: center;">Comparative and fair testing</p> <p style="background-color: magenta; color: white; text-align: center;">Pattern seeking</p> <p style="background-color: yellow; color: black; text-align: center;">Observing over time</p>	<p>Earth & Space: Solar system – movement of the Earth & other planets to the sun: describe movement of the Moon to the Earth; rotation to describe day 7 night and the apparent movement of the sun across the sky</p> <p>Scientist: Brain Cox and Steven Hawking</p> <p style="background-color: yellow; color: black; text-align: center;">Observing over time</p> <p style="background-color: magenta; color: white; text-align: center;">Pattern seeking</p> <p style="background-color: teal; color: white; text-align: center;">Research using secondary sources</p> <p style="background-color: cyan; color: black; text-align: center;">Identifying, classifying and grouping</p> <p style="background-color: red; color: white; text-align: center;">Comparative and fair testing</p>	<p>Animals including Humans: Describe changes as humans develop to old age</p> <p>Scientist: Patricia Bath</p> <p style="background-color: magenta; color: white; text-align: center;">Pattern seeking</p> <p style="background-color: teal; color: white; text-align: center;">Research using secondary sources</p> <p style="background-color: yellow; color: black; text-align: center;">Observing over time</p> <p style="background-color: cyan; color: black; text-align: center;">Identifying, classifying and grouping</p> <p style="background-color: red; color: white; text-align: center;">Comparative and fair testing</p> <p style="background-color: magenta; color: white; text-align: center;">Pattern seeking</p>	<p>Properties & Change of Materials: Dissolving to form a solution & recover substances from a solution; use K & U of S, L & G to decide how mixtures might be separated; explain reversible an irreversible changes to materials</p> <p>Scientist: Marie Curie</p> <p style="background-color: red; color: white; text-align: center;">Comparative and fair testing</p> <p style="background-color: yellow; color: black; text-align: center;">Observing over time</p> <p style="background-color: magenta; color: white; text-align: center;">Pattern seeking</p> <p style="background-color: teal; color: white; text-align: center;">Research using secondary sources</p> <p style="background-color: cyan; color: black; text-align: center;">Identifying, classifying and grouping</p>
<p>Working Scientifically throughout the year build on from Y4: plan sci enquiries to answer Q's including controlling variables; take measurements & readings; use diagrams and labels classification keys, tables, bar and line graphs; report findings; identify scientific evidence used to support ideas/arguments</p>					
<p>Outdoor learning opportunities: Look wild plants in the outdoors. Observe similarities and differences – look at seed reproduction and evidence of this in the outdoors. Explore forces in nature – use the outdoors to test experiments.</p>					
Y6:	<p>Animals including Humans: Identify & name the circulatory system; functions of heart, blood vessels and blood; impact on body of diet, drugs & life-style; how nutrients &</p>	<p>Living Things & their Habitats: Grouped according to similarities and diffs: micro-organisms, plants & animals; give</p>	<p>Light: Appears to travel in straight lines; how we see things; shadows and their shape</p>	<p>Electricity: Brightness of lamp/volume of buzzer = number & voltage of cells used; use recognised symbols when presenting</p>	<p>Evolution & Inheritance: Living things have changed over time; fossils provide information about living things from millions of years ago; living things produce off-spring of the same kind – not normally identical to parents; identify how animals & plants are adapted</p>



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<p>water are transported within animals incl humans</p> <p>Scientist: Professor Sarah Gilbert and Rosalind Franklin</p> <p>Pattern seeking</p> <p>Research using secondary sources</p> <p>Observing over time</p> <p>Identifying, classifying and grouping</p> <p>Comparative and fair testing</p>	<p>reasons why grouped as such</p> <p>Scientist: Dorothy Hodgkinson</p> <p>Identifying, classifying and grouping</p> <p>Pattern seeking</p> <p>Research using secondary sources</p> <p>Comparative and fair testing</p>	<p>Scientist: Augustin-Jean Fresnel and Nirmala Ramanujam</p> <p>Comparative and fair testing</p> <p>Pattern seeking</p> <p>Observing over time</p> <p>Identifying, classifying and grouping</p>	<p>a simple circuit; conductors & insulators</p> <p>Scientist: Michael Faraday</p> <p>Comparative and fair testing</p> <p>Pattern seeking</p> <p>Observing over time</p> <p>Identifying, classifying and grouping</p>	<p>to suit their environment in diff ways – may lead to evolution</p> <p>Scientists: Charles Darwin</p> <p>Identifying, classifying and grouping</p> <p>Observing over time</p> <p>Pattern seeking</p> <p>Research using secondary sources</p> <p>Comparative and fair testing</p>
<p>Working Scientifically continue from Y5</p>				
<p>Outdoor learning opportunities: Look at adaptation of surroundings and survival of the fittest , explore shadows and straight lines</p>				