

Ensure
progress
for all children



THE RAINBOW CONTINUUM

By Liz Greensides

Skills development for
planning progression through
the National Curriculum

Sample

THE RAINBOW CONTINUUM:

A CONTINUUM OF SKILLS DEVELOPMENT for PLANNING PROGRESSION
THROUGH THE NATIONAL CURRICULUM

BY Liz Greensides

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CHAPTER 1

How This
Book Works

Sample

HOW THIS BOOK WORKS

This Ebook identifies both **GENERIC** and **SUBJECT SPECIFIC** key skills which are essential to learning. Both generic and specific skills should be part and parcel of **all** learning throughout the curriculum. The generic, or **CROSS CURRICULAR** key skills include children's collaboration with others, thinking skills, problem solving and learning to learn, but teachers need also to give especial regard to reading, writing and maths; ICT is also important, and should have a place, for example, in some PE lessons, in art, in geography and science. These generic key skills should be planned into the curriculum in short term and lesson planning alongside **SUBJECT SPECIFIC** skills. These are the skills which children should learn to help them to develop in specific subjects. They include, for example, an understanding of chronology in history, map reading in geography, design skills in DT. These are the skills which are progressive and are those outlined in this book:

The RAINBOW Continuum[©]

This book works to support skills progression and the acquisition of knowledge through the 2014 New National Curriculum. It identifies the knowledge which must be covered, and gives the RAINBOW continuum of skills which children should be using to deepen their understanding of what they are learning. The RAINBOW continuum is made broadly following Bloom's Hierarchy of Skills to give a continuum of learning. Please see Appendix One for a further explanation.

The **knowledge** should be taught at *age related expectations* with the content taken from the National Curriculum Programmes of Study

The **skills** should be learned at the level of the children's **ability** as outlined in the RAINBOW Continuum

Where there is any discrepancy between the **age** and **ability**, and children's skills do not match the knowledge expected of their age, then skills need to be developed and raised very quickly. This also works the other way – children can continue to develop their skills to a level much above the knowledge they are gaining for their age.

The book, then, works in several ways:

- To inform planning
- To ensure progress for all
- To ensure that teaching is differentiated to meet the needs of all abilities
- To help teachers to decide on the pitch of lessons
- To give criteria for assessment
- To ensure high standards when children are applying key skills across the curriculum

Consider the following example for the learning intended in a KS2 SCIENCE lesson:

Y4	Identify how sounds are made, associating some of them with something Vibrating
	Recognise that vibrations from sounds travel through a medium to the ear
	Find patterns between pitch and features of the object that produced it
	Find patterns between volume of a sound and the strength of the vibrations that produced it
	Recognise that sounds get fainter as the distance from the sound source increases.

The National Curriculum indicates what should be taught, but does not identify the level of skills which should be applied and developed.

	OBSERVATION AND CONCLUSION	ENQUIRY, PREDICTION, TESTING	DATA COLLECTION	RECORDING
Red	Make simple observations	Enjoy finding out about things	Join in – e.g. leaf collections	Draw what interests them
Orange	Make observations Talk simply about what they see Answer simple questions about what they see Describe simple features with simple vocabulary—parts of the body, a tree Observe closely using simple equipment to help them – e.g. magnifying glass	Perform simple tests using simple equipment – e.g. a timer Talk about some reasons why things might happen, or why something has happened Understand basic safety rules when testing out their ideas	Recognise that scientific ideas are more than guesses, and based on evidence Collect data when asked – e.g. a weather station Count data sets – trees in a field Sort data within given criteria – tall trees, wet days, blue eyes Remember and recall information Underline important facts	Record what they have seen or done in different ways, including drawing and labelled diagrams Record some information onto a pre prepared chart Label objects according to simple criteria Record things they have seen or done from memory
Yellow	Answer questions using evidence Ask questions about what they see Make relevant observations Give simple reasons and explanations for what they have seen Identify simple parts of what they see – e.g. petal, leg	Find things out, with help and suggestions Begin to make predictions about what might happen Understand key factors that make a fair test Use simple apparatus effectively and safely	Gather and record data to help in answering questions and understand why this is important Use tallies to count in surveys Use books to find information	Begin to use cause and effect in their explanations, and some scientific vocabulary Use simple tables and charts Identify, classify and use bulleted lists Make sketches of their observations Use line graphs to present their findings
Green	Choose what observations to make Know that questions can be answered in different ways Compare what happened to what might have happened and give simple explanations Make a precise series of observations and measurements Classify simple features –flower, tree Examine closely and question what is seen	Identify features of a fair test and carry out a fair test with help Think of questions to ask during testing Decide on approaches to answer questions and suggest own ideas Select suitable equipment Suggest improvements in their work Predict before testing Begin to repeat observations and measurements	Use books and other sources of information Begin to suggest ways to collect data Recognise the importance of data collection Make suggestions about how to collect data Use graphs to find and interpret patterns	Record and label sketches and diagrams, sometimes with notes Use ICT to record results Begin to plot points for simple graphs Record systematically Record a series of observations in different ways

Using the RAINBOW Continuum, teachers can consider the level at which the main pitch of the lesson will be taught, and how the learning can be differentiated between groups of children and individuals.

The RAINBOW Continuum can also then be used to assess children’s work – have they reached the expectations for their ability group?

All children should ...
Some children could ...
A few children might ...

The RAINBOW Continuum: Cross Curricular SHAPE AND MEASURE: Children can ...

Red	Pre skills: Choose shape and measure games – e.g. water play in continuous provision, shopping in role play
Orange	SHAPE: Arrange different objects into order of size Recognise, draw and begin to make simple 2D and 3D shapes (e.g. with construction kits) Draw lines and shapes using a straight edge MEASURE: Record results or order them Recognise and use lengths, heights, mass, weight, capacity, volume in broad measures – e.g. long, heavy TIME: Use time in broad measures – ten o’clock MONEY: Understand the concept of “paying” and recognition of money denominations
Yellow	SHAPE: Describe position, direction and movement in broad terms – behind, left, south Identify properties of 2D and 3D shapes to compare and sort them MEASURE: Make simple recording of measures and comparative measures – e.g. heavier, longer Choose and use standard units to estimate and measure in length, mass, temperature, capacity TIME: Sequence events in chronological order Use time to the hour and half past MONEY: Recognise and use symbols for money and combine amounts
Green	SHAPE: Recognise angles as turns and use the properties of a right angle Begin to recognise and use horizontal, vertical, perpendicular and parallel Compare and classify many geometric shapes using their properties MEASURE: Estimate, compare and calculate different measures TIME Compare and sequence intervals of time; Tell and write the time to five minutes MONEY: Solve simple money problems in a practical context, including giving change
Blue	SHAPE: Find the perimeter of simple 2D shapes Identify acute and obtuse angles; order angles and measure them in degrees Identify symmetry in 2D shapes MEASURE: Convert between different units of measure Estimate, compare and calculate different measures TIME: Remember and work with the number of seconds in a minute, minutes in an hour, etc. Tell the time from analogue and digital clocks, including those with Roman numerals

In the same way, the RAINBOW Continuum can identify the correct pitch when children are applying key skills across the curriculum. For example when measuring in DT, which level of maths skills should be encouraged or developed?

All children should be able to **choose and use standard units**

Some children could **measure, compare, add and subtract different measures**

A few children might **estimate, compare and calculate different measures.**

Planning should give all children the opportunity to apply their skills to the highest level possible.

NB: When using the RAINBOW Continuum it is important not to equate orange to Y1, yellow to Y2 and so on. Children starting on aspects of the orange MEASURE (above) for example, may be half way through Y2, before they are ready for that concept. The RAINBOW Continuum does not always have the same age related starting point.

The RAINBOW Continuum: Cross Curricular SPEAKING: *Children can ...*

	<p>Begin to show interest and participation</p> <p>Listen and chatter, but in their own time, and for their own purposes</p> <p>Use prepared provision in a variety of ways, and are interactive in role play</p> <p>Acquire vocabulary and get their meaning across</p>
	<p>Remember and recall information</p> <p>Listen and respond to each other and to adults, and sometimes express their feelings</p> <p>Begin to maintain attention and articulate clearly</p> <p>Recall, repeat and remember ideas</p> <p>Define key points of a lesson, a story, a visit ... giving brief descriptions</p> <p>Make verbal lists and memorise information</p> <p>Use basic key vocabulary and build on this through listening, practice, trial, and error</p> <p>Ask questions to extend understanding</p>
	<p>Explain ideas and concepts, showing understanding and comprehension</p> <p>Discuss word meanings, linking new meanings to those already known</p> <p>Classify and describe out loud, using key information</p> <p>Begin to discuss concepts, explaining key facts to summarise and using subject specific vocabulary</p> <p>Select the information they want to use in any discussion or debate</p> <p>Begin to paraphrase</p> <p>Restate known facts, and express opinions</p> <p>Illustrate points with examples, and give well structured descriptions</p>
	<p>Gain the interest of listeners and respond to the comments of others, staying on topic</p> <p>Use previous information to ask question, clarifying the meanings of words</p> <p>Choose and filter information to use to illustrate</p> <p>Use information in drama and role play, and experiment with new vocabulary</p> <p>Speak audibly and fluently, with an appropriate register</p> <p>Demonstrate understanding through verbalisation, linking new meanings to known vocabulary</p> <p>Be active in discussions, and reiterate arguments</p> <p>Use increasingly correct vocabulary and terminology</p>

Draw inferences and justify them
Distinguish between statements of fact and opinion
Retrieve, record and present information
Compare and contrast information
Differentiate between different quality of information
Question and test information they have read or heard
Extrapolate the main points of information
Use information to theorise and debate

Maintain a focus on the topic, using notes where necessary
Provide a reasoned justification for their views, using the text to support their ideas
Adapt their views with new information from text
Appraise the information they receive
Make conclusions to summarise what they have read
Rank information in order
Take action following their reading
Modify their understanding through reading

Assemble presentations on a topic following reading
Formulate their own opinions on a topic, using information
Review previous thinking
Make reasoned arguments for and against a topic

Sample

The RAINBOW Continuum: Cross Curricular NUMBER: *Children can ...*

	<p>Pre skills and playing with numbers</p> <p>Enjoy pattern, or simple counting rhymes</p>
	<p>Remember and recall simple number facts</p> <p>Count to 100 with number bonds to 20</p> <p>Repeat number rhymes</p> <p>Label objects with numbers and order them</p> <p>Select objects to a given number</p> <p>Put objects in a table</p> <p>Arrange numbers in order</p>
	<p>Use number for simple one step problems for addition and subtraction</p> <p>Estimate quantities</p> <p>Multiply using concrete objects</p> <p>Classify objects and count numbers in groups</p> <p>Identify more than or less than</p> <p>Compare numbers of objects in different groups</p> <p>Estimate small numbers of objects in different groups</p>
	<p>Solve problems involving multiplication and division using a variety of methods</p> <p>Recognise pattern in lists</p> <p>Recognise and find simple fractions of length, shape, objects and quantity</p> <p>Read and write numbers to 1000, with mental calculations of 3 digits</p> <p>Solve problems, including missing number problems</p> <p>Add and subtract simple fractions</p> <p>Know Roman numerals to 100</p> <p>Solve two step problems using the appropriate operation</p> <p>Multiplication to 12 times table</p> <p>Recognise years in Roman numerals</p>

The **RAINBOW** Continuum: Cross Curricular **SHAPE AND MEASURE: *Children can ...***

	<p>Pre skills:</p> <p>Choose shape and measure games – e.g. water play in continuous provision, shopping in role play</p>
	<p>SHAPE: Arrange different objects into order of size</p> <p>Recognise, draw and begin to make simple 2D and 3D shapes (e.g. with construction kits)</p> <p>Draw lines and shapes using a straight edge</p> <p>MEASURE: Record results or order them</p> <p>Recognise and use lengths, heights, mass, weight, capacity, volume in broad measures – e.g. long, heavy</p> <p>TIME: Use time in broad measures – ten o'clock</p> <p>MONEY: Understand the concept of “paying” and recognition of money denominations</p>
	<p>SHAPE: Describe position, direction and movement in broad terms – behind, left, south</p> <p>Identify properties of 2D and 3D shapes to compare and sort them</p> <p>MEASURE: Make simple recording of measures and comparative measures – e.g. heavier, longer</p> <p>Choose and use standard units to estimate and measure in length, mass, temperature, capacity</p> <p>TIME: Sequence events in chronological order</p> <p>Use time to the hour and half past</p> <p>MONEY: Recognise and use symbols for money and combine amounts</p>
	<p>SHAPE: Recognise angles as turns and use the properties of a right angle</p> <p>Begin to recognise and use horizontal, vertical, perpendicular and parallel</p> <p>Compare and classify many geometric shapes using their properties</p> <p>MEASURE: Measure, compare, add and subtract different measures</p> <p>TIME: Compare and sequence intervals of time; Tell and write the time to five minutes</p> <p>MONEY: Solve simple money problems in a practical context, including giving change</p>

SHAPE: Find the perimeter of simple 2D shapes

Identify acute and obtuse angles; order angles and measure them in degrees

Identify symmetry in 2D shapes

MEASURE: Convert between different units of measure

Estimate, compare and calculate different measures

TIME: Remember and work with the number of seconds in a minute, minutes in an hour, etc.

Tell the time from analogue and digital clocks, including those with Roman numerals

SHAPE: Describe position with co ordinates and plot points to complete a polygon

Identify 3D shape from 2D representation

Solve problems involving similar shapes

Estimate and compare acute, obtuse and reflex angles

Understand and work with reflective symmetry

Calculate and convert units of measures, including miles and kilometres

Recognise that shapes with the same area can have different perimeters

Know and use formulae for area and volume

Calculate the area of triangles and parallelograms

Draw 2D shapes using given dimensions and angles and make 3D shapes using nets

Use the properties of rectangles to deduce related facts

MEASURE: Measure and calculate perimeter and area

TIME: Estimate and read the time to the nearest minutes

MONEY: Calculate percentage prices

SHAPE: Compare and classify geometric shapes based on their properties

Find unknown angles in triangles, quadrilaterals and regular polygons and missing angles on a straight line

Describe positions on a co ordinate grid and draw and translate shapes on a coordinate plane

MEASURE: Use approximate equivalences between metric and imperial units

Calculate and compare the area of rectangles using metric and imperial units

Begin to recognise proportionality

Begin to use further formulae

TIME: Compare durations of events, through calculation and estimation

Solve problems involving hours, minutes, weeks, days

MONEY: Convert to other currencies

CHAPTER 3

Core Subject Continuum

The RAINBOW Continuum

CORE SUBJECT CONTINUUM: READING

Letters and Sounds

Word Reading

Books and Range of Reading

Vocabulary, Language and Structure

Poetry, Plays and Performance

Understanding and Comprehension

Inference, Deduction and Prediction

Discussion and Viewpoints

Non Fiction: Summaries and Retrieval of Information

Sample

ENGLISH: READING: UNDERSTANDING AND COMPREHENSION		
KS1	Y1	Drawing on what they already know or on background information and vocabulary provided by the teacher
		Checking that the text makes sense to them as they read and correcting inaccurate reading
		Explain clearly their understanding of what is read to them.
	Y2	Drawing on what they already know or on background information and vocabulary provided by the teacher
		Checking that the text makes sense to them as they read and correcting inaccurate reading
		Explain and discuss their understanding of books, poems and other material, both those that they listen to and those that they read for themselves.so far
KS2	Y3	Checking that the text makes sense to them, discussing their understanding and explaining the meaning of words in context
	Y4	Asking questions to improve their understanding of a text
		Y5
	Y6	Asking questions to improve their understanding

ENGLISH: READING: INFERENCE, DEDUCTION AND PREDICTION		
KS1	Y1	Making inferences on the basis of what is being said and done
		Predicting what might happen on the basis of what has been read so far
	Y2	Making inferences on the basis of what is being said and done
		Predicting what might happen on the basis of what has been read
KS2	Y3	Drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence
	Y4	Predicting what might happen from details stated and implied
		Y5
	Y6	Predicting what might happen from details stated and implied

CORE SUBJECT CONTINUUM: WRITING

SPELLING

PUNCTUATION

HANDWRITING AND PRESENTATION

ORGANISATION AND RANGE

PLANNING AND DRAFTING

EDITING AND READING ALOUD

GRAMMAR

Sample

ENGLISH: WRITING: PUNCTUATION		
KS1	Y1	Leaving spaces between words
	Y2	Learning how to use both familiar and new punctuation correctly (see English Appendix 2), including full stops, capital letters, exclamation marks, question marks, commas for lists and apostrophes for contracted forms and the possessive (singular)
KS2	Y3	Using commas after fronted adverbials
	Y4	Indicating possession by using the possessive apostrophe with plural nouns
		Using and punctuating direct speech
	Y5	Indicate grammatical and other features by:
	Y6	Using commas to clarify meaning or avoid ambiguity in writing
		Using hyphens to avoid ambiguity
		Using brackets, dashes or commas to indicate parenthesis
		Using semi-colons, colons or dashes to mark boundaries between independent clauses
Using a colon to introduce a list		
	Punctuating bullet points consistently	

ENGLISH: WRITING: HANDWRITING AND PRESENTATION		
KS1	Y1	Sit correctly at a table, holding a pencil comfortably and correctly
		Begin to form lower-case letters in correct direction, starting / finishing in right place
		Form capital letters and form digits 0-9
		Understand which letters belong to which handwriting 'families' and to practise these.
	Y2	Form lower-case letters of the correct size relative to one another
		Start using some of the diagonal and horizontal strokes needed to join letters and understand which letters, when adjacent to one another, are best left unjoined
		Write capital letters and digits of the correct size, orientation and relationship to one another and to lower case letters
		Use spacing between words that reflects the size of the letters.
KS2	Y3	Use the diagonal and horizontal strokes that are needed to join letters and understand
	Y4	which letters, when adjacent to one another, are best left unjoined
		Increase legibility, consistency and quality of handwriting [for example, by ensuring that the downstrokes of letters are parallel and equidistant; that lines of writing are spaced sufficiently so that the ascenders and descenders of letters do not touch].
	Y5	Write legibly, fluently and with increasing speed by choosing which shape of a letter to
	Y6	use when given choices and deciding whether or not to join specific letters
		Choosing the writing implement that is best suited for a task.

CORE SUBJECT CONTINUUM: MATHS

NUMBER: PLACE VALUE

NUMBER: ADDITION AND SUBTRACTION

NUMBER: MULTIPLICATION AND DIVISION

NUMBER: FRACTIONS, DECIMALS AND PERCENTAGES

NUMBER: RATIO AND PROPORTION

NUMBER: ALGEBRA

MEASURE: SHAPE

MEASURE: MASS AND WEIGHT

MEASURE: CAPACITY AND VOLUME

MEASURE: TEMPERATURE

MEASURE: TIME

MEASURE: MONEY

SHAPE: PROPERTIES OF SHAPE

SHAPE: POSITION AND DIRECTION

STATISTICS

MATHS: NUMBER AND PLACE VALUE		
KS1	Y1	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
		Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
		Given a number, identify one more and one less
		Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
		Read and write numbers from 1 to 20 in numerals and words.
	Y2	Count in 2, 3, and 5 from 0, and in tens from any number, forward, backward
		Recognise the place value of each digit in a two-digit number (tens, ones)
		Identify, represent and estimate numbers using different representations including the number line
		Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs
		Read and write numbers to at least 100 in numerals and in words
		Use place value and number facts to solve problems.
KS2	Y3	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
		Recognise the place value of each digit in a three-digit number
		Compare and order numbers up to 1000
		Identify, represent and estimate numbers using different representations
		Read and write numbers up to 1000 in numerals and in words
		Solve number problems and practical problems involving these ideas

MATHS: ADDITION AND SUBTRACTION		
KS2	Y4	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
		Estimate and use inverse operations to check answers to a calculation
		Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
	Y5	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
		Add and subtract numbers mentally with increasingly large numbers
		Use rounding to check answers to calculations and determine levels of accuracy
		Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
	Y6	Perform mental calculations, including with mixed operations and large numbers
		Use their knowledge of the order of operations to carry out calculations involving the four operations
		Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
		Solve problems involving addition, subtraction, multiplication and division
		Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Sample

MATHS: RATIO AND PROPORTION		
KS1	Y1	<i>No statutory content</i>
	Y2	<i>No statutory content</i>
KS2	Y3	<i>No statutory content</i>
	Y4	<i>No statutory content</i>
	Y5	<i>No statutory content</i>
	Y6	<p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p> <p>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</p> <p>Solve problems involving similar shapes where the scale factor is known or can be found</p> <p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p>

MATHS: ALGEBRA		
KS1	Y1	<i>No statutory content</i>
	Y2	<i>No statutory content</i>
KS2	Y3	<i>No statutory content</i>
	Y4	<i>No statutory content</i>
	Y5	<i>No statutory content</i>
	Y6	Use simple formulae
	Y6	<p>Generate and describe linear number sequences</p> <p>Express missing number problems algebraically</p> <p>Find pairs of numbers that satisfy an equation with two unknowns</p> <p>Enumerate possibilities of combinations of two variables.</p>

MATHS: GEOMETRY: PROPERTIES OF SHAPE

KS2	Y4	Compare and classify geometric shapes based on their properties and sizes
		Identify acute and obtuse angles and compare and order angles up to 2 right angles by size
		Identify lines of symmetry in 2-D shapes presented in different orientations
		Complete a simple symmetric figure with respect to a specific line of symmetry.
	Y5	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
		Know angles are measured in degrees: estimate, compare acute, obtuse and reflex
		Draw given angles, and measure them in degrees ($^{\circ}$)
		Identify: <ul style="list-style-type: none"> • angles at a point and one whole turn (total 360°) • angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) • other multiples of 90° • use properties of rectangles to deduce related facts and find missing lengths, angles • distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
	Y6	Draw 2-D shapes using given dimensions and angles
		Recognise, describe and build simple 3-D shapes, including making nets
		Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
		Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
		Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

WORKING SCIENTIFICALLY: S		
	KEY STAGE ONE	L
QUESTIONING	Asking simple questions, recognising they can be answered in different ways	Asking rel scientific e Using stra answer qu
OBSERVING	Observing closely using simple equipment	Making sy taking acc Using a ra thermome
EXPERIMENTING	Performing simple tests	Setting up comparati
CLASSIFYING	Identifying and classifying	Gathering presenting help in an
APPLYING	Using observations and ideas to suggest answers to questions	Using resu make pre raise furth Identifying related to
RECORDING	Gathering and recording data to help in answering questions	Recording language, keys, bar c Reporting oral and w presentati

CONTINUUM: SCIENCE

STATUTORY REQUIREMENTS

LOWER KEY STAGE TWO	UPPER KEY STAGE TWO
<p>Identifying relevant questions, using range of scientific enquiries to answer them</p> <p>Using straightforward scientific evidence to answer questions or support findings.</p>	<p>Planning range of scientific enquiries to answer questions, recognising and controlling variables where necessary</p>
<p>Making systematic, careful observations, and accurate measurements</p> <p>Using a range of equipment, including microscopes, meters and data loggers</p>	<p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p>
<p>Designing simple practical enquiries, predictive and fair tests</p>	<p>Using test results to make predictions to set up further comparative and fair tests</p>
<p>Collecting, recording, classifying and presenting data in a variety of ways to answer questions</p>	<p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>
<p>Using evidence to draw simple conclusions, make predictions, suggest improvements and answer questions</p> <p>Recognising differences, similarities or changes in scientific ideas processes</p>	<p>Identifying scientific evidence that has been used to support or refute ideas or arguments</p>
<p>Reporting findings using simple scientific diagrams, drawings, labelled diagrams, charts, and tables</p> <p>Communicating findings from enquiries, in written explanations, displays or presentations of results and conclusions</p>	<p>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</p>

BROADLY BIOLOGY BASED

PLANTS		
KS1	Y1	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
		Identify and describe the basic structure of a variety of common flowering plants, including trees.
	Y2	Observe and describe how seeds and bulbs grow into mature plants
		Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy
KS2	Y3	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.
<i>No statutory Programme of Study for PLANTS after Y3</i>		
USE LIVING THINGS AND THEIR HABITATS FOR FURTHER CHALLENGE		

EVOLUTION AND INHERITANCE		
KS1	Y1-2	<i>No statutory Programme of Study</i>
KS2	Y3 -5	<i>No statutory Programme of Study</i>
	Y6	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
		Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
		Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

FORCES, MAGNETS AND ELECTRICITY

KS1	Y1-2	<i>No statutory Programme of Study</i>
KS2	Y3	Compare how things move on different surface
		Notice that some forces need contact between two 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 two poles
		Predict whether two magnets will attract or repel each other, depending on which poles are facing.
		Y4
	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	
	Recognise some common conductors and insulators, and associate metals with being good conductors.	
	Y5	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.
	Y6	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
		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
		Use recognised symbols when representing a simple circuit in a diagram.

	EXPLORING AND DEVELOPING	USING MATERIALS	EVALUATING	CONTROL AND EXPERTISE
	<p>Make their own choices</p> <p>Begin to work more abstractly</p> <p>Collect visual and other information</p> <p>Use a digital camera to collect ideas</p> <p>Experiment in many different ways</p> <p>Use a sketchbook to make notes about artists, skills and techniques</p> <p>Annotate a sketch book</p> <p>Experiment with mood using colour</p> <p>Create artwork following an idea or towards a specific purpose</p>	<p>Mix and use tertiary colours</p> <p>Design, draw, paint or make images for different purposes using knowledge and understanding</p> <p>Use watercolour to produce a wash</p> <p>Use an ICT paint program with edit</p> <p>Use a digital camera to produce art work</p> <p>Use mosaic, montage and other effects</p> <p>Use a range of materials and techniques in 3D work</p>	<p>Make comments on the work of others, including both ideas and techniques</p> <p>Apply previous knowledge to improve work</p> <p>Adapt and refine work to reflect purpose</p>	<p>Use art to illustrate in other subjects</p> <p>Practise to improve skills</p> <p>Create texture by adding dots and lines</p> <p>Make different tones of colour using black and white</p> <p>Use pencils of different grades and at different angles to create different effects</p> <p>Use brushes in different ways</p> <p>Use repeat pattern in design</p> <p>Indicate movement using lines</p>
	<p>Plan work carefully before beginning</p> <p>Use other cultures and times as a stimulus</p> <p>Experiment with the styles of different artists</p>	<p>Use a combination of visual and tactile ideas</p> <p>Combine different materials in different ways</p> <p>Make specific choices between different processes and materials</p>	<p>Compare others' work with their own</p> <p>Appraise the ideas, methods and approaches used in others' work, using a critical approach</p> <p>Use the appraisal of others for improvement</p>	<p>Show tone and texture using hatching and cross hatching</p> <p>Use a program to create mood within digital photography</p> <p>Show shadow or reflection by shading</p> <p>Select appropriate drawing materials</p>

	EXPLORING AND DEVELOPING	USING MATERIALS	EVALUATING	CONTROL AND EXPERTISE
	<p>Make and support their own decisions and choices</p> <p>Use inspiration from other cultures</p> <p>Experiment with combinations of materials and techniques</p> <p>Keep and use detailed notes in sketch book</p>	<p>Understand the importance of preparing materials before working</p> <p>Produce work that sometimes can be both visual and tactile</p>	<p>Evaluate own and others' work, explaining and justifying their reasons</p> <p>Use analysis when commenting on ideas</p> <p>Consider the end point when adapting and improving their work</p>	<p>Develop and improve their own style</p> <p>Use drawings to show movement</p> <p>Combine a range of colours, tints, tones and shades</p> <p>Get across feeling and emotion through their work</p>
	<p>Use a full range of design, experimentation, exploration alongside the work of others to develop their own work</p>	<p>Make specific decisions about using different visual and tactile effects towards an end point</p>	<p>Analyse and comment on their own and others' ideas, methods and approaches</p> <p>Make on-going revisions</p> <p>Refine their work, often with several adaptations, to move towards an end point</p>	<p>Choose to use a limited range of colour to produce a chosen effect</p> <p>Begin to use perspective in both abstract and real life art</p> <p>Work with care and precision towards an end point, but make adaptations following their own reflections and the comments of others</p>

	NETWORK AND INTERNET	USING ICT	MAKING THINGS HAPPEN
	<p>Conduct a safe internet search and refine it for both speed and accuracy</p> <p>Know how to distinguish between good and bad information found on the internet</p> <p>Rank information found on the internet in order of importance and relevance</p> <p>Extrapolate the best information and summarise it using ICT</p>	<p>Analyse a range of information using ICT</p> <p>Capture sound, still and video images using a range of hardware</p> <p>Save documents and images into different formats for different purposes</p> <p>Organise a wide range of information using ICT and save it in appropriate ways</p>	<p>Work with variables and various forms of input and output</p> <p>Adapt and modify programs and add refinements</p> <p>Use simulations to explore patterns and relationships</p> <p>Make predictions about what might happen in a game program</p> <p>Understand the use of sensors to monitor and measure</p>
	<p>Make a home page for a website</p> <p>Use information to hypothesise and speculate in a range of everyday situations</p>	<p>Use video chat in school</p> <p>Add, amend and combine different forms of information in different ways</p> <p>Use a range of concepts and ideas when presenting across different subjects</p> <p>Use and add menu options, including hyperlinks</p>	<p>Understand that poor input equals unreliable results</p> <p>Use sequence, selection, and repetition in control</p> <p>Use ICT to measure sound, light, temperature</p> <p>Create databases with fields, rows, columns</p> <p>Add special effects to work</p> <p>Know that devices can have more than one pre determined action or result</p> <p>Make devices have more than one pre determined action</p> <p>Explore what-if scenarios</p>

GEOGRAPHY: AGE RELATED STATUTORY COVERAGE

KEY STAGE ONE LEARNING	KEY STAGE TWO LEARNING
<p>Locational knowledge</p> <p>Name and locate the world’s seven continents and five oceans</p> <p>Name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas</p> <p>Place knowledge</p> <p>Understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country</p>	<p>Locational knowledge</p> <p>Locate the world’s countries, using maps to focus on Europe and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities</p> <p>Name and locate counties and cities of the UK, geographical regions and identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and</p> <p>Understand how some of these aspects have changed over time</p> <p>Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, Tropics of Cancer / Capricorn, Arctic / Antarctic Circle, the Prime/Greenwich Meridian and time zones</p> <p>Place knowledge</p> <p>Understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America</p>

GEOGRAPHICAL STUDY and FIELD WORK	MAPS	KNOWLEDGE AND UNDERSTANDING
<p>Suggest suitable questions for a field work study</p> <p>Rank information found into order of importance</p> <p>Come to accurate conclusions, using information</p> <p>Make careful measurements - e.g. rainfall, noise level, distance</p> <p>Collect statistics about people and places</p> <p>Begin to use a range of graphs, including pie charts</p>	<p>Work out a journey time, using their knowledge of time zones</p> <p>Use and understand simple scale</p>	<p>Begin to understand geographical pattern – e.g. industry by a river</p> <p>Describe and begin to explain patterns and physical and human changes</p> <p>Describe how change can lead to similarities between different places</p> <p>Justify own viewpoint or decision, and use new information to adapt their own viewpoint</p>
<p>Suggest relevant issues for further study</p> <p>Carefully select sources of evidence, and sift information</p> <p>Collect statistics about people and places, and set up a database from fieldwork or research</p> <p>Analyse data – e.g. population data - using similarity and difference</p> <p>Speculate and hypothesise about what is found</p> <p>Suggest plausible conclusions, and back up with evidence</p>	<p>Use 6 figure grid references</p> <p>Use a compass to follow a route</p>	<p>Suggest how human activities can cause changes to environment and to the different views people hold</p> <p>Recognise dependent links and relationships in both human and physical geography</p> <p>Make a plausible case for environmental change</p> <p>Interpret other people’s arguments for change, analysing and evaluating their viewpoints</p>

FOREIGN LANGUAGES: AGE RELATED STATUTORY COVERAGE

LANGUAGES: STATUTORY PROGRAMME OF STUDY FOR KEY STAGE TWO ONLY

Pupils should be taught to:

- listen attentively to spoken language and show understanding by joining in and responding
- explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words
- engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help*
- speak in sentences, using familiar vocabulary, phrases and basic language structures
- develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases*
- present ideas and information orally to a range of audiences*
- read carefully and show understanding of words, phrases and simple writing
- appreciate stories, songs, poems and rhymes in the language
- broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary
- write phrases from memory, and adapt these to create new sentences, to express ideas clearly
- describe people, places, things and actions orally* and in writing
- understand basic grammar appropriate to the language being studied, including (where relevant): feminine, masculine and neuter forms and the conjugation of high-frequency verbs; key features and patterns of the language; how to apply these, for instance, to build sentences; and how these differ from or are similar to English.

The starred (*) content above will not be applicable to ancient languages.

	SPEAKING AND LISTENING	READING AND WRITING
	<p>Begin to understand and use simple grammatical features – e.g. tense</p> <p>Memorise key words and phrases from books, building vocabulary</p> <p>Draw on background understanding of vocabulary and grammar when listening</p> <p>Use language in drama and role play, and experiment with new vocabulary</p> <p>Speak audibly with increasing fluency</p> <p>Demonstrate understanding through verbalisation, linking new meanings to known vocabulary</p> <p>Use increasingly correct vocabulary and terminology</p> <p>Listen and respond to each other and to adults</p> <p>Tell the time in more complex terms</p> <p>Ask questions to extend understanding</p> <p>Explain ideas and concepts, showing understanding and comprehension</p>	<p>Read about a given topic, with simple interpretations</p> <p>Retrieve and record information</p> <p>Paraphrase and summarise information in the new language</p> <p>Write explanations and concepts</p> <p>Summarise information in their own writing</p> <p>Apply new phrases from reading to previous vocabulary and grammar</p>
	<p>Organise thoughts before verbalising</p> <p>Be active in discussions, and reiterate arguments</p> <p>Begin to chatter in the new language</p> <p>Explain ideas and concepts, using subject specific vocabulary</p> <p>Begin to paraphrase</p> <p>Define key points, and give brief descriptions</p> <p>Experiment with a range of vocabulary and terms to explain concepts</p>	<p>Extrapolate the main points of information from books</p> <p>Read an increasing range of non fiction and reference books</p> <p>Retrieve, record and present information</p> <p>Précis longer passages</p> <p>Complete longer pieces of writing</p> <p>Organise writing to report on a topic in the new language</p> <p>Use vocabulary effectively to establish understanding</p>

	SPEAKING AND LISTENING	READING AND WRITING
	<p>Gain the interest of listeners</p> <p>Appraise and compare verbally, using remembered vocabulary</p> <p>Imagine and explore ideas verbally using an increasingly extensive vocabulary</p> <p>Report on events, verbally</p> <p>Speculate and hypothesise, explaining and exploring the meaning of new words</p> <p>Extrapolate information in conversation and use it to theorise and debate</p> <p>Respond to the comments of others, building conversation</p> <p>Prepare a verbal presentation, and use a dictionary to check the meaning of new words</p>	<p>Assemble written presentations on a topic following reading</p> <p>Imagine and explore</p> <p>Assemble pieces of writing into longer presentations</p>

Sample

The RAINBOW Continuum: PE: *Children can ...*

	GYMNASTICS AND DANCE	PLAYING GAMES	EVALUATING AND IMPROVING
	Enjoy movement	Enjoy participation	Enjoy winning!
	Copy some movements Jump in different ways Change their body shape in a range of ways Perform simple and random dance moves Show some rhythm in movement and dance	Move a ball using simple throwing techniques Explore different ways of moving a ball Sometimes catch a ball Stop a ball moving in other ways Play simple ball games involving kicking, catching or throwing	Comment on others' actions Suggest simple improvements Talks about how their body feels during activity Understand that physical activity is good for them
	Explore, copy, and repeat simple skills and actions Remember and repeat simple sequences in dance or gym Copy and remember actions in a sequence Begin to move with increasing control and care Make a short dance sequence by putting some movements together Begin to use rhythm in dance Make simple moves with increasing control and co ordination	Kick and throw a ball, not always with accuracy Understand the importance of stopping a ball in different ways Begin to be able to work with a partner Start to link skills and actions within simple games Begin to understand some concepts of game e.g. opponent, team mate Begin to show some understanding of simple tactics	Talk about what they are doing and describe the work of others Suggest ways to improve own and others work See how their work is similar to and different from other children Understand the importance of being active Talk about how to exercise safely and how their bodies feel during an activity

Appe

Blooms Hierarchy of Skills and

	BLOOM'S HIERARCHY OF SKILLS	D
	Pre skills; shows beginnings of interest and participation	Pre skills. Will listen and chat in various ways, including role play
	Can remember and recall information	Define, duplicate, list, memorize, repeat, of, state, name, tell, label, re
	Can explain ideas and concepts, showing understanding and comprehension	Classify, describe, discuss, explain, interpret, predict, execute, restate, reiterate
	Can use the information and apply it in different ways	Choose, demonstrate, dramatize, design, classify, experiment, calculate
	Can analyse information, distinguishing between different elements	Appraise, compare, contrast, test, order, explain, differentiate, diagnose extrapolate, theorize
	Can justify a viewpoint or decision, and adapt it with new information, sometimes creating a new product	Appraise, argue, defend, judge, plan, build, create, design, organize, prepare, construct, devise, make
	Can evaluate across the subject, using different concepts and ideas Speculates and hypothesises	Assemble, construct, create, defend, justify, assess, defend, report, compare, evaluate, interpret

ndix:

nd The RAINBOW Continuum

DEFINITION AND SUGGESTED TASKS AND OUTCOMES

atter, but in own time, and for own purposes; uses prepared provision in a variety of

rise, recall, repeat, reproduce, state, describe, make a table, know appropriate use

cord, define, relate, select, underline, arrange, memorise, recognise, reproduce

plain, identify, locate, recognise, report select, translate, paraphrase, summarise,

estate, reference, express, classify, review, critique, compare illustrate, estimate,

atise, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write,

te, construct, apply, practise, complete, conduct, role play

, criticise, differentiate, discriminate, distinguish, examine, experiment, question,

tiate, achieve, analyse, calculate, inspect, categorise, quantify, measure, relate,

se, debate

ge, select, support, value, evaluate, rank, assess, conclude, take action, develop,

rganise, revise, formulate, propose, establish, integrate, modify, compose, collect,

manage

design, develop, formulate, write, combine, plan, compose, actualise, review,

tt on, investigate, appraise, argue, rate, score, select, measure, choose, conclude,

t, support