Science NC Content and Working Scientifically Coverage & Progression

2019 – 2020

V5

(20/01/20)

CURRICULUM

Our curriculum vision

In order to achieve our vision of 'Learning to Grow and Succeed Together', we use our core values to enable our children to:

- **Have dreams values and ambitions, and the life skills to reach their full potential.**
- **Know how to learn, and have skills and knowledge for life.**
- **Be independent, self-motivated and self-confident.**
- **Be successful by learning from mistakes, accepting failure and having the determination to try again.**
- **Stand up for themselves whilst respecting the ideals of others.**
- **Understand that they can make a difference in an imperfect world, and have sound values to build a life on.**
- **Attain highly across the curriculum in order to have the best possible life chances and opportunities.**

Making our vision and values a reality

At EWPS our curriculum is based around a set of golden absolutes to help us make our vision and values a reality. These were created after consultation with pupils, parents, governors, staff so that we truly reflect the needs, interests and aspirations of the community we serve.

These golden absolutes are a curriculum that:

- Enables children to be aspirational and prepared for life in the 21st century.
- Promotes enjoyment, creativity, critical thinking and fascination for learning.
- Nurtures the mental, physical and emotional wellbeing of every child.
- Supports children to become effective and confident communicators.
- Encourages collaboration, team work and mutual respect.
- Provides a meaningful context for learning that reflects local needs and community.
- Broadens horizons, locally, nationally and globally.
- Promotes a social conscience that reflects British Values.
- Provides access for all.

SCIENCE PROGRESSION GRID EXPLAINED

What are they for?

- This progression grid breaks down the knowledge and skills within the science curriculum and assigns these to a specific year group.
- This ensures we cover our statutory requirements and that skills and knowledge evolve as a child moves through the school.

Where did the objectives come from?

- The starting point for all aspects is the national curriculum, this clearly outlines what has to be statutorily covered and when.
- However the working scientifically strand has been broken down into much greater depth to support progressions. This was done by a member of the CLT and a science advisor from the Science Quality Mark team.

How are the grids used?

- Each knowledge objective has a unique code which outlines the year group/subject/objective (e.g. 2S4 is a year 2 objective, for science, and is the 4th objective on the grid).
- The objectives from the progression grids are allocated into units for each quarter.
- These are then used by class teachers to agree a year group medium term plan (MTP) for the quarter.
- For scientific enquiry the SLT & STEM team will work with teachers to identify the main strands to include in each unit.
- As part of the MTP process teachers identify where aspects link to prior and future knowledge (both within and across year groups) so that learning can be set in context.
- This is easily done by finding the objective in their year group and tracking backwards or forwards across the grid.
- This same method can be used to differentiate for pupils with additional needs who may not be working at age related expectations.
- Please note that for the vast majority of pupils working at greater depth, opportunities to explore and apply should be used to develop their skills and knowledge further using the working scientifically strands not the learning objectives from future years. If you are unsure please see the relevant CLT group who will help you in this regard.
- During the MTP process teachers also identify where the unit may support learning in other areas (often big question &/or DT).

Is this the final version?

- No, the knowledge grid shows where units must be statutorily taught in each year group. We are planning that our science units will develop over the course of the year so that some knowledge aspects are revisited in other year groups (particularly those that only appear once).

WORKING SCIENTIFICALLY

Y1	*Asking scientific questions*	*Planning an enquiry*	*Collecting data*	*Recording and presenting data*	*Concluding and communicating*	*Evaluating*
NC	• **asking simple questions …**	• **… recognising that they can be answered in different ways**	• **observing closely, using simple equipment** • **performing simple tests** • **identifying and classifying** • **gathering … data …**	• **… recording data to help in answering questions.**	• **using their observations and ideas to suggest answers to questions**	**No statement**
Identifying and Classifying	Ask simple questions about: • What something is • Similarities and differences	Decide on simple sorting and grouping criteria to use or what to observe in order to identify something	Compare items using observable features and properties e.g. shape, colour, texture and simple behaviours e.g. waterproof or not, can/cannot fly – using own and given criteria Use simple identification charts for living things Use a magnifier	Sort into 2 or more groups using a Venn diagram or 2 column table Use photos, drawings, labels, simple charts and maps to record identification	Talk about their findings using appropriate scientific language Answer simple questions about their Venn diagram or table Decide whether they have answered the investigation question	Talk about how they collected their data and what was easy or difficult to do well
Research	Ask simple questions about: How things are The way things work	With help, make suggestions about how to find things out, recognising questions that cannot be answered practically	Ask questions orally to find out from an expert Select some relevant information from books and electronic media	Record information in words and pictures or on simple prepared formats	Decide whether they have answered the investigation question	With help, decide whether they have further questions
Comparative test	Ask simple questions which: • Consider which alternative or item is best (ranking) • Consider cause and effect Identify a question from a scenario.	With help, decide on variables to change and observe/measure and suggest how to do it	Make relevant observations and measurement. Choose and use simple measuring equipment (non-standard units or standard scales with all numbers marked)	Record and present data using simple prepared tables, bar charts, photographs and drawings.	Talk about their findings using appropriate scientific language Order their results and answer simple questions about their tables and charts Use their results to answer the investigation question	Talk about how they collected their data and what was easy or difficult to do well Recognise, when prompted, if a test was not fair
Observation over time	Ask simple questions about: • How and why things change • What might happen in future	With help, identify changes to observe and measure and suggest how to do it and how long for	Make relevant observations and measurements Choose and use simple measuring equipment (non-standard units or standard scales with all numbers marked)	Record and present data using simple prepared tables, diaries, picture sequences, photos and drawings, including use of ICT	Talk about their findings using appropriate scientific language Identify and sequence changes Use their results to answer the investigation question	Talk about how they collected their data and what was easy or difficult to do well With help, decide whether they have further questions

Pattern seeking	Ask simple questions about: • Connections and patterns • How many… (survey)	With help, decide what variables to observe and measure and suggest how to do it.		Record and present data using simple prepared tables, bar charts, pictograms, scatter graphs, photos, displays, labelled drawings and maps, including use of ICT	Talk about their findings using appropriate scientific language Answer simple questions about their data, identify simple patterns and say whether they were expected Use their results to answer the investigation question	Talk about how they collected their data and what was easy or difficult to do well With help, decide whether they have further questions

Y2	***Asking scientific questions***	***Planning an enquiry***	***Collecting data***	***Recording and presenting data***	***Concluding and communicating***	***Evaluating***
NC	• **asking simple questions …**	• **… recognising that they can be answered in different ways**	• **observing closely, using simple equipment** • **performing simple tests** • **identifying and classifying** • **gathering … data …**	• **… recording data to help in answering questions.**	• **using their observations and ideas to suggest answers to questions**	**No statement**
Identifying and Classifying	Ask simple questions about: • What something is • Similarities and differences	Decide on simple sorting and grouping criteria to use or what to observe in order to identify something	Compare items using observable features and properties e.g. shape, colour, texture and simple behaviours e.g. waterproof or not, can/cannot fly – using own and given criteria Use simple identification charts for living things Use a magnifier	Sort into 2 or more groups using a Venn diagram or 2 column table Use photos, drawings, labels, simple charts and maps to record identification	Talk about their findings using appropriate scientific language Answer simple questions about their Venn diagram or table Decide whether they have answered the investigation question	Talk about how they collected their data and what was easy or difficult to do well With help, decide whether they have further questions
Research	Ask simple questions about: • How things are • The way things work	With help, make suggestions about how to find things out, recognising questions that cannot be answered practically	Ask questions orally to find out from an expert Select some relevant information from books and electronic media	Record information in words and pictures or on simple prepared formats	Talk about their findings using appropriate scientific language Decide whether they have answered the investigation question	Say whether an information source was useful With help, decide whether they have further questions
Comparative test	Ask simple questions which: • Consider which alternative or item is best (ranking) • Consider cause and effect Identify a question from a scenario.	With help, decide on variables to change and observe/measure and suggest how to do it	Make relevant observations and measurement. Choose and use simple measuring equipment (non-standard units or standard scales with all numbers marked) With help control some variables	Record and present data using simple prepared tables, bar charts, photographs and drawings, including use of ICT	Talk about their findings using appropriate scientific language Order their results and answer simple questions about their tables and charts Identify simple causal relationships and say if it was expected Use their results to answer the investigation question	Talk about how they collected their data and what was easy or difficult to do well Recognise, when prompted, if a test was not fair With help, decide whether they have further questions

Observation over time	Ask simple questions about: • How and why things change • What might happen in future	With help, identify changes to observe and measure and suggest how to do it and how long for	Make relevant observations and measurements Choose and use simple measuring equipment (non-standard units or standard scales with all numbers marked)	Record and present data using simple prepared tables, diaries, picture sequences, photos and drawings, including use of ICT	Talk about their findings using appropriate scientific language Identify and sequence changes Consider whether the changes were expected and what might happen next Use their results to answer the investigation question	Talk about how they collected their data and what was easy or difficult to do well With help, decide whether they have further questions
Pattern seeking	Ask simple questions about: • Connections and patterns • How many… (survey)	With help, decide what variables to observe and measure and suggest how to do it.		Record and present data using simple prepared tables, bar charts, pictograms, scatter graphs, photos, displays, labelled drawings and maps, including use of ICT	Talk about their findings using appropriate scientific language Answer simple questions about their data, identify simple patterns and say whether they were expected Use their results to answer the investigation question	Talk about how they collected their data and what was easy or difficult to do well With help, decide whether they have further questions

Y3	***Asking scientific questions***	***Planning an enquiry***	***Collecting data***	***Recording and presenting data***	***Concluding and communicating***		***Evaluating***	
NC	• **asking relevant questions and using different types of scientific enquiries to answer them**	• **… using different types of scientific enquiries to answer them** • **setting up simple practical enquiries, comparative and fair tests**	• **gathering, recording, classifying and presenting data in a variety of ways to help in answering questions** • **making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers**	• **recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables**	• **reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions** • **using results to draw simple conclusions…** • **identifying differences, similarities or changes related to simple scientific ideas and processes** • **using straightforward scientific evidence to answer questions or to support their findings.**		• **using results to … make predictions for new values, suggest improvements and raise further questions**	
Identifying and Classifying	Consider prior learning when asking questions and when thinking about what the answer might be and why Independently use a range of question stems Recognise questions which can be investigated scientifically and ones which cannot With help, identify different ways to answer a	Identify the observations needed to sort by given criteria Plan simple tests to answer yes/no questions about properties and behaviours e.g. whether a rock is permeable or not.	Ask a sequence of yes/no questions to sort and identify Use keys for identification	Record sorting using Venn diagrams (including intersecting sets where appropriate), Carroll diagrams and tables. Create tables, simple keys and identification charts, including labelled photos, drawings and diagrams	Find patterns in their data e.g. only some metals are magnetic Identify which were the key similarities and differences for identifying or classifying their items	Communicate their findings in a range of oral and written forms for different audiences, using appropriate scientific language Draw conclusions which answer their question and refer to their data	Consider limitations of their method e.g. could not test all metals	Consider how well they were able to answer their question and whether the answer was
Research		Choose from a range of books and/or other sources provided With help, plan additional questions to focus the search for information e.g. by adding to a note-taking format, table or graphic organiser	Use contents, index , search facilities, subheadings etc to locate information Identify relevant information in videos, interviews etc		Present information in a different (given) format to the original using words, pictures, diagrams, tables and bar charts		Consider limitations of the source used Suggest improvements to how they find and present information	

Comparative/ fair test		With help, identify several variables and plan what will be changed, measured and controlled.	Measure using standard units including reading between numbered points With help, recognise when readings need to be repeated Use thermometers, data loggers and a range of equipment for measuring length, mass, capacity and time and force carefully and correctly	Construct and use a table to record data Present data in a bar chart	Interpret data from a data-logger Identify simple causal relationships from fair test data (table or graph) Use comparative test data to make recommendations		Suggest improvements e.g. to how fair their test was or the accuracy of their measurements	
Observation over time		Consider what changes they are expecting to see With help, decide how long to observe for and how often to make observations or measurements Plan which of a range of equipment to use		Construct and use a table or diary to record data Record observations using labelled photos and drawings Present data using a time graph	Interpret data from a data-logger or time graph Identify changes that have happened		Suggest improvements e.g. how they made observations and measurements	
Pattern seeking		Decide what to measure or observe With help, decide how many individuals they will compare or survey.		Construct and use a table or tally chart to record data Independently present data on a bar chart Use a prepared format or ICT to draw a scatter graph	Interpret data from a data-logger, table, bar chart or scatter graph Identify simple patterns between 2 sets of data or from a survey		Suggest improvements e.g. the size or composition of the sample Suggest additional values within or beyond their data	
Y4	***Asking scientific questions***	***Planning an enquiry***	***Collecting data***	***Recording and presenting data***	***Concluding and communicating***		***Evaluating***	
NC	• **asking relevant questions and using different types of scientific enquiries to answer them**	• **… using different types of scientific enquiries to answer them** • **setting up simple practical enquiries, comparative and fair tests**	• **gathering, recording, classifying and presenting data in a variety of ways to help in answering questions** • **making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers**	• **recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables**	• **reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions** • **using results to draw simple conclusions…** • **identifying differences, similarities or changes related to simple scientific ideas and processes** • **using straightforward scientific evidence to answer questions or to support their findings.**		• **using results to … make predictions for new values, suggest improvements and raise further questions**	
Identifying and Classifying	range of question stems Recognise questions which can be investigated scientifically and ones which cannot	Identify the observations needed to sort by given criteria Plan simple tests to answer yes/no questions about properties and behaviours e.g. whether a rock is permeable or not.	Ask a sequence of yes/no questions to sort and identify Use keys for identification Use formal classification criteria to group e.g. solid, liquid and gas; mammal, fish, bird etc, in addition to their own	Record sorting using Venn diagrams (including intersecting sets where appropriate), Carroll diagrams and tables. Create tables, simple keys and identification charts, including labelled photos, drawings and diagrams	Find patterns in their data e.g. only some metals are magnetic Identify which were the key similarities and differences for identifying or classifying their items	Communicate their findings in a range of oral and written forms for different audiences, using	Consider limitations of their method e.g. could not test all metals	Consider how well they were able to

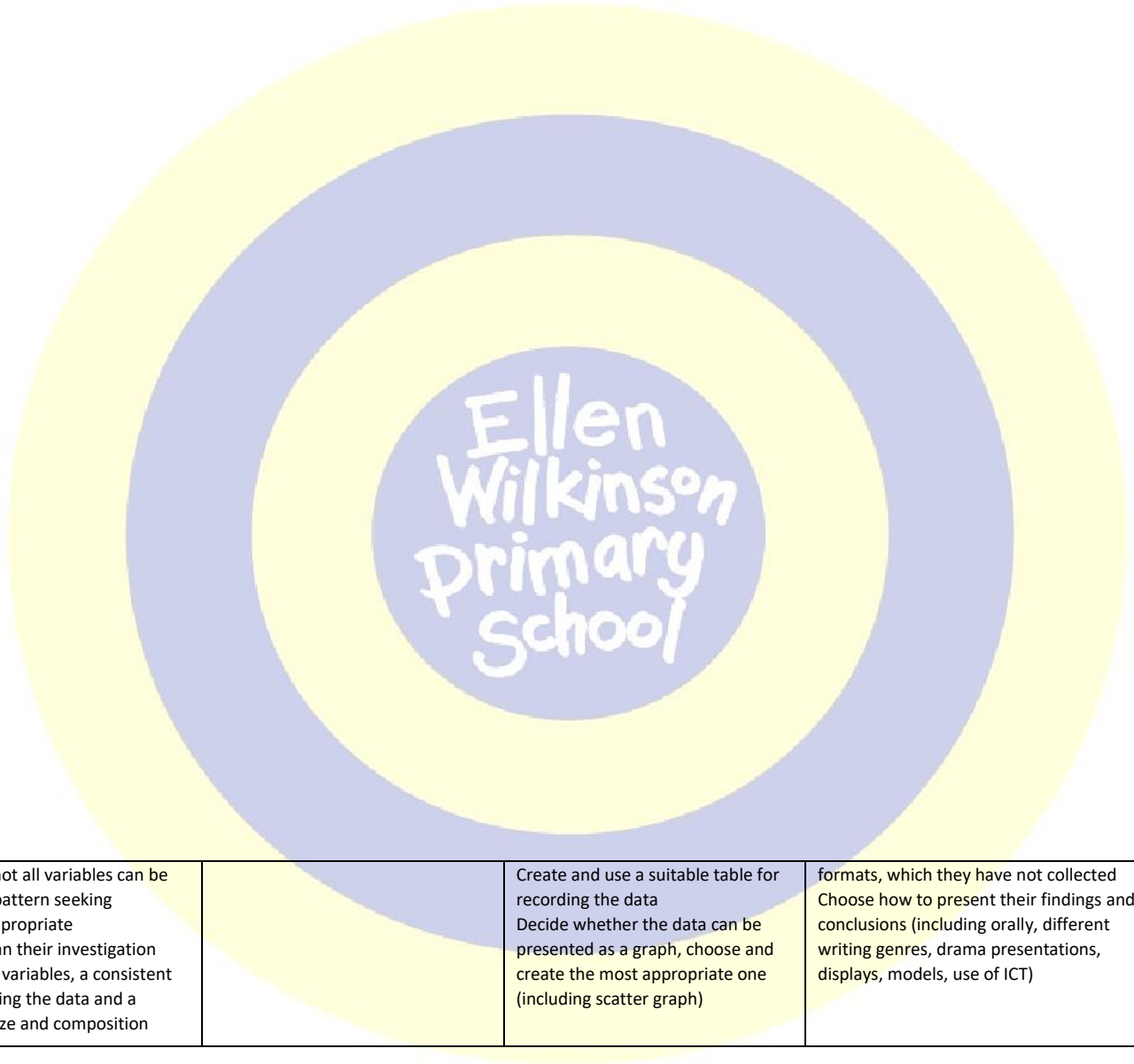
Research		Choose from a range of books and/or other sources provided With help, plan additional questions to focus the search for information e.g. by adding to a note-taking format, table or graphic organiser	Use contents, index , search facilities, subheadings etc to locate information Identify relevant information in videos, interviews etc		Present information in a different (given) format to the original using words, pictures, diagrams, tables and bar charts		Consider limitations of the source used Suggest improvements to how they find and present information	
Comparative/ fair test		With help, identify several variables and plan what will be changed, measured and controlled. Plan which of a range of equipment to use and how to make observations and measurements	Measure using standard units including reading between numbered points With help, recognise when readings need to be repeated Use thermometers, data loggers and a range of equipment for measuring length, mass, capacity and time and force carefully and correctly Make measurements and observations as planned.	Construct and use a table to record data Present data in a bar chart	Interpret data from a data-logger Identify simple causal relationships from fair test data (table or graph) Use comparative test data to make recommendations		Suggest improvements e.g. to how fair their test was or the accuracy of their measurements Suggest additional values within or beyond their data	
Observation over time		Consider what changes they are expecting to see With help, decide what to measure or observe With help, decide how long to observe for and how often to make observations or measurements Plan which of a range of equipment to use		Construct and use a table or diary to record data Record observations using labelled photos and drawings Present data using a time graph	Interpret data from a data-logger or time graph Identify changes that have happened		Suggest improvements e.g. how they made observations and measurements Suggest additional values within or beyond their data	
Pattern seeking		Decide what to measure or observe Plan which of a range of equipment to use With help, decide how many individuals they will compare or survey.		Construct and use a table or tally chart to record data Independently present data on a bar chart Use a prepared format or ICT to draw a scatter graph	Interpret data from a data-logger, table, bar chart or scatter graph Identify simple patterns between 2 sets of data or from a survey		Suggest improvements e.g. the size or composition of the sample Suggest additional values within or beyond their data	

Y5	***Asking scientific questions***	***Planning an enquiry***	***Collecting data***	***Recording and presenting data***	***Concluding and communicating***	***Evaluating***	
NC	• **using test results to make predictions to set up further comparative and fair tests**	• **planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary**	• **taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate**	• **recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs**	• **reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of … results, in oral and written forms such as displays and other presentations**	• **identifying scientific evidence that has been used to support or refute ideas or arguments.** • **…degree of trust in results**	
Identifying and Classifying	• Independently ask scientific questions • Choose the type of enquiry most suited to	Recognise whether the enquiry will focus on using differences to discriminate between individuals (identify) or similarities to group and classify.	Use, as appropriate, first hand observations and measurements of features, tests of behaviours and properties, prior knowledge and information from secondary sources.	Choose how to present findings, including creating and using different types of keys, fact files, databases and diagrams Use scientific diagrams to show features of individuals or groups	Interpret information presented in a range of formats to describe and compare individuals and groups using correct scientific language	Consider limitations of their key, database, fact file or diagram.	Use scientific ideas to justify their own conclusions and recognise how it

Research		Choose several suitable sources Plan a sequence of questions to structure the enquiry	Use skimming, scanning and note taking to find and record information Record information in tables and scientific diagrams		Independently choose a format for presenting their findings which is suited to a specific audience and purpose Use correct scientific language	Begin to separate opinion from fact Compare the content and usefulness of different sources and the degree of trust they have in them.	
Comparative/fair test		Recognise when and why variables need to controlled and a fair test is appropriate Identify variables which do not need to be controlled and explain why Independently plan a test with independent, dependent and control variables Identify which variables will have the greatest effect on the results Choose suitable equipment, range and interval for measurements	Use equipment with decimal scales and smaller intervals. Recognise where repeated readings are needed.	Create and use a suitable table, including columns for repeated readings if needed Decide whether the data can be presented in a graph, choose and create the most appropriate one (including line graph). Decide how repeated readings will be presented	Draw conclusions which identify the evidence they are using and are consistent with their data Answer their question including: • Stating a causal relationship where one has been found (fair test) • Comparing and selecting items using data relating to more than one property (comparative test) • Describing changes that have happened (observing over time) • Finding correlations (pattern seeking) Use their data, in discussions, to justify their conclusions Use scientific knowledge, simple models and correct scientific language to explain their findings Draw conclusions from data, in a range of formats, which they have not collected Choose how to present their findings and conclusions (including orally, different writing genres, drama presentations, displays, models, use of ICT)	Consider the accuracy of their measurements, any differences in repeated readings or unusual findings and any variables that were difficult to control when discussing the validity of their conclusions	
Observation over time		Independently plan the enquiry including • Choosing variables to be measured/observed • Choosing suitable equipment • Deciding on frequency and number of observations/measurements		Create and use a suitable format for recording the data Decide whether the data can be presented as a graph, choose and create the most appropriate one (including line graph).		Consider the suitability of their method and the accuracy of their measurements when discussing the validity of their conclusions	
Pattern seeking		Recognise when not all variables can be controlled and a pattern seeking investigation is appropriate Independently plan their investigation including suitable variables, a consistent method of collecting the data and a suitable sample size and composition		Create and use a suitable table for recording the data Decide whether the data can be presented as a graph, choose and create the most appropriate one (including scatter graph)		Consider the accuracy of their data and the limitations of their sample when discussing the validity of their conclusions	

Y6	*Asking scientific questions*	*Planning an enquiry*	*Collecting data*	*Recording and presenting data*	*Concluding and communicating*	*Evaluating*	
NC	• **using test results to make predictions to set up further comparative and fair tests**	• **planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary**	• **taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate**	• **recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs**	• **reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of … results, in oral and written forms such as displays and other presentations**	• **Identifying scientific evidence that has been used to support or refute ideas or arguments.** • **…degree of trust in results**	
Identifying and Classifying	• Independently ask scientific questions • Choose the type of enquiry most suited to answering the question. Justify the decision. • Generate questions by considering possible causal relationships, correlations, changes, similarities and differences • Begin to recognise the limitations of scientific knowledge by identifying scientific questions which do not have a definitive answer	Recognise whether the enquiry will focus on using differences to discriminate between individuals (identify) or similarities to group and classify.	Use, as appropriate, first hand observations and measurements of features, tests of behaviours and properties, prior knowledge and information from secondary sources	Choose how to present findings, including creating and using different types of keys, fact files, databases and diagrams Use scientific diagrams to show features of individuals or groups	Interpret information presented in a range of formats to describe and compare individuals and groups using correct scientific language	Consider limitations of their key, database, fact file or diagram.	Use scientific ideas to justify their own conclusions and recognise how it has been use in the conclusions of others Recognise where evidence from the enquiry has caused them to change their original ideas
Research		Choose several suitable sources Plan a sequence of questions to structure the enquiry	Use skimming, scanning and note taking to find and record information Record information in tables and scientific diagrams		Independently choose a format for presenting their findings which is suited to a specific audience and purpose Use correct scientific language	Begin to separate opinion from fact Compare the content and usefulness of different sources and the degree of trust they have in them.	
Comparative/fair test		Recognise when and why variables need to controlled and a fair test is appropriate Identify variables which do not need to be controlled and explain why Independently plan a test with independent, dependent and control variables Identify which variables will have the greatest effect on the results Choose suitable equipment, range and interval for measurements	Use equipment with decimal scales and smaller intervals. Recognise where repeated readings are needed.	Create and use a suitable table, including columns for repeated readings if needed Decide whether the data can be presented in a graph, choose and create the most appropriate one (including line graph). Decide how repeated readings will be presented	Draw conclusions which identify the evidence they are using and are consistent with their data Answer their question including: • Stating a causal relationship where one has been found (fair test) • Comparing and selecting items using data relating to more than one property (comparative test) • Describing changes that have happened (observing over time) • Finding correlations (pattern seeking) Use their data, in discussions, to justify their conclusions Use scientific knowledge, simple models and correct scientific language to explain their findings Draw conclusions from data, in a range of	Consider the accuracy of their measurements, any differences in repeated readings or unusual findings and any variables that were difficult to control when discussing the validity of their conclusions	
Observation over time		Independently plan the enquiry including • Choosing variables to be measured/observed • Choosing suitable equipment • Deciding on frequency and number of observations/measurements		Create and use a suitable format for recording the data Decide whether the data can be presented as a graph, choose and create the most appropriate one (including line graph).		Consider the suitability of their method and the accuracy of their measurements when discussing the validity of their conclusions	

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6



Pattern seeking		Recognise when not all variables can be controlled and a pattern seeking investigation is appropriate Independently plan their investigation including suitable variables, a consistent method of collecting the data and a suitable sample size and composition		Create and use a suitable table for recording the data Decide whether the data can be presented as a graph, choose and create the most appropriate one (including scatter graph)	formats, which they have not collected Choose how to present their findings and conclusions (including orally, different writing genres, drama presentations, displays, models, use of ICT)	Consider the accuracy of their data and the limitations of their sample when discussing the validity of their conclusions	

Animals including humans	**1S1** Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals **1S2** identify and name a variety of common animals that are carnivores, herbivores and omnivores **1S3** Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, incl. pets) **1S4** Identify, name, draw & label the basic parts of the human body and say which part of the body is assoc. with each sense	**2S1** Notice that animals, including humans, have offspring which grow into adults **2S2** Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) **2S3** Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	**3S1** 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 **3S2** Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	**4S1** Describe the simple functions of the basic parts of the digestive system in humans **4S2** Identify the different types of teeth in humans and their simple functions **4S3** Construct and interpret a variety of food chains, identifying producers, predators and prey.	**5S1** Describe the changes as humans develop to old age.	**6S1** Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood **6S2** Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function **6S3** Describe the ways in which nutrients and water are transported within animals, including humans.
Living things and their habitats		**2S4** Explore & compare the differences between things that are living, dead, and things that have never been alive **2S5 I**dentify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other **2S6** Identify and name a variety of plants and animals in their habitats, including micro-habitats **2S7** Describe how		**4S4** Recognise that living things can be grouped in a variety of ways **4S5** Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment **4S6** Recognise that environments can change and that this can sometimes pose dangers to living things.	**5S2** Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird **5S3** Describe the life process of reproduction in some plants and animals.	**6S4** Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals **6S5** Give reasons for classifying plants and animals based on specific characteristics.

		animals obtain their food from plants & other animals, using the idea of a simple food chain, & identify & name diff. sources of food.				
Plants	**1S5** Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. **1S6**Identify and describe the basic structure of a variety of common flowering plants, including trees.	**2S8** Observe and describe how seeds and bulbs grow into mature plants **2S9** Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	**3S3** Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers **3S4** 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 **3S5** Investigate the way in which water is transported within plants **3S6** Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
Evolution and Inheritance						**6S6** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago **6S7** Recognise that living things produce offspring of the same kind, but normally offspring vary

						and are not identical to their parents **6S8** Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
Materials & their properties (including rocks)	**1S7** Distinguish between an object and the material from which it is made **1S8** Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock **1S9** Describe the simple physical properties of a variety of everyday materials **1S10** Compare and group together a variety of everyday materials on the basis of their simple physical properties.	**2S10** Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses **2S11** Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**3S7** Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties **3S8** Describe in simple terms how fossils are formed when things that have lived are trapped within rock **3S9** Recognise that soils are made from rocks and organic matter.		**5S4** 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 **5S5** Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	
States of matter (reversible & irreversible changes)				**4S7** Compare and group materials together, according to whether they are solids, liquids or gases **4S8** 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) **4S9** Identify the part played by evaporation	**5S6** Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution **5S7** Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating **5S8** Demonstrate that dissolving, mixing and	

				and condensation in the water cycle and associate the rate of evaporation with temperature.	changes of state are reversible changes **5S9** 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.	
Seasonal changes	**1S11** Observe changes across the four seasons **1S12** Observe and describe weather associated with the seasons and how day length varies.					
Earth & Space					**5S10** Describe the movement of the Earth, and other planets, relative to the Sun in the solar system **5S11** Describe the movement of the Moon relative to the Earth **5S12** Describe the Sun, Earth and Moon as approximately spherical bodies **5S13** Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	
Light			**3S10** Recognise that they need light in order to see things and that			**6S9** Use the idea that light travels in straight lines to explain that

			dark is the absence of light **3S11** Notice that light is reflected from surfaces **3S12** Recognise that light from the sun can be dangerous and that there are ways to protect their eyes **3S13** Recognise that shadows are formed when the light from a light source is blocked by a solid object **3S14** Find patterns in the way that the size of shadows change.			objects are seen because they give out or reflect light into the eye **6S10** 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 **6S11** Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
Sound				**4S10** Identify how sounds are made, associating some of them with something vibrating **4S11** Recognise that vibrations from sounds travel through a medium to the ear **4S12** Find patterns between the pitch of a sound & features of the object that produced it **4S13** Find patterns between the volume of a sound and the strength of the vibrations that produced it **4S14** Recognise that sounds get fainter as the distance from the sound source increases.		

Forces, magnets & electricity			**3S15** Compare how things move on different surfaces **3S16** Notice that some forces need contact between two objects, but magnetic forces can act at a distance **3S17** Observe how magnets attract or repel each other and attract some materials and not others describe magnets as having two poles **3S18** Predict whether two magnets will attract or repel each other, depending on which poles are facing. **3S19** 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	**4S15** Identify common appliances that run on electricity **4S16** Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers **4S17** 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 **4S18** Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit **4S19** Recognise some common conductors and insulators, and associate metals with being good conductors.	**5S14** Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object **5S13** Identify the effects of air resistance, water resistance and friction, that act between moving surfaces **5S15** Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	**6S12** Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit **6S13** 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 **6S14** Use recognised symbols when representing a simple circuit in a diagram.
COVERAGE OVERVIEW						
Biology	**2**	**3**	**2**	**2**	**2**	**3**
Chemistry	**1**	**1**	**1**	**1**	**1**	**0**
Physics	**1**	**0**	**2**	**2**	**2**	**1**