Animals Including humans

The national curriculum for Science aims to ensure that all pupils:

• The national curriculum for science aims to ensure that all pupils: develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
 Subject Content: Pupils should be taught to: identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 	Subject Content: Pupils should be taught to: notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	 Subject Content: Pupils should be taught to: identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat; identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	 Subject Content: Pupils should be taught to: describe the simple functions of the basic parts of the digestive system in humans, identify the different types of teeth in humans and their simple functions construct and interpret a variety of food chains, identifying producers, predators and prey. 	 Subject Content: Pupils should be taught to: describe the changes as humans develop to old age. 	Subject C Provide to th hu sy fu bl Re di lif bo th nu tr ar hu
 Essential Knowledge: Name basic parts of the human body. Know which body part is associated with each sense. Identify and group animals. Name and label the basic parts of an animal. Know some similarities and differences between different animals. Sort animals according to their diet and define what a herbivore, carnivore and omnivore is. 	 Essential Knowledge: The word offspring means the young of a living thing. Children should be able to name the offspring of a variety of animals. The stages of human life are baby, toddler, child, teenager and adult. Animals including humans need air, water and food to survive. A balanced diet, exercise and good hygiene help us to stay healthy. 	 Essential Knowledge: Name the five food groups. Identify that animals, including humans, need the right types and amount of nutrition Identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	 Essential Knowledge: Name and describe the simple functions of the basic parts of the human digestive system (mouth, oesophagus, stomach, liver, pancreas, duodenum, small intestine, large intestine, rectum, anus) Identify different types of human teeth and their functions (molar, premolar, canine, incisor, wisdom). Identify differences in teeth of carnivores, omnivores and herbivores and why this is. Understand what causes tooth decay 	 Essential Knowledge: Order the stages of human development. Demonstrate understanding of how babies grow in height and weight. Know the main changes that occur during puberty. Know the main changes that take place in old age 	Essential • Es pu ar in ba di • Ui a ke



Content:

Pupils should be taught b: identify and name he main parts of the uman circulatory ystem, and describe the unctions of the heart, lood vessels and blood Recognise the impact of liet, exercise, drugs and festyle on the way their odies function Describe he ways in which utrients and water are ransported within nimals, including umans.

Knowledge:

Explain how blood bumps around the body and links to other

- nternal systems of the body i.e respiratory and ligestive
- Inderstand the heart is muscle and how to eep their heart healthy

Essential Skills Essential Skills Essential Skills Essential Skills	
 Ask simple quasitors tour the world around us. Begin to recognise that they can be answered in different types of staintific empairies to asseer them. Begin to observe closely, using simple equipment. Use simple equipment. Use simple equipment. Use simple equipment. Use simple equipment and the relationships and relationships and relationships and measurements and eequipment with support. To assay what I am looking for and what I am measuring. To know how to use simple equipment stafely. To know how to use simple equipment stafely. To begin to agrange and the recognise that the requires to assay. To assay what I am looking for and what I am measuring. To know how to use simple equipment stafely. To know how to use simple equipment stafely. To begin to agrange and the recognise that may be apprend to agrange and the recognise that may be apprend to agrange of equipment with support. To begin to agrange of the recognise that may be apprend to agrange of equipment with support. To begin to agrange of the recognise that may be apprend to agrange of equipment with support. To agrange of the recognise that may be apprend to may be apprend to agrange of equipment with support. To begin to recognise that may be apprend to may appren	t Essention t • talk • talk • talk • talk • talk • talk • a •

l Skills

Plan different types of cientific enquiries to Inswer questions, ncluding recognising Ind controlling variables where necessary. xplore and talk about deas, ask their own uestions about scientific henomena, analyse unctions, relationships ind interactions more ystematically. Begin to recognise more Ibstract ideas and begin o recognise how these deas help them to inderstand how the vorld operates. Begin to recognise cientific ideas change ind develop over time. elect the most ppropriate ways to inswer science juestions using different ypes of scientific enquiry. ake measurements, ising a range of cientific equipment, with ncreasing accuracy and precision, taking repeat eadings where ippropriate. dentify patterns that night be found in the atural environment. 1ake their own decisions bout what observations o make, what neasurements to use Ind how long to make hem for and whether to epeat them. choose the most ippropriate equipment Ind explain how to use it accurately.

teacher has provided

- Identify and classify with some support.
- To begin to observe and identify, compare and describe.
- To begin to use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.
- To begin to use simple secondary sources to find answers.
- To begin to find information to help me from books and computers with help.
- Begin to talk about what they have found out and how they found it out
- To begin to say what happened in my investigation.
- To begin to say whether I was surprised at the results or not.
- To begin to say what I would change about my investigation.

• Use simple features to • Begin to see a pattern in my results.

compare objects,

group them.

materials and living

things and, with help,

• Use simple secondary

decide how to sort and

sources to find answers.

help me from books and

have found out and how

• To say what happened in

surprised at the results

Can find information to

computers with help

• Talk about what they

they found it out.

my investigation.

• To say whether I was

• To say what I would

investigation.

change about my

or not.

- Begin to choose from a • selection of equipment.
- Begin to observe and measure accurately using standard units including time in minutes and seconds.
- Set up some simple practical enquiries, comparative and fair tests.
- Begin to recognise when a simple fair test is necessary and help to decide how to set it up.
- Begin to think of more than one variable factor
- Gather, record, and begin to classify and present data in a variety of ways to help in answering questions.
- Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data.
- Begin to record results in tables and bar charts.
- Begin to identify differences, similarities or changes related to simple scientific ideas and processes.
- Begin to talk about criteria for grouping, sorting and classifying and use simple keys.
- Begin to compare and group according to behaviour or properties, based on testing.
- Begin to recognise when and how secondary sources might help to answer questions that

selection of equipment. • Can observe and measure accurately

- using standard units including time in minutes and seconds. • Set up simple practical enquiries, comparative
- and fair tests. • Recognise when a simple fair test is necessary and help to decide how to set it up.
- Can think of more than one variable factor.
- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use notes, simple tables and standard units and help to decide how to record and analyse their data.
- Can record results in tables and bar charts.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Talk about criteria for grouping, sorting and classifying and use simple keys.
- Compare and group according to behaviour or properties, based on testing.
- Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations.
- Using results to draw simple conclusions, make predictions for

appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns.

- Select equipment on my own. Can make a set of observations and say what the interval and range are.
- Begin to take accurate and precise measurements - N, g, kg, mm, cm, mins, seconds, cm2V, km/h, m per sec, m/ sec Graphs - pie, line
- Begin to use test results to make predictions to set up further comparative and fair tests.
- Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and whu.
- Begin to suggest improvements to my method and give reasons.
- Begin to decide when it is appropriate to do a fair test.
- Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs.
- Begin to report and present findings from enquiries.
- Begin to decide how to record data from a choice of familiar approaches.
- Begin to choose how best to present data.
- Begin to use and develop keys and other information records to identify, classify and describe living things and materials.
- Begin to recognise which secondary sources will be most useful to research their ideas.

• Can interpret data and find patterns. • Select equipment on my own. • Can make a set of observations and say what the interval and range are. • Accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm2V, km/h, m per sec, m/ sec Graphs – pie, line, bar • Use test results to make predictions to set up further comparative and fair tests. • Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. • Suggest improvements to my method and give reasons. • Decide when it is appropriate to do a fair test. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line araphs. • Report and present findings from enquiries. • Decide how to record data from a choice of familiar approaches. • Can choose how best to present data • Use and develop keys and other information records to identify, classify and describe living things and materials. Recognise which secondary sources will be most useful to research their ideas. • 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. Identify scientific evidence that has been used to support or refute ideas or arguments. Draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings. Use test results to make predictions to set up further comparatives and fair tests. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed. Separate opinion from fact. Can draw conclusions and identify scientific evidence. Can use simple models. Know which evidence proves a scientific point. Use test results to make predictions to set up further comparative and fair tests.

Links to prior learning: EYFS,Understanding the world YI, Animals including humans	Links to prior learning: EYFS, Understanding the world YI, Identifying animals	Links to prior learning: EYFS, Understanding the world YI, Carnivore, Herbivores and omnivores, body parts of a human Y2, Food and diet	Links to prior learning: EYFS, Understanding the world YI, Carnivore, Herbivores and omnivores Y2, Food and diet Y3, Nutrition	Links to prior learning: EYFS, Understanding the world YI, Y2, Offspring and stages of development of a human	Links to EYFS, Un YI Body r Y4, Diges
Links to future learning: Y2, Y3, Carnivore, Herbivores and omnivores, body parts of a human Y4, Carnivore, Herbivores and omnivores - Living things and their habitats - Groupings Y5, Living things and their habitats - Groupings Y6, Body parts of a human - Living things and their habitats - Groupings	Links to future learning: Y3, Food and diet Y4, Nutrition Y5, Offspring and stages of development of a human	Links to future learning: Y4, Nutrition, Tooth decay, Digestive system	Links to future learning:	Links to future learning:	Links to KS3 - Bio Structure

Plants



prior learning: nderstanding the world parts of a human stive system

future learning:

ology re of living organisms

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content: • Pupils should be taught to: 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.	Subject Content: • Pupils should be taught to: 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.	 Subject Content: Pupils should be taught to: 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. 	Subject Content:	Subject Content:	Subject
 Essential Knowledge: Label the basic parts of a plant. Observe a bean growing and record their observations. Identify different types of plants Children to name some wild and garden plants. Identify the difference between evergreen and deciduous trees 	 Essential Knowledge: When a seed begins to grow into a plant it is called germination. Plants need water, sunlight and a suitable temperature to grow and stay healthy. We can eat parts of plants such as the roots (potatoes and carrots), leaves (cabbage and lettuce), stem (celery and rhubarb), flower (broccoli and cauliflower) and seeds (sweetcorn). 	 Essential Knowledge: Understand what plants need to grow. Understand the functions of different parts of plants. Describe the different ways in which plants can disperse their seeds. Investigate the way in which water is transported in a plant. 	Essential Knowledge:	Essential Knowledge:	Essentio
 Essential Skills Ask simple questions about the world around us. Begin to recognise that they can be answered in different ways. Begin to observe closely, using simple equipment. Use simple observations and ideas to suggest answers to questions. To observe simple 	 Essential Skills Ask questions about the world around us. Recognise that they can be answered in different ways. Observe closely, using simple equipment. Use observations and ideas to suggest answers to questions. To observe changes over time and, with guidance, 	 Essential Skills Ask some relevant questions and use different types of scientific enquiries to answer them. Begin to explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, 	Essential Skills	Essential Skills	Essentio

y and physics develop them are equipped
Content:
ıl Knowledge:
ıl Skills

 Perform simple tests with support. To begin to discuss my ideas about how to find things out. To begin to say what happened in my investigation. Gather and record data with some adult support, to help in answering questions. Begin to record simple data. Begin to record and communicate their Can show my results in a table that my teacher has provided. 	 loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use some new 		
Can show my results in aCompare and describe.simple table that my• Use simple features toteacher has providedcompare objects,	 Begin to see a pattern in my results. Begin to choose from a 		
Identify and classify with some support.materials and living things and, with help,	selection of equipment.Begin to observe and		
To begin to observe and identify, compare and describe.decide how to sort and group them.Use simple secondary	measure accurately using standard units including time in minutes		
To begin to use simple features to comparesources to find answers.• Can find information to	and seconds.Set up some simple		
objects, materials andhelp me from books andliving things and, withcomputers with helphelp, decide how to sortTalk about what they	practical enquiries, comparative and fair tests.		
and group them.have found out and howTo begin to use simplethey found it out.secondary sources toTo say what happened in	 Begin to recognise when a simple fair test is necessary and help to 		
find answers. To begin to find information to help me	 decide how to set it up. Begin to think of more than one variable factor. 		
from books and computers with help.	 Gather, record, and begin to classify and present 		
Begin to talk about whatchange about mythey have found out andinvestigation.how they found it outTo begin to squarket	data in a variety of ways to help in answering questions.		



 To begin to say whether I was surprised at the results or not. To begin to say what I would change about my investigation. 		 labelled diagrams, keys, bar charts and tables. Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data. Begin to record results in tables and bar charts. Begin to identify differences, similarities or changes related to simple scientific ideas and processes. Begin to talk about criteria for grouping, sorting and classifying and use simple keys. Begin to recording to behaviour or properties, based on testing. Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Am beginning to use straightforward scientific evidence to answer questions or to support their findings. With help, am beginning to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, am beginning to identify new questions arising from the data, make new 			
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		 predictions and find ways of improving what they have already done. Am beginning to see a pattern in my results. Am beginning to say what I found out, linking cause and effect. Am beginning to say how I could make it better. Am beginning to answer questions from what I have found out. 			
Links to prior learning: EYFS, Growing and caring for nature YI, Plants	Links to prior learning: EYFS, Growing and caring YI, Types of plants	Links to prior learning: EYFS, Growing and caring YI, Parts of a plant Y2, Germination and needs of a plant	Links to prior learning:	Links to prior learning:	Links to
Links to future learning: Y2, Needs of a plant, plants grow fruit and vegetables that we can eat Y3, Functions of parts of a plant Y4, Living things and their habitats	Links to future learning: Y3, Functions of parts of a plant, needs of a plant	Links to future learning: KS3 - Biology - Material cycles and energy	Links to future learning:	Links to future learning:	Links to

Living things and their habitats



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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content:	Subject Content: • Explore and compare the differences between things that are living, dead, and things that have never been alive	Subject Content:	 Subject Content: Recognise that living things can be grouped in a variety of ways Explore and use classification keys to help group, identify and 	 Subject Content: Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. 	Subject C D th bi tc ch



Content:

Describe how living nings are classified into road groups according o common observable haracteristics and based on similarities and

	 Identify 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 Identify and name a variety of plants and animals in their habitats, including micro-habitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. 		name a variety of living things in their local and wider environment. • Recognise that environments can change and that this can sometimes pose dangers to living things.	Describe the life process of reproduction in some plants and animals.	d m G cl a s
Essential Knowledge:	 Essential Knowledge: Movement, respiration, sensitivity, growth, reproduction, excretion and nutrition are the seven life processes that all living things do. MRS GREN Something that used to do the seven life processes is dead. Something that has never been able to do the seven life processes has never been alive. A habitat is a place where animals and plants live. Examples include woodland, pond, urban, ocean, rainforest and desert. A microhabitat is a very small habitat such as fallen leaves. Animals are well suited to their habitats. Examples include polar bears, camels, and sharks. A food chain can show that animals get their food from plants and other animals. 	Essential Knowledge:	 Essential Knowledge: Know that living things can be grouped in a variety of ways (e.g. plants and animals, flowering and nonflowering plants, vertebrates and invertebrates). Know the 5 main vertebrate groups: mammals, reptiles, amphibians, fish and birds. Use classification keys to help group, identify, and name living things in the environment. Know that environments can change through the effects of human population and development, litter, deforestation and natural events such as fire and floods and this can damage habitats. 	 Essential Knowledge: Compare the life cycle of certain mammals, reptiles, amphibians and birds. Identify the parts of a plant and its function Explain asexual reproduction and sexual reproduction in plants 	Essential G G C G C C C C C C C C C C C C C
Essential Skills	 Essential Skills Ask questions about the world around us. 	Essential Skills	 Essential Skills Ask relevant questions and use different types 	 Essential Skills Begin to plan different types of scientific 	Essential • P so

- differences, including micro-organisms, plants and animals Give reasons for classifying plants and
- nimals based on
- specific characteristics.

l Knowledge:

Give reasons for classifying plants and animals based on specific characteristics. Know living things are classified into broad groups according to common observable characteristics.

l Skills

Plan different types of scientific enquiries to

Recognise that they can	
be answered in different	
ways. • Observe closely, using	
simple equipment.	
Use observations and	
ideas to suggest answers	
to questions.	
 To observe changes over time and with 	
guidance, begin to notice	
patterns and	
relationships.	
 I o say what I am looking for and what I am 	
measurina.	
To know how to use	
simple equipment safely.	
Use simple magguraments and	
equipment with	
increasing independence	
(eg hand lenses and egg	
timers)	
 Begin to progress from non-standard units 	
reading mm, cm, m, ml, l,	
°C	
 Perform simple tests. To 	
how to find things out	
 To say what happened in 	
my investigation.	
 Gather and record data to hole in any variant 	
auestions.	
 Record simple data. 	
Record and	
communicate their	
waus.	
 Can show my results in a 	
table that my teacher	
has provided.	
 Observe and identifu 	
compare and describe.	
Use simple features to	
compare objects,	
thinas and, with help.	
decide how to sort and	
group them.	
Use simple secondary sources to find and uses	
 Can find information to 	
help me from books and	
computers with help	
 Talk about what theu 	

have found out and how

of scientific enquiries to answer them.

- Explore everyday phenomena and the relationships between living things and familiar environments.
- Begin to develop their ideas about functions, relationships and interactions.
- Raise their own questions about the world around them.
- Make some decisions about which types of enquiry will be the best way of answering questions
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.
- Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.
- Learn to use new equipment appropriately (eg data loggers).
- Can see a pattern in my results.
- Can choose from a selection of equipment.
- Can observe and measure accurately using standard units including time in minutes and seconds.
- Set up simple practical enquiries, comparative and fair tests.
- Recognise when a simple fair test is necessary and help to decide how to set it up.

enquiries to answer questions, including recognising and controlling variables where necessary.

- Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.
- Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates.
- Begin to recognise scientific ideas change and develop over time. Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry
- Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Begin to identify patterns that might be found in the natural environment.
- Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them.
- Choose the most appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns.
- Select equipment on my own. Can make a set of observations and say what the interval and range are.
- Begin to take accurate • and precise measurements - N, g, kg, mm, cm, mins, seconds,

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answer questions, including recognising and controlling variables where necessary. • Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. • Begin to recognise scientific ideas change and develop over time. • Select the most appropriate ways to answer science questions using different types of scientific enquiry. • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Identify patterns that might be found in the natural environment. • Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. • Choose the most appropriate equipment and explain how to use it accurately. • Can interpret data and find patterns. • Select equipment on my own. • Can make a set of observations and say what the interval and range are. • Accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm2V, km/h, m per sec, m/ sec Graphs - pie, line, bar

 they found it out. To say what happened in my investigation. To say whether I was surprised at the results or not. To say what I would change about my investigation. 	 Can think of more than one variable factor. Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use notes, simple tables and standard units and help to decide how to record and analyse their data. Can record results in tables and bar charts. Identify differences, similarities or changes related to simple scientific ideas and processes. Talk about criteria for grouping, sorting and classifying and use simple keys. Compare and group according to behaviour or properties, based on testing. Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings. With help, look for changes, patterns, similarities and differences in their data in order to draw simple 	 cm2V, km/h, m per sec, m/ sec Graphs - pie, line Begin to use test results to make predictions to set up further comparative and fair tests. Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Begin to suggest improvements to my method and give reasons. Begin to decide when it is appropriate to do a fair test. Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Begin to report and present findings from enquiries. Begin to choose how best to present data. Begin to use and develop keys and other information records to identify, classify and describe living things and materials. Begin to record sto identify classify and describe living things and materials. Begin to recognise which secondary sources will be most useful to research their ideas. Am beginning to report and present 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. Begin to identify
	in order to draw simple conclusions and answer	has been used to support or refute ideas

•	Use test results to make predictions to set up further comparative and
•	fair tests. Recognise when and how to set up
	comparative and fair tests and explain which variables need to be
•	controlled and why. Suggest improvements
•	reasons. Decide when it is
	appropriate to do a fair test.
•	Record data and results of increasing complexity
	and labels, classification keys, tables and bar and
•	line graphs. Report and present
•	findings from enquiries.
•	Decide how to record data from a choice of
•	familiar approaches. Can choose how best to
	present data
•	Use and develop keys
	records to identify,
	classify and describe
	living things and materials
•	Recognise which
	secondary sources will
	be most useful to
•	research their ideas. Reporting and
•	presenting findings from
	enquiries, including
	conclusions, causal
	relationships and evolutions of and
	dearee of trust in results.
	in oral and written forms
	such as displays and
	other presentations.
•	Identify scientific
	used to support or refute
	ideas or arguments.
•	Draw conclusions based
	on their data and
	ouservations, use
	ideas, use scientific
	knowledge and
	understanding to explain

			 questions. With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Can see a pattern in my results. Can say what I found out, linking cause and effect. Can say how I could make it better. Can answer questions from what I have found out 	 or arguments. Begin to draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings. Begin to use test results to make predictions to set up further comparatives and fair tests. Begin to look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed. Begin to separate opinion from fact. Begin to draw conclusions and identify scientific evidence. Can use simple models. Know which evidence proves a scientific point. Begin to use test results to make predictions to set up further comparative and fair tests. 	 their findings. Use test results to make predictions to set up further comparatives and fair tests. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed. Separate opinion from fact. Can draw conclusions and identify scientific evidence. Can use simple models. Know which evidence proves a scientific point. Use test results to make predictions to set up further comparative and fair tests.
Links to prior learning:	Links to prior learning: EYFS, Forest school - identifying and comparing habitats	Links to prior learning:	Links to prior learning: EYFS, Caring for living things YI, Animals including humans - grouping Y2, Living or Dead	Links to prior learning: EYFS, Life cycles YI, Parts of a plant, Animals including humans - groupings Y2, Stages of human development - MRS GREN Y3, Functions of parts of a plant	Links to prior learning: EYFS, Observing YI Animals including humans - grouping Y2, Animals suited to habitats Y3, Food groups and Skeleton structure Y4, Grouping and classifying Y5, Identifying, classifying and explaining
Links to future learning:	Links to future learning: Y4, Living things groupings Y5, asexual/sexual reproduction in plants Y6, Identifying specific characteristics	Links to future learning:	Links to future learning: Y5, Knowing 5 vertebrate groups Y6, Grouping and classifying specific characteristics	Links to future learning: Y6 Grouping and classifying specific characteristics	Links to future learning: KS3 - Biology - Structure and function of living organisms

Evolution and their inheritance

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content:	Subject Co Re thin over pro ab inh mi Re thi of no				



Content:

Recognise that living hings have changed over time and that fossils provide information bout living things that habited the Earth hillions of years ago Recognise that living hings produce offspring of the same kind, but ormally offspring vary

					ar th Ide su dif ac
Essential Knowledge:	Essential • Of fro po • Inl ch re nu • Ac ra cc • Ch ess ev fir • W stu ev ar				
Essential Skills	Essential Pla sc ar ind ar wh Ex ida qu pr fu ar sy Be ab to ida ur sy Be ab to ida ur sy Be ab to ida ur sy Be ab to ida ur sy Be ab to ida ur sy Be ab to ida ur sy Be ab to ida ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ab to ur sy Be ac to ur sy Be ac ar ar sy Be ac ar ar ar ar ar ar ar ar ar ar				

nd are not identical to
neir parents
lentify how animals and
ants are adapted to
uit their environment in
ifferent ways and that
daptation may lead to
volution.

al Knowledge:

Offspring inherit genes from their parent or parents.

Inherited and learnt characteristics are often referred to nature vs nurture.

Adaptations occur due to random mutations and can lead to evolution. Charles Darwin

established his theory of evolution from observing finches.

We can use fossils to study and document the evolution of different animals and plants.

al Skills

Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.

Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. Begin to recognise scientific ideas change and develop over time. Select the most appropriate ways to

answer science questions using different types of scientific enquiry.

Take measurements, using a range of

		scientific equipment, with
		increasing accuracy and
		precision, taking repeat
		readings where
		appropriate.
		 Identify patterns that
		might be found in the
		natural environment.
		Make their own decisions
		about what observations
		to make, what
		measurements to use
		and how long to make
		them for and whether to
		repeat them.
		Choose the most
		appropriate equipment
		and explain now to use it
		Can interpret data and find a state res
		nnu patterns.
		 Select equipment on my
		• Can make a set of
		observations and sau
		what the interval and
		range are
		 Accurate and precise
		measurements – N. a. ka.
		mm, cm, mins, seconds,
		cm2V, km/h, m per sec,
		m/ sec Graphs – pie, line,
		bar
		 Use test results to make
		predictions to set up
		further comparative and
		fair tests.
		Recognise when and
		how to set up
		comparative and fair
		iesis ana explain which
		controlled and why
		Suggest improvements
		to mu method and give
		regsons
		 Decide when it is
		appropriate to do a fair
		test.
		Record data and results
		of increasing complexity
		using scientific diagrams
		and labels, classification
		keys, tables and bar and
		line graphs.
		Report and present
		findings from enquiries.
		Decide how to record
		data from a choice of
		tamiliar approaches.

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Can choose how best to present data Jse and develop keys ind other information ecords to identify, lassify and describe ving things and naterials. Recognise which econdary sources will e most useful to esearch their ideas. Reporting and presenting findings from enquiries , including onclusions, causal elationships and explanations of and legree of trust in results, oral and written forms uch as displays and other presentations. dentify scientific vidence that has been used to support or refute deas or arguments. Draw conclusions based on their data and bservations, use vidence to justify their deas, use scientific nowledge and inderstanding to explain heir findings. Jse test results to make predictions to set up urther comparatives ind fair tests. ook for different causal elationships in their data Ind identify evidence hat refutes or supports heir ideas. Jse their results to dentify when further ests and observations re needed. Separate opinion from act. Can draw conclusions Ind identify scientific vidence. Can use simple models. (now which evidence proves a scientific point. Jse test results to make predictions to set up urther comparative and air tests.

| Links to prior learning: | Links to p
Y2, Anima
human da
Y5, Anima
human da |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|
| Links to future learning: | Links to 1
KS3 - Bio
Evolution |

Seasonal change

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
 Subject Content: Observe the changes across the four seasons. Observe and describe the weather associated with the season and how day length varies. 	Subject Content:	Subject Content:	Subject Content:	Subject Content:	Subject
 Essential Knowledge: Describe weather changes throughout the year. Observe the seasons and what happens in them. 	Essential Knowledge:	Essential Knowledge:	Essential Knowledge:	Essential Knowledge:	Essentia
 Essential Skills Ask simple questions about the world around us. Begin to recognise that 	Essential Skills	Essential Skills	Essential Skills	Essential Skills	Essentia

prior learning:

als including humans evelopment stages als including humans evelopment stages

future learning:

logy - Genetics and



			_
they can be answered in			
lifferent construction			
almerent ways.			
 Begin to observe closely, 			
using simple equipment.			
 Use simple observations 			
and ideas to suggest			
answers to questions			
 To observe simple changes over time and 			
with guidance, begin to			
notice patterns and			
relationships.			
 To say what I am looking 			
for and what I am			
measuring.			
 To know how to use 			
simple equipment safelu			
 Ose simple modeuroments and 			
aguinment with support			
(eg hand lenses and egg			
timers)			
 Begin to progress from 			
non-standard units,			
reading cm, m, cl, l, °C			
• Perform simple tests with			
support.			
 To begin to discuss mu 			
ideas about how to find			
things out			
 To bogin to squawbat 			
To begin to sug what			
nappened in my			
investigation.			
 Gather and record data 			
with some adult support,			
to help in answering			
questions.			
 Begin to record simple 			
data.			
 Beain to record and 			
communicate their			
findings in a range of			
• Can show mu rosults in a			
Curr show my results in a			
teacher has provided			
 Identify and classify with 			
some support.			
 To begin to observe and 			
identify, compare and			
describe.			
• To begin to use simple			
features to compare			
objects, materials and			
living things and with			
help decide how to sort			
and aroun them			
I o begin to use simple			
secondary sources to			
tind answers.			



 To begin to find information to help me from books and computers with help. Begin to talk about what they have found out and how they found it out To begin to say what happened in my investigation. To begin to say whether I was surprised at the results or not. To begin to say what I would change about my investigation. 					
Links to prior learning: EYFS, Basic weather observations, seasons and influencing choices, naming and observing seasons	Links to prior learning:	Links to			
Links to future learning: KS3 - Physics - Changes in systems	Links to future learning:	Links to KS3 -			



Everyday Materials (Year 1) Uses of Everyday Materials (Year 2) States of matter (Year 4) Properties and changes of materials (Year 5)

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
 Subject Content: Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties. 	 Subject Content: Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	Subject Content:	 Subject Content: Compare and group materials together, according to whether they are solids, liquids or gases. 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). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 	 Subject Content: 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. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. 	Subject C



Content:

				 changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. 	
 Essential Knowledge: Identify and compare the materials everyday objects are made from: wood, plastic, glass, metal, water, rock. Distinguish between an object and the material which it is made from e.g. a table made from wood. Investigate the suitability of materials for a specific purpose e.g. plastic works better for an umbrella because it is waterproof 	 Essential Knowledge: Identify and name a variety of everyday materials including wood, metal, plastic, glass, rock, paper, cardboard and fabric. Materials can be described as shiny, dull, rough, smooth, transparent, opaque, waterproof, absorbent, stretchy, stiff, hard, soft, bendy or not bendy. The properties of a material makes the material suitable for a specific use. Examples: Windows are made from glass because glass is strong, transparent and waterproof. Chair legs are made out of metal because metal is strong, stiff and not bendy. 	Essential Knowledge:	 Essential Knowledge: Know the main properties of solids, liquids and gases. Solids - holds its shape, closely packed particles. Liquids - takes shape of container, can be poured, particles less tightly packed. Gases - fill space they are in, particles very loosely packed. Compare and group materials according to whether they are solids, liquids or gases. Know that some materials change state when they are heated or cooled (ice,water, water vapour). Know what the water cycle is and the four main stages: evaporation, condensation, precipitation, collection. 	 Essential Knowledge: Know the properties of different materials using words such as impermeable, conductive, thermal, soluble, transparent. Know that some materials will dissolve in liquid to form a solution and that some substances can be recovered from a solution. Explain with examples reversible and irreversible changes to a material including burning. Explain the terms: properties, dissolve, solution, filtering, sieving and evaporating. 	Essentia
 Essential Skills Ask simple questions about the world around us. Begin to recognise that they can be answered in different ways. Begin to observe closely, using simple equipment. Use simple observations and ideas to suggest answers to questions. To observe simple changes over time and, with guidance, begin to notice patterns and relationships. To say what I am looking 	 Essential Skills Ask questions about the world around us. Recognise that they can be answered in different ways. Observe closely, using simple equipment. Use observations and ideas to suggest answers to questions. To observe changes over time and, with guidance, begin to notice patterns and relationships. To say what I am looking for and what I am 	Essential Skills	 Essential Skills Ask relevant questions and use different types of scientific enquiries to answer them. Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Raise their own questions about the world around them. Make some decisions 	 Essential Skills Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise some more abstract ideas and 	Essentio



for and what I am measuring.

- To know how to use simple equipment safely.
- Use simple measurements and equipment with support (eg hand lenses and egg timers)
- Begin to progress from non-standard units, reading cm, m, cl, l, °C
- Perform simple tests with support.
- To begin to discuss my ideas about how to find things out.
- To begin to say what happened in my investigation.
- Gather and record data with some adult support, to help in answering questions.
- Begin to record simple data.
- Begin to record and communicate their findings in a range of ways.
- Can show my results in a simple table that my teacher has provided
- Identify and classify with some support.
- To begin to observe and identify, compare and describe.
- To begin to use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.
- To begin to use simple secondary sources to find answers.
- To begin to find information to help me from books and computers with help.
- Begin to talk about what they have found out and how they found it out
- To begin to say what happened in my investigation.
- To begin to say whether I was surprised at the results or not.

- measuring.To know how
- To know how to use simple equipment safely.
- Use simple measurements and equipment with increasing independence (eg hand lenses and egg timers)
- Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C
- Perform simple tests. To discuss my ideas about how to find things out.
- To say what happened in my investigation.
- Gather and record data to help in answering guestions.
- Record simple data.
- Record and communicate their findings in a range of ways.
- Can show my results in a table that my teacher has provided.
- Identify and classify.
 Observe and identify, compare and describe.
- Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.
- Use simple secondary sources to find answers.
- Can find information to help me from books and computers with help
- Talk about what they have found out and how they found it out.
- To say what happened in my investigation.
- To say whether I was surprised at the results or not.
- To say what I would change about my investigation.

- about which types of enquiry will be the best way of answering questions
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.
- Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.
- Learn to use new equipment appropriately (eg data loggers).
- Can see a pattern in my results.
- Can choose from a selection of equipment.
- Can observe and measure accurately using standard units including time in minutes and seconds.
- Set up simple practical enquiries, comparative and fair tests.
- Recognise when a simple fair test is necessary and help to decide how to set it up.
- Can think of more than one variable factor.
- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations

begin to recognise how these ideas help them to understand how the world operates.

- Begin to recognise scientific ideas change and develop over time.
 Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry
- Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Begin to identify patterns that might be found in the natural environment.
- Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them.
- Choose the most appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns.
- Select equipment on my own. Can make a set of observations and say what the interval and range are.
- Begin to take accurate and precise measurements - N, g, kg, mm, cm, mins, seconds, cm2V, km/h, m per sec, m/ sec Graphs - pie, line
 Bagin to use test results
- Begin to use test results to make predictions to set up further comparative and fair tests.
- Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.
- Begin to suggest



			[]
To begin to say what I would change about my investigation.		 of results and conclusions. Use notes, simple tables and standard units and help to decide how to record and analyse their data. Can record results in tables and bar charts. Identify differences, similarities or changes related to simple scientific ideas and processes. Talk about criteria for grouping, sorting and classifying and use simple keys. Compare and group according to behaviour or properties, based on testing. Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. Using results to draw simple conclusions for new values, suggest improvements and raise further questions or to support their findings. With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Can say what I found out, linking cause and effect 	 improvements to my method and give reasons. Begin to decide when it is appropriate to do a fair test. Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Begin to report and present findings from enquiries. Begin to decide how to record data from a choice of familiar approaches. Begin to choose how best to present data. Begin to use and develop keys and other information records to identify, classify and describe living things and materials. Begin to recognise which secondary sources will be most useful to research their ideas. Am beginning to report and present 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. Begin to identify scientific evidence that has been used to support or refute ideas or arguments. Begin to draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings.
		 out, linking cause and effect. Can say how I could make it better. 	 Begin to use test results to make predictions to set up further
		Can answer questions	comparatives and fair



			from what I have found out	 tests. Begin to look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed. Begin to separate opinion from fact. Begin to draw conclusions and identify scientific evidence. Can use simple models. Know which evidence proves a scientific point. Begin to use test results to make predictions to set up further comparative and fair tests. 	
Links to prior learning: EYFS, Naming common materials in the indoor and outdoor areas Exploring natural materials using their senses	Links to prior learning: YI, Identifying and comparing common everyday materials, suitability of materials,	Links to prior learning:	Links to prior learning: YI, Naming common materials Y2, Identifying and comparing common everyday materials	Links to prior learning: Y2, Describing materials and their properties Y4, Solid, liquid and gases, Changing state	Links t
Links to future learning: Y2, Identifying and comparing common everyday materials, suitability of materials, Y4, Comparing and grouping materials Y5, Properties of materials	Links to future learning: Y4, Compare and grouping materials Y5, Properties of materials	Links to future learning:	Links to future learning: Y5, Solid, liquid and gas, Reversible and irreversible changes	Links to future learning: KS3 - Chemistry - The particulate nature of matter Atoms, elements and compounds Pure and impure substances Chemical reactions Energetics The Periodic Table Materials Physics - Matter	Links t

to prior learning: to future learning:

Rocks

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content:	Subject Content:	 Subject Content: Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter. 	Subject Content:	Subject Content:	Subject (
Essential Knowledge:	Essential Knowledge:	 Essential Knowledge: Compare and group together different kinds of rocks (sedimentary, igneous, metamorphic) on the basis of their appearance and simple physical properties durable, permeable, impermeable, density. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Know that Mary Anning made significant discoveries impacting palaeontology. Recognise that soils are made from rocks and organic matter and describe the four processes of soil formation (addition, 	Essential Knowledge:	Essential Knowledge:	Essential



		losses, translocations and transformation).			
Essential Skills	Essential Skills	 Essential Skills Ask some relevant questions and use different types of scientific enquiries to answer them. Begin to explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Begin to raise their own questions about the world around them. Begin to make some decisions about which types of enquiry will be the best way of answering questions Begin to make some decisions and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use some new equipment appropriately (eg data loggers). Begin to choose from a selection of equipment. Begin to observe and measure accurately using standard units. 	Essential Skills	Essential Skills	Essentio

al Skills

predictions for new			 including time in minutes and seconds. Set up some simple practical enquiries, comparative and fair tests. Begin to recognise when a simple fair test is necessary and help to decide how to set it up. Begin to think of more than one variable factor Gather, record, and begin to classify and present data in a variety of ways to help in answering questions. Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data. Begin to identify differences, similarities or changes related to simple scientific ideas and processes. Begin to talk about criteria for grouping, sorting and classifying and use simple keys. Begin to talk about criteria for grouping, sorting and classifying and use simple keys. Begin to recording to behaviour or properties, based on testing. Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. I am beginning to use results to draw simple conclusions, make predictions for now 			
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Links to prior learnina:	Links to prior learning:	 values, suggest improvements and raise further questions. Am beginning to use straightforward scientific evidence to answer questions or to support their findings. With help, am beginning to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, am beginning to identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Am beginning to see a pattern in my results. Am beginning to say what I found out, linking cause and effect. Am beginning to say how I could make it better. Am beginning to answer questions from what I have found out. 	Links to prior learnina:	Links to prior learning:	Links 1
Links to phor learning:	Links to prior learning:	EYFS, Naming materials	Links to prior learning:	Links to prior learning:	LINKST
Links to future learning:	Links to future learning:	Links to future learning: ,KS3 - Chemistry - Earth and atmosphere	Links to future learning:	Links to future learning:	Links t KS3 -

to prior learning:

to future learning:

Forces and Magnets

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content:	Subject Content:	 Subject Content: Compare how things move on different surfaces. 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. 	Subject Content:	 Subject Content: 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. 	Subject
Essential Knowledge:	Essential Knowledge:	 Essential Knowledge: Know that some forces need contact between 2 objects (pushes and pulls), but magnetic forces can act at a distance. Investigate how different surfaces can cause more or less friction. Know magnets attract or repel each other and attract some materials and not others. 	Essential Knowledge:	 Essential Knowledge: Know that forces change the motion of an object - make it start, move, speed up, slow down or change shape. Know that unsupported objects fall towards the Earth due to the pulling force of gravity. Know and identify effects of friction, air resistance and water resistance. 	Essentia



Content:

Knowledge:

		 Describe magnets as having 2 poles. 		 Understand how these can be affected by different variables, e.g. mass, surface, shape, streamlining. Know that levers, gears and pulleys allow a smaller force has a greater effect. 	
Essential Skills	Essential Skills	 Essential Skills Ask some relevant questions and use different types of scientific enquiries to answer them. Begin to explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Begin to raise their own questions about the world around them. Begin to make some decisions about which types of enquiry will be the best way of answering questions Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use some new equipment appropriately (eg data 	Essential Skills	 Essential Skills Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. Begin to recognise scientific ideas change and develop over time. Begin to select the most appropriate ways to answer science questions using different types of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Begin to identify patterns that might be found in the natural environment. Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to 	Essenti



	 loggers). Begin to see a pattern in my results. Begin to choose from a selection of equipment. Begin to observe and measure accurately using standard units including time in minutes and seconds. Set up some simple practical enquiries, comparative and fair tests. Begin to recognise when a simple fair test is necessary and help to decide how to set it up. Begin to think of more than one variable factor Gather, record, and begin to classify and present data in a variety of ways to help in answering questions. Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Begin to report on findings from enquiries, including oral and written explanations, displaus or 	 repeat them. Choose the most appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns. Select equipment on my own. Can make a set of observations and say what the interval and range are. Begin to take accurate and precise measurements - N, g, kg, mm, cm, mins, seconds, cm2V, km/h, m per sec, m/ sec Graphs - pie, line Begin to use test results to make predictions to set up further comparative and fair tests. Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Begin to suggest improvements to my method and give reasons. Begin to decide when it
	 and conclusions. Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data. Begin to record results in tables and bar charts. Begin to identify differences, similarities or changes related to simple scientific ideas and processes. Begin to talk about criteria for grouping, sorting and classifying and use simple keys. Begin to compare and group according to behaviour or properties, based on testing. Begin to recognise when and how 	 fair test. Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Begin to report and present findings from enquiries. Begin to decide how to record data from a choice of familiar approaches. Begin to choose how best to present data. Begin to use and develop keys and other information records to identify, classify and describe living things



	 might help to answer questions that cannot be answered through practical investigations. I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Am beginning to use straightforward scientific evidence to answer questions or to support their findings. With help, am beginning to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, am beginning to identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Am beginning to see a pattern in my results. Am beginning to say what I found out, linking cause and effect. Am beginning to answer questions from what I have found out. 		 Begin to recognise which secondary sources will be most useful to research their ideas. Am beginning to report and present 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. Begin to identify scientific evidence that has been used to support or refute ideas or arguments. Begin to draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings. Begin to use test results to make predictions to set up further comparatives and fair tests. Begin to look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed. Begin to separate opinion from fact. Begin to use test results to identify when further tests and observations are needed. Begin to separate opinion from fact. Begin to use test results to identify uscientific evidence. Can use simple models. Know which evidence proves a scientific point. Begin to use test results to make predictions to set up further comparative and fair tests.
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Links to prior learning:	Links to prior learning:	Links to prior learning: EYFS, Magnetic and not magnetic vocabulary and what is and what is not, exploration of surfaces and ramps	Links to prior learning:	Links to prior learning: EYFS, exploration of surfaces and ramps Y3, Forces and surfaces	Links to
Links to future learning:	Links to future learning:	Links to future learning: Y5, Forces and surfaces	Links to future learning:	Links to future learning: KS3 - Physics - Motion and forces Electricity and electromagnetism	Links to

prior learning:

future learning:

Sound

The national curriculum for Science aims to ensure that all pupils:

• The national curriculum for science aims to ensure that all pupils: develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content:	Subject Content:	Subject Content:	 Subject Content: 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 the pitch of a sound and features of the object that produced it. Find patterns between the 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. 	Subject Content:	Subject
Essential Knowledge:	Essential Knowledge:	Essential Knowledge:	 Essential Knowledge: Know that sound is made when objects vibrate the air molecules nearby, causing a sound wave. Know main parts of the ear (outer ear, middle ear, inner ear, auditory canal, ear drum, ossicles, cochlea, auditory nerve) Know that vibrations from sounds travel though a medium (solid, liquid, gas) to the ear. Know pitch is how high or low a sound is and that the faster the vibrations, the higher the pitch. Know that the louder the sound (volume), the bigger the vibration 	Essential Knowledge:	Essentia



Content:

I Knowledge:

			 (amplitude). Know that sounds get fainter as the distance from the sound source increases. 		
Essential Skills	Essential Skills	Essential Skills	 Ask relevant questions and use different types of scientific enquiries to answer them. Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Raise their own questions about the world around them. Make some decisions about which types of enquiry will be the best way of answering questions Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use new equipment appropriately (eg data loggers). Can see a pattern in my results. Can choose from a selection of equipment. Can observe and measure accurately using standard units 	Essential Skills	Essentio



	 including time in minutes and seconds. Set up simple practical enquiries, comparative
	 and fair tests. Recognise when a simple fair test is necessary and help to decide how to set it up.
	 Can think of more than one variable factor. Gather, record, classify and present data in a variety of ways to help
	 in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keus.
	 bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays
	 or presentations of results and conclusions. Use notes, simple tables and standard units and
	 help to decide how to record and analyse their data. Can record results in tables and bar charts.
	Identify differences, similarities or changes related to simple scientific ideas and processes
	 Talk about criteria for grouping, sorting and classifying and use simple keys.
	 Compare and group according to behaviour or properties, based on testing. Begin to recognise
	when and how secondary sources might help to answer questions that cannot be answered through
	 Using results to draw simple conclusions , make predictions for
	new values, suggest improvements and raise further questions. • Use straightforward



Links to future learning:	Links to future learning:	Links to future learning:	Links to future learning: KS3 - Physics - Waves	Links to future learning:	Links
Links to prior learning:	Links to prior learning:	Links to prior learning:	Links to prior learning: EYFS, knowing the ear is for listening, familiar common sounds	Links to prior learning:	Links
			 scientific evidence to answer questions or to support their findings. With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Can see a pattern in my results. Can say what I found out, linking cause and effect. Can answer questions from what I have found out 		

Electricity

The national curriculum for Science aims to ensure that all pupils:

• The national curriculum for science aims to ensure that all pupils: develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Subject Content: Subject Content: <th< th=""><th>Y</th><th>Year 5</th><th>Year 4</th><th>Year 3</th><th>Year 2</th><th>Year 1</th></th<>	Y	Year 5	Year 4	Year 3	Year 2	Year 1
 electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including 	ntent: S A Ic w c C fi	Subject Content:	 Subject Content: Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including 	Subject Content:	Subject Content:	Subject Content:

to prior learning:

to future learning:



Content:

te the brightness of a the volume of a buzzer number and voltage of ed in the circuit.

e and give reasons for ns in how components , including the

			 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. 		brightne loudness on/off p Use reco represer a diagra
Essential Knowledge:	Essential Knowledge:	Essential Knowledge:	 Essential Knowledge: Identify common appliances that run on electricity. Describe common conductors (metals such as copper, iron and steel) and insulators (plastic, wood, rubber). Identify and name basic parts of a simple series electrical circuit (cells, wires, bulbs, switches and buzzers) Know that a switch opens and closes a circuit. 	Essential Knowledge:	Essentia Explain t non-rene mains po Use sym simple ci Associat lamp wit voltage Explain h
Essential Skills	Essential Skills	Essential Skills	 Ask relevant questions and use different types of scientific enquiries to answer them. Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Raise their own questions about the world around them. Make some decisions about which types of enquiry will be the best way of answering 	Essential Skills	Essentia Plan diffienquiries including controllin necessar about id- question phenom relations more sys recognis and beg these ide understo operates scientific develop most ap answer s

ess of bulbs, the s of buzzers and the position of switches.

ognised symbols when nting a simple circuit in am.

al Knowledge:

the difference between ewable and renewable ower.

nbols when drawing a circuit diagram.

te the brightness of a

th the number and

of cells in a circuit.

how electricity is made.

al Skills

ferent types of scientific s to answer questions, recognising and ing variables where iry. Explore and talk leas, ask their own ns about scientific nena, analyse functions, ships and interactions stematically. Begin to se more abstract ideas jin to recognise how eas help them to and how the world s. Begin to recognise ideas change and over time. Select the propriate ways to science questions using

	questions	different t
	questions	unierent t
	Make systematic and	enquiry.
	careful observations	
	and, where appropriate,	Take med
	take accurate	ranae of s
	measurements using	with incre
		with incre
	standard units, using a	precision,
	range of equipment,	readings
	including thermometers	Identify p
	and data loggers.	found in t
	Begin to look for	environm
	naturally occurring	decisions
	patterns and	observation
	relationships and decide	measurer
	what data to collect to	long to m
	identify them	whothor t
	Help to make decisions	the most of
	about what	equipmen
	observations to make,	use it acc
	how long to make them	data and
	for and the tupe of	equipmen
	simple equipment that	
	might be used.	say what
	 Learn to use new 	are. Accur
	equipment	measuren
	appropriatelu (ea data	cm mins
	loggers).	m per sec
	Can see a pattern in my	line, bar (
	results.	
	Can choose from a	Use test r
	selection of equipment	prediction
	Can observe and	comparat
		Deservation
	measure accurately	Recognise
	using standard units	up compo
	including time in	and expla
	minutes and seconds.	need to b
	 Set up simple practical 	Suggest in
		mothod a
	enquines, comparative	
	and fair tests.	Decide wh
	 Recognise when a 	do a fair t
	simple fair test is	
	necessary and help to	Record do
	decide how to get it up	increasing
	Can think of more than	scientific o
	one variable factor.	classificat
	Gather, record, classifu	bar and li
	and present data in a	present fi
	variety of ways to help	Decide ho
	in anothering superiors	
	in answering questions.	a choice d
	 Record findings using 	Can choo
	simple scientific	data
	language, drawings,	
	labelled diagrams keus	Use and c
	har charts and tables	other info
	Report on findings from	identify, c
	enquiries, including oral	living thin
	and written	
	explanations displays	Recognise
	or presentations of	sources
	roults and conclusions	sources w
	results and conclusions.	research

t types of scientific

easurements, using a f scientific equipment, reasing accuracy and n, taking repeat s where appropriate. patterns that might be the natural ment. Make their own s about what tions to make, what ements to use and how make them for and

to repeat them. Choose t appropriate ent and explain how to curately. Can interpret d find patterns. Select ent on my own. Can set of observations and t the interval and range urate and precise ements – N, g, kg, mm, s, seconds, cm2V, km/h, ec, m/ sec Graphs – pie, (Year 6)

results to make ons to set up further ative and fair tests. se when and how to set barative and fair tests lain which variables be controlled and why. improvements to my and give reasons. when it is appropriate to r test.

data and results of ng complexity using c diagrams and labels, ation keys, tables and line graphs. Report and findings from enquiries. now to record data from c of familiar approaches. ose how best to present

develop keys and formation records to classify and describe ngs and materials.

se which secondary will be most useful to a their ideas.

	 Use notes simple tables 	
	and standard units and	Report
	help to decide how to	findina
	record and analuse	includir
	their data.	relation
	Can record results in	of and
	tables and bar charts.	in oral
	 Identify differences, 	as disp
	similarities or changes	presen
	related to simple	eviden
	scientific ideas and	suppor
	processes.	argume
	 Talk about criteria for 	based
	grouping, sorting and	observ
	classifying and use	justity t
	simple keys.	knowle
	Compare and group	to explo
	according to benaviour	test res
	tor properties, based on	and fai
	Begin to recognize	
	when and how	data ar
	secondaru sources	refutes
	might help to answer	Use the
	questions that cannot	when fu
	be answered through	observ
	practical investigations.	Separa
	Using results to draw	draw co
	simple conclusions,	scientif
	make predictions for	simple
	new values, suggest	eviden
	improvements and raise	point. L
	further questions.	predict
	Use straightforward	compa
	scientific evidence to	
	answer questions or to	
	support their findings.	
	Will help, look lof changes, patterns	
	similarities and	
	differences in their data	
	in order to draw simple	
	conclusions and answer	
	questions.	1
	 With support, identify 	
	new questions arising	
	from the data, make	
	new predictions and	
	find ways of improving	
	what they have already	1
	done.	
	Can see a pattern in my	1
	results.	1
	Can say what I found	1
	out, linking cause and	1
		1
	Curr suy now r coolu make it better	1
	Can answer questions	1
	from what I have found	1

ing and presenting s from enquiries , ng conclusions, causal ships and explanations degree of trust in results, and written forms such lays and other tations. Identify scientific ce that has been used to t or refute ideas or ents. Draw conclusions on their data and ations, use evidence to heir ideas, use scientific dge and understanding ain their findings. Use sults to make predictions up further comparatives r tests. Look for different relationships in their nd identify evidence that or supports their ideas. eir results to identify urther tests and ations are needed. te opinion from fact. Can onclusions and identify ic evidence. Can use models. Know which ce proves a scientific Jse test results to make ions to set up further rative and fair tests.

			out		
Links to prior learning:	Links to prior learning:	Links to prior learning:	Links to prior learning: EYFS, Understanding the world	Links to prior learning:	Links to Y4, Elect common electricit
Links to future learning:	Links to future learning:	Links to future learning:	Links to future learning: Y6, Electricity - knowing common appliances that run on electricity, circuits	Links to future learning:	Links to KS3 - Ph Electricit electron

Light

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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content:	Subject Content:	 Subject Content: Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows changes. 	Subject Content:	Subject Content:	Subject Recognit travel in idea tha lines to e seen bee reflect li explain t because sources light sou then to o that ligh to expla the sam that cas
Essential Knowledge:	Essential Knowledge:	 Essential Knowledge: Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is 	Essential Knowledge:	Essential Knowledge:	Essentic Light tro When th blocking formed. Shadow

prior learning:

tricity - knowing n appliances that run on ty, circuits

future learning:

nysics - Waves ity and magnetism



Content:

hise that light appears to on straight lines \square use the at light travels in straight explain that objects are ecause they give out or light into the eye \square that we see things e light travels from light s to our eyes or from urces to objects and our eyes \square use the idea ht travels in straight lines and why shadows have he shape as the objects st them.

al Knowledge:

avels in straight lines. nere is an opaque object g the light, a shadow is

vs have the same shape

		 reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes and skin. Know how shadows are formed and which objects are more likely to form a shadow: transparent, translucent or opaque. 			as the op them. Light car transpar Some lig transluce Light cor colour: re green, bl Light tran speed th cause re objects la are.
Essential Skills	Essential Skills	 Essential Skills Ask some relevant questions and use different types of scientific enquiries to answer them. Begin to explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Begin to raise their own questions about the world around them. Begin to make some decisions about which types of enquiry will be the best way of answering questions Begin to make some decisions and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of 	Essential Skills	Essential Skills	Essential Plan diffe enquiries including controllin necessar about ide questions phenome relationsl more sys recognise and begi these ide understa operates scientific develop most app answer s different enquiry. Take me range of with incre precision readings Identify p found in environm decisions observat measure long to n whether the most equipme use it acc data anc equipme make a s say what are. Accu

paque objects that cast

n travel through rent objects. ght can travel through ent objects. nsists of a spectrum of red, orange, yellow, olue, indigo and violet. avels at a different prough water which can efraction – making look larger than they

al Skills

ferent types of scientific to answer questions, recognising and ng variables where ry. Explore and talk leas, ask their own ns about scientific nena, analyse functions, ships and interactions stematically. Begin to se more abstract ideas jin to recognise how eas help them to and how the world s. Begin to recognise ideas change and over time. Select the propriate ways to science questions using t types of scientific

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	simple equipment that		cm mins
	might be used		m ner sec
	 Learn to use some new 		line bor ()
	equipment		
	appropriately (eg data		Use test re
	loggers).		prediction
	 Begin to see a pattern 		comparat
	in my results.		Recognise
	Begin to choose from a		up compo
	selection of equipment.		and expla
	Begin to observe and		need to be
	measure accurately		Suggest in
			method a
	including time in		Decide wh
			Decide wi
	minutes and seconds.		
	Set up some simple		
	practical enquiries,		Record do
	comparative and fair		increasing
	tests.		scientific o
	Begin to recognise		classificat
	when a simple fair test		bar and lin
	is necessary and help to		present fir
	decide how to set it up.		Decide ho
	Begin to think of more		a choice c
	than one variable factor		Can choos
	Gather record and		data
	 Outlier, record, und bagin to classify and 		uulu
	present data in a		Use and a
	variety of ways to help		other info
	in answering questions.		identify, cl
	Begin to record findings		living thing
	using simple scientific		
	language, drawings,		Recognise
	labelled diagrams, keys,		sources w
	bar charts and tables.		research t
	Begin to report on		
	findings from enquiries		Reporting
	including oral and		findings fr
			including
	displays or		rolationch
	presentations of results		of and de
	and conclusions.		In oral and
	 Begin to use notes, 		as display
	simple tables and		presentati
	standard units and help		evidence
	to decide how to record		support of
	and analyse their data.		argument
	Begin to record results		based on
	in tables and bar charts.		observatio
	Begin to identifu		justifu the
	differences similarities		knowledg
	or changes related to		to evoluin
	and processes.		to set up f
	Begin to talk about		and tair te
	criteria for grouping,		causal rel
	sorting and classifying		data and
	and use simple keys.		refutes or
	 Begin to compare and 		Use their r
	group according to		when furt
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s, seconds, cm2V, km/h, ec, m/ sec Graphs – pie, (Year 6)

results to make ons to set up further ative and fair tests. se when and how to set parative and fair tests lain which variables be controlled and why. improvements to my and give reasons. when it is appropriate to test.

data and results of ng complexity using c diagrams and labels, ation keys, tables and line graphs. Report and findings from enquiries. now to record data from e of familiar approaches. ose how best to present

develop keys and ormation records to classify and describe ngs and materials.

se which secondary will be most useful to n their ideas.

and presenting rom enquiries , conclusions, causal nips and explanations egree of trust in results, nd written forms such ys and other ions. Identify scientific that has been used to or refute ideas or ts. Draw conclusions their data and ions, use evidence to eir ideas, use scientific ge and understanding their findings. Use ts to make predictions further comparatives ests. Look for different lationships in their identify evidence that supports their ideas. results to identify her tests and

Links to prior learning: Links to future learning:	Links to prior learning:	 Am beginning to say what I found out, linking cause and effect. Am beginning to say how I could make it better. Am beginning to answer questions from what I have found out. Links to prior learning: EYFS, Understanding the world - recognising dark and light Links to future learning: Y6, Light - Shadows, reflection from surfaces,	Links to prior learning: Links to future learning:	Links to prior learning: Links to future learning:	Links to EYFS, Un Y3, Light from sur Links to KS3 - Ph Space pl
		 behaviour or properties, based on testing. Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Am beginning to use straightforward scientific evidence to answer questions or to support their findings. With help, am beginning to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, am beginning to identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Am beginning to see a pattern in my results. Am beginning to say what I found out linking 			observat Separate draw cor scientific simple m evidence point. Us predictio compara

itions are needed. e opinion from fact. Can Inclusions and identify c evidence. Can use nodels. Know which e proves a scientific se test results to make ons to set up further ative and fair tests.

prior learning: nderstanding the world t - Shadows, reflection rfaces,

future learning:

nysics - Waves hysics

Earth and Space

The national curriculum for Science aims to ensure that all pupils:

• The national curriculum for science aims to ensure that all pupils: develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Subject Content:	Subject Content:	Subject Content:	Subject Content:	 Subject Content: Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. 	Subject
Essential Knowledge:	Essential Knowledge:	Essential Knowledge:	Essential Knowledge:	 Essential Knowledge: Know the movements of the Earth, Sun and Moon including length of time to orbit. Know what causes night and day and why night and day varies in different parts of the world List the names and order of the planets in the Solar System 	Essentio
Essential Skills	Essential Skills	Essential Skills	Essential Skills	 Essential Skills Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more 	Essentio

Bowers Community
y and physics develop them are equipped
Content:
al Knowledge:
al Skills

		sustamaticallu
		systematically.
		 Begin to recognise
		some more abstract
		ideas and begin to
		recognise now these
		ideas help them to
		understand how the
		world operates
		world operates.
		Begin to recognise
		scientific ideas change
		and develop over time
		Begin to select the most
		appropriate ways to
		answer science
		questions using
		different types of
		scientific enquiry
		Begin to take
		measurements using a
		range of scientific
		equipment, with
		increasing accuracy
		and provision taking
		unu precision, taking
		repeat readings where
		appropriate. Begin to
		identifu patterns that
		identify patterns that
		might be found in the
		natural environment.
		 Begin to make their
		own decisions about
		what observations to
		make, what
		measurements to use
		and have long to make
		and now long to make
		them for and whether to
		repeat them.
		Choose the most
		appropriate equipment
		and explain how to use
		it accurately. Begin to
		interpret data and find
		patterns
		 Select equipment on my
		own. Can make a set of
		observations and sau
		what the interval and
		range are.
		 Begin to take accurate
		and precise
		magguramanta N a
		measurements – N, g,
		kg, mm, cm, mins,
		seconds, cm2V, km/h,
		m per sec m/sec
		Crapha pia lina
		Grupns – pie, line
		 Begin to use test results
		to make predictions to
		set un further
		comparative and fair
		tests.
		Begin to recognise
		g to 1000 grilloo



		when and how to set up comparative and fair tests and explain which variables need to be
		 Begin to suggest improvements to my method and give reasons.
		 Begin to decide when it is appropriate to do a fair test. Begin to record data and results of
		increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line
		 graphs. Begin to report and present findings from enquiries. Begin to decide how to
		 record data from a choice of familiar approaches. Begin to choose how best to present data.
		 Begin to use and develop keys and other information records to identify, classify and describe living things
		 and materials. Begin to recognise which secondary sources will be most useful to research their
		 ideas. Am beginning to report and present 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. Begin to identify scientific evidence that has been used to
		 support or refute ideas or arguments. Begin to draw conclusions based on their data and
		observations, use



				 evidence to justify their ideas, use scientific knowledge and understanding to explain their findings. Begin to use test results to make predictions to set up further comparatives and fair tests. Begin to look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed. Begin to separate opinion from fact. Begin to draw conclusions and identify scientific evidence. Can use simple models. Know which evidence proves a scientific point. Begin to use test results to make predictions to set up further comparative and fair tests. 	
Links to prior learning:	Links to prior learning: EYFS, Understanding the world - naming the planets, astronauts experiences in space	Links t			
Links to future learning:	Links to future learning: KS3 - Chemistry - Earth and atmosphere Physics - Space physics	Links t			

to prior learning:

to future learning: