

Year		End of year objectives			
		Communication and Language	The Natural World	Understanding the World	
			Growth	Forces and Magnets	
EYFS	N 1	<p>Enjoys listening to stories and remembers what happens</p> <p>Use a wider range of vocab/understand a 2-part instruction</p> <p>Understand 'why' questions</p> <p>Able to talk about familiar stories</p> <p>Able to tell a long story</p> <p>Begin to use longer sentences of 4-6 words</p> <p>Begins to turn take in conversations</p> <p>Uses talk to organise themselves and their play</p>	<p>Explore natural materials and their own environment using their senses</p> <p>Observe what they see and talk about it using newly learnt vocabulary</p> <p>Describe and sequence what they have seen (melting, cooling, heating, etc.)</p> <p>Use magnifying glasses to support observations</p> <p>Begin to understand the changes in seasons</p>	<p>Know how plants grow from a seed</p> <p>Understand a simple life cycle – ducks/butterflies</p>	<p>Explore how things work wind-up toys, pulleys, cogs, etc.</p> <p>Explore the changes in materials – melting/cooking</p> <p>Floating/sinking /shadows</p> <p>Learn new vocab to use to explain what they observe</p>
	N 2	<p>Using a sentence of 4-6 words</p> <p>Using 'because' and 'and'</p> <p>Answer simple 'why' questions using past and future tenses</p> <p>Ask and answer simple questions using past and future tenses</p> <p>Children can use the past and future tenses when discussing things that have happened, and will happen, to them</p> <p>Children can use everyday language related to time (before, after, then, etc.)</p>			
	R	<p>Hold a back-and-forth conversation and explain why things happen</p> <p>Children can describe the key settings, events and principle characters of a story</p>	<p>Able to make collections of natural objects they are interested in</p> <p>Talk about similarities and differences between their life and life in other countries</p> <p>Able to explore the natural world – use senses, songs, close observation, drawings, etc.</p> <p>Discuss contrasting environments to where they live</p> <p>Able to draw information from a simple map</p> <p>Understand the change in seasons and describe the changes with support</p> <p>Know there are other countries in the world – non-fiction books, globes, maps, google</p> <p>Children can engage with non-fiction books</p> <p>Children can say how some things change over time</p> <p>Children can create representations of the different seasons</p>	<p>Begin to understand how to care and protect living things and the environment</p> <p>Caterpillars – look after them and learn how to care for them and able to talk about their life cycle and to record it</p>	<p>Learn about and explain and learn new vocab to use for ice melting/sounds causing vibrations/light travelling through materials/shadows, magnets, floating and sinking</p>
Notes for teachers	Science teaching in EYFS focusses on allowing children to develop their vocabulary so that they can understand and explain the more challenging concepts that they will encounter in future years. Children will be experimenting, observing and measuring in a variety of contexts throughout the year.				
Links to future learning	Key vocabulary acquisition and the ability to communicate will allow children to successfully access their learning in subsequent years	Links to seasons in year 1, materials in years 1,2 and 5, states of matter in year 4, sensible uses of equipment in all year groups, living things and their habitats in years 1,2,4,5 and 6	Links to animals, including humans in all subsequent year groups, links to plants in years 1,2 and 3	Links to forces and magnets in years 3 and 5, and states of matter in year 4	

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	<p>Everyday Materials</p> <p><i>I can distinguish between an object and the material it is made from</i> <i>I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock</i> <i>I can describe the physical properties of a variety of everyday materials</i> <i>I can compare and group everyday materials based on their physical properties</i> <i>I can talk about what I found out and how I found it out</i> <i>I can use the equipment provided for me to perform simple tests that have been planned as a whole class</i></p>	<p>Seasonal Changes</p> <p><i>I can observe changes across the four seasons</i> <i>I can observe and describe weather associated with the seasons</i> <i>I can how the length of days changes at different times of the year</i> <i>I can record simple data to answer questions</i> <i>I can observe changes over time (timeline for the seasons?)</i> <i>I can ask questions based on my observations</i></p>	<p>Plants</p> <p><i>I can identify and name a variety of common wild and garden plants, including types of tree</i> <i>I can identify and describe the basic structure of a variety of common flowering plants, including trees</i> <i>I can use my observations to identify, compare and group</i> <i>With support, I can use observations to answer questions</i> <i>I am beginning to use scientific language</i> <i>I can have my questions answered by people around me</i></p>	<p>Animals, Including Humans</p> <p><i>I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</i> <i>I can identify and name a variety of common animals that are carnivores, herbivores and omnivores</i> <i>I am beginning to use scientific language when talking about my results</i> <i>I can use my observations to identify, compare and group</i> <i>With support, I can use observations to answer questions</i> <i>I can make verbal predictions based on my observations with support</i></p>	<p>TAPS Investigation Ways to Test Transparency</p> <p><i>I can make verbal predictions based on my observations with support</i> <i>I can use the equipment provided for me to perform simple tests that have been planned as a whole class</i> <i>I can talk about what I found out and how I found it out</i> <i>I am beginning to use scientific language when talking about my results</i> <i>I can check my results make sense using peer and self-assessment</i> <i>I can check if I have answered the question from the beginning of the test</i></p>	<p>Living Things and Their Habitats</p> <p><i>I can identify things that are living, dead, and have never been alive (Yr 2 objective)</i> <i>I can name a variety of different habitats and match animals to their habitats</i> <i>I can identify where some animals get their food</i> <i>I can check my results make sense using peer and self-assessment</i> <i>I can check if I have answered the question from the beginning of the test</i> <i>I can use my observations to identify, compare and group</i></p>
Notes for teachers	<p>Pupils can explore the different properties of everyday materials (e.g., hard/soft, shiny/dull, bendy/not bendy, etc.) They should use materials that are not listed in the objectives above (e.g., foil, brick, etc.) Pupils may perform simple tests to explore questions, e.g. What is the best material for a ...?</p>	<p>Pupils may make tables and charts about the weather Pupils may make displays about the world around them, including day length</p>	<p>Pupils should use the local environment throughout the year to explore plants in their habitat Pupils should draw diagrams of different plants, including trees Pupils can keep records of how plants have changed over time Pupils can compare and contrast different plants</p>	<p>Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat Pupils should be able to use observations to compare and contrast animals first hand or through videos and photographs Pupils should be able to identify how they have grouped animals and be able to group them in different ways (e.g. diet)</p>	<p>Pupils can recognise that sorting questions can be answered in different ways Pupils need to refer to their original questions to ensure they have answered them</p>	<p>Pupils can sort and classify using different criteria Pupils can talk about different ways of answering their questions</p>
Links to prior learning	Builds on learning about materials in EYFS	Builds on observations of seasons in EYFS	Links to learning about the natural world in EYFS	Links to learning about the natural world and growth in EYFS	Building on the materials topics from Autumn 1 and EYFS	Builds on knowledge of the local area from previous science learning and geography learning
Links to future learning	Materials are covered again in years 2 and 5 Learning about materials is built on in DT lessons	Measurements of day length link to Earth and space in year 5, and to learning about light in years 3 and 6 Links to KS1 geography units	Children learn more about plants in year 2 and 3; children will make smoothies using edible plants in DT this year, and learn about seasonality in year 3	Links to PHSE in year 1, where children learn about different body parts	Materials are covered again in years 2 and 5 Introduce key vocabulary for light in year 3 and year 6 Learning about materials is built on in DT lessons	Used as a foundation for future learning in years 2,4,5 and 6

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2	<p>Living Things and Their Habitats (Part 1)</p> <p><i>I can identify that most living things live in habitats to which they are suited</i></p> <p><i>I can explain how different habitats provide the basic needs of plants and animals</i></p> <p><i>I can identify and name a variety of plants and animals in their habitats, including microhabitats</i></p> <p><i>With support, I can communicate my findings using speech or writing, and use scientific language</i></p> <p><i>I can ask simple questions and recognise they can be answered in different ways</i></p> <p><i>I can use my observations to identify, describe, compare and group, and explain my reasons</i></p>	<p>Living Things and Their Habitats (Part 2)</p> <p><i>I can identify and name a variety of plants and animals in their habitats, including microhabitats</i></p> <p><i>I can explain how plants and animals can depend on each other</i></p> <p><i>I can explain how animals obtain their food from plants and other animals, using the idea of a simple food chain</i></p> <p><i>I can observe and comment on patterns and relationships</i></p> <p><i>I can use my observations to answer questions</i></p> <p><i>With support, I can record data in different ways to answer questions</i></p>	<p>Plants</p> <p><i>I can observe and describe how seeds and bulbs grow into mature plants</i></p> <p><i>I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</i></p> <p><i>I can independently make predictions based on my observations</i></p> <p><i>I can observe and comment on patterns and relationships</i></p> <p><i>I can use my observations to answer questions</i></p> <p><i>With support, I can record data in different ways to answer questions</i></p>	<p>Uses of Everyday Materials</p> <p><i>I can compare the suitability of everyday materials for particular uses</i></p> <p><i>I can find out how the shapes of objects made from the same materials can be changed</i></p> <p><i>I can use presentational talk to explain what I have found out and how I found it out</i></p> <p><i>I can use my observations to identify, describe, compare and group and explain my reasons</i></p> <p><i>I can use the equipment provided to perform simple tests</i></p> <p><i>I can independently make predictions based on my observations</i></p>	<p>TAPS Investigation Waterproof Materials</p> <p><i>I can make changes of my own to tests that have been planned as a whole class</i></p> <p><i>I can independently make predictions based on my observations</i></p> <p><i>I can use the equipment provided to perform simple tests</i></p> <p><i>I can ask simple questions and recognise they can be answered in different ways</i></p> <p><i>I can check if my results answer my original question and think of follow up questions if I have not</i></p> <p><i>I can use presentational talk to explain what I have found out and how I found it out</i></p>	<p>Animals, Including Humans</p> <p><i>I notice that animals, including humans, have offspring that grow into adults</i></p> <p><i>I can describe the basic needs of animals, including humans for survival (food, water, air)</i></p> <p><i>I can describe the importance of exercise, a balanced diet and hygiene for humans</i></p> <p><i>I can ask simple questions and recognise they can be answered in different ways</i></p> <p><i>I can begin to use secondary sources to answer my questions</i></p> <p><i>I can check if my results answer my original question and think of follow up questions if I have not</i></p>
Notes for teachers	Pupils can describe the conditions in different micro-habitats and how this affects the creatures there	Pupils can record their findings using charts Pupils should discover how living things depend on each other Pupils can construct simple food chains for different habitats	Pupils should use the local environment throughout the year to see how different plants grow Pupils may record the growth of plants from seeds or bulbs Pupils may set up comparative tests to see how plants can be kept healthy	Pupils may compare the uses of materials in one place (e.g. home) to how they are used in another place (e.g. school) Pupils should improve their observation and classification skills	Pupils need to understand that there can be more than one way to answer a question Pupils can use their knowledge of materials to test their suitability	Pupils may observe through video or first-hand observation how different animals and humans grow Pupils should be able to create their own questions about what animals need for survival Pupils can suggest their own ways to answer questions they create
Links to prior learning	Builds on prior learning from year 1 and EYFS Builds on knowledge of animals and habitats from EYFS and year 1	Builds on prior learning from year 1 and EYFS Builds on knowledge of animals and habitats from EYFS and year 1	Builds on learning from year 1 and EYFS	Builds on learning from year 1 and EYFS	Builds on learning from year 1 and EYFS	Builds on learning from year 1 and EYFS
Links to future learning	Built on in years 4,5 and 6	Built on in years 4,5 and 6	Plants are covered again in year 3 Links to plant lifecycles in year 5	Links to future topics in KS2	Links to DT learning and structures	Links to PSHE and staying healthy Links to future science learning in KS2

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3	<p>Rocks</p> <p><i>I can compare and group together different kinds of rocks based on their appearances and physical properties</i></p> <p><i>I can describe how fossils are formed in simple terms</i></p> <p><i>I can explain what soils are made from</i></p> <p><i>I can use my observations to identify differences and similarities, using a range of equipment</i></p> <p><i>I can use my observations to make predictions for the next set of results</i></p> <p><i>I can use my results to draw simple conclusions and report on these using speech and writing</i></p>	<p>Light</p> <p><i>I know that I need light in order to see things and that dark is the absence of light</i></p> <p><i>I notice that light is reflected from surfaces</i></p> <p><i>I can explain how light can be dangerous and know how to protect my eyes</i></p> <p><i>I can explain how shadows are formed</i></p> <p><i>I can find patterns in the ways that shadows change</i></p> <p><i>I am beginning to use standard units of measurement when recording data</i></p>	<p>Forces and Magnets</p> <p><i>I notice that some forces need contact between two objects, but magnetic forces can act at a distance</i></p> <p><i>I can observe how magnets can attract or repel each other, and how they interact with different materials</i></p> <p><i>I can make predictions if magnets will attract or repel, based on their poles</i></p> <p><i>With support, and with the equipment provided, I can set up a simple fair test</i></p> <p><i>I can recognise what a fair test is with support</i></p> <p><i>I can compare how things move on different surfaces</i></p>	<p>Animals, Including Humans</p> <p><i>I can discover that animals, including humans, need the right types and amounts of nutrition, and that they cannot make their own food</i></p> <p><i>I can explain that humans and some other animals have skeletons and muscles for support, protection and movement</i></p> <p><i>I can use my observations to help identify, classify, find similarities and differences, and identify changes</i></p> <p><i>I am beginning to use relevant scientific language to discuss my ideas and communicate my findings</i></p> <p><i>I can use a variety of secondary sources to answer questions</i></p> <p><i>I can ask questions and use my observations to answer them</i></p>	<p>TAPS Investigation</p> <p>How Much Water Do Plants Need?</p> <p><i>With support, and with the equipment provided, I can set up a simple fair test</i></p> <p><i>I can recognise what a fair test is with support</i></p> <p><i>I am beginning to use standard units of measurement when recording data</i></p> <p><i>I can use results to draw simple conclusions and report on these using speech and writing</i></p> <p><i>I can help make decisions about how to analyse data</i></p> <p><i>With support, I can improve my own data analysis</i></p>	<p>Plants</p> <p><i>I can identify and describe the functions of different parts of flowering plants, including roots, stems/trunks, leaves and flowers</i></p> <p><i>I can describe how the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) can vary from plant to plant</i></p> <p><i>I can investigate the way in which water is transported within plants</i></p> <p><i>I can explain the role that flowers play in the lifecycle of flowering plants, including pollination, seed formation and seed dispersal</i></p> <p><i>I can suggest what observations to make</i></p> <p><i>I can ask questions and use my observations to answer them</i></p>
Notes for teachers	<p>Children should explore rocks and soils that can be found in the local environment</p> <p>Children should make detailed observations of rocks</p> <p>Children should improve their classification and sorting skills</p>	<p>Pupils might explore how to reflect light with mirrors and use this to answer questions about how light behaves</p> <p>Pupils might measure shadows throughout a day and at different times of the year and discuss what might cause the shadows to change</p> <p>Pupils should look for patterns in their results and use standard units of measurement</p>	<p>Ensure children have an activity where they are testing and sorting materials based on their magnetism</p> <p>Fair testing can be used when comparing the strength of different magnets</p>	<p>Pupils may compare animals with and without skeletons and make detailed observations about how they move and other aspects of them</p> <p>They may compare and contrast wild animals and pets</p>	<p>Pupils will make systematic observations using standard units</p> <p>Pupils will understand the importance of fair testing</p> <p>Pupils will be able to analyse the data from their experiments</p> <p>Pupils will take readings over the course of a few weeks during this unit of learning</p>	<p>Pupils may compare different factors that affect plant growth</p> <p>Pupils could investigate how water is transported in plants by making detailed observations</p>
Links to prior learning	<p>Links to learning about plants and how they grow well</p>	<p>Builds on measuring skills from maths and science</p> <p>If data is taken throughout the year, will link to studies of seasons in KS1</p>	<p>Builds on previous learning about materials in EYFS and KS1 (both science and DT)</p>	<p>Builds observation skills, and builds on learning from KS1</p>	<p>Builds on learning from KS1</p>	<p>Builds on learning from KS1</p>
Links to future learning	<p>Knowledge of fossils will be built on in year 6</p>	<p>Light is revisited in year six</p> <p>Also links to Earth and space in year 5</p> <p>Standard units of measurement are revisited multiple times in science and maths</p>	<p>Forces are revisited in year 5</p> <p>Children will use magnetism to compare materials in</p>	<p>Learning about nutrition and health will be covered in future science, DT and PSHE units in years 4, 5 and 6</p>	<p>Parts of a plant will be revisited when looking at plant reproduction year 5</p>	<p>Parts of a plant will be revisited when looking at plant reproduction year 5</p>

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4	<p>Sound</p> <p><i>I can explain how sounds are made</i> <i>I can describe how sounds travel through a medium to my ear</i> <i>I can find patterns between the pitch of a sound and the object that produced the sound</i> <i>I can find patterns between the volume of a sound and the strength of vibrations</i> <i>I can explain how sounds change as the distance from the object increases</i> <i>I can ask questions and use different types of scientific enquiries and evidence to answer them</i></p>	<p>Animals, Including Humans</p> <p><i>I can describe the simple functions of the basic parts of the human digestive system</i> <i>I can explain how diet and exercise can affect the human digestive system</i> <i>I can identify different types of human teeth and their simple functions</i> <i>I can construct and interpret a variety of food chains and identify producers, predators and prey</i> <i>I can use key scientific vocabulary when making predictions</i> <i>I can use relevant scientific vocabulary to communicate my findings in ways that are appropriate for different audiences</i></p>	<p>States of Matter</p> <p><i>I can compare and group materials together according to whether they are solids, liquids or gases</i> <i>I can observe that some materials change state when they are heated or cooled</i> <i>I can research or measure the temperature at which some changes of state happen</i> <i>I can identify the parts played by evaporation and condensation in the water cycle and link this to temperature</i> <i>I can make careful and systematic observations using a range of equipment</i> <i>I can use my observations identify differences, similarities and changes related to simple scientific ideas and processes</i></p>	<p>Living Things and Their Habitats</p> <p><i>I know that living things can be grouped in a variety of ways</i> <i>I can explore and use classification keys to name living things in the local, and wider, environment</i> <i>I recognise that environments can change and the dangers this can pose to living things</i> <i>I can identify and sort animals into mammals, amphibians, insects and birds</i> <i>I can explain how some animals have adapted to their environments (adapted from Yr 6 statutory – Evolution and Inheritance)</i> <i>I can report my results using detailed written or oral explanations</i></p>	<p>TAPS Investigation Measuring Temperature</p> <p><i>I can set up my own practical enquiries, comparative tests, and fair tests</i> <i>I can use different types of scientific enquiries and evidence to support my findings</i> <i>I can use my data to help me think of new questions to ask</i> <i>I can suggest what observations to make, how long to make them for, and what equipment to use to make them</i> <i>I can make decisions about how to record data</i> <i>I can record data using standard units of measurements</i></p>	<p>Electricity</p> <p><i>I can construct a simple circuit and names its parts</i> <i>I can say if a lamp in a circuit will light up or not and explain why</i> <i>I can explain the role of a switch in a circuit</i> <i>I can recognise common conductors and insulators</i> <i>I can use my results to make predictions for my next set of results</i> <i>I can suggest improvements to a test and further questions to ask</i></p>
Notes for teachers	<p>Children may look for patterns in how sounds are made (e.g., length of elastic bands, thicknesses of elastic bands, tuning guitar strings, size of drums, size of glockenspiel bars) Children might make earmuffs and analyse the best material to insulate against sound</p>	<p>Pupils should use their knowledge of the digestive system to make predictions about what will happen to changes in their diet Pupils could adapt their reporting of observations and results for different audiences (KS1 children as opposed to adults, for example) Pupils might compare the teeth of animals and suggest reasons for the differences Children might draw and discuss their ideas about the digestive system and compare these with models and images</p>	<p>Teachers should avoid using materials where heating is associated with chemical change (e.g., burning and cooking) Children might group and classify different materials according to their properties Children might explore the effects of heat on different substances (e.g., butter, chocolate, etc.) Children may use secondary sources to research when materials change state (e.g. iron, oxygen) Children may record evaporation over time using systematic observations and relate this to their learning about the water cycle</p>	<p>Pupils should use the local environment throughout the year to raise and answer questions that help them identify and study plants in their habitat Pupils may make and use simple guides and keys to identify and sort local plants and animals</p>	<p>Children will conduct one enquiry, then analyse their results to help them make a further enquiry which they will plan and set up themselves Their initial enquiry might be a comparative test, then they might compare how well different materials can prevent cooling Children will use data loggers to take accurate measurements</p>	<p>Children might observe patterns, such as bulbs getting brighter when more batteries are added, that metals are conductors, and that some materials cannot be used to bridge a gap in a circuit</p>
Links to prior learning	<p>Links to learning in music where the children have used a variety of different instruments Links to prior learning about the properties of materials</p>	<p>Builds on previous learning in this topic, especially in year 2</p>	<p>Links to previous learning about materials Links to previous skills of sorting and classifying</p>	<p>Builds on previous learning in this topic</p>	<p>Links to previous learning about materials Links to previous skills of sorting and classifying</p>	<p>Builds on prior learning about making predictions and how to use them</p>
Links to future learning	<p>Links to year 5 learning about the properties of materials</p>	<p>Links to future learning in this topic Links to oracy and presentational talk when presenting ideas and adapting their communication</p>	<p>Links to materials learning in year 5</p>	<p>Links to future learning in this strand, and evolution and inheritance</p>	<p>Links to materials learning in year 5</p>	<p>Links to year 4 DT learning about torches Links to year 6 learning about electricity</p>

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
5	<p>Living Things and Their Habitats</p> <p><i>I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</i></p> <p><i>I can describe the life process of reproduction in some plants and animals</i></p> <p><i>I can plan different types of scientific enquiries to answer questions</i></p> <p><i>I can make my own decisions about what observations and measurements to take, and what equipment I will use</i></p> <p><i>I can report and present my findings and discuss conclusions and causal relationships orally and in writing</i></p> <p><i>I can use relevant scientific language and illustrations to discuss and communicate my findings</i></p>	<p>Properties and Changes of Materials</p> <p><i>I can compare and group together everyday materials on basis of their properties including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</i></p> <p><i>I know that some materials with dissolve in a liquid to form a solution, and know how to recover a substance from a solution</i></p> <p><i>I can use my knowledge of states of matter to decide how mixtures might be separated through filtering, sieving and evaporating</i></p> <p><i>I can use my test results to make more accurate predictions</i></p> <p><i>I can explain my predictions with reasoning</i></p> <p><i>I can set up further comparative and fair tests based on my previous test results</i></p>	<p>Earth and Space</p> <p><i>I can describe the movements of the Earth, and other planets, relative to the Sun</i></p> <p><i>I can describe the movement of the Moon relative to the Earth</i></p> <p><i>I can describe the shapes of the Earth, Sun and Moon</i></p> <p><i>I can use the Earth's movement to explain why we have night and day, and why the Sun appears to move in the sky</i></p> <p><i>I can examine familiar modelled options of recorded data and analyse these</i></p> <p><i>I can report and present my findings and discuss conclusions and causal relationships orally and in writing</i></p>	<p>Forces</p> <p><i>I can explain how gravity causes objects to fall towards the Earth</i></p> <p><i>I can identify the effects of air resistance, water resistance, and friction that act between moving surfaces</i></p> <p><i>I can recognise that some mechanisms allow a smaller force to have a greater effect</i></p> <p><i>I can choose my own equipment to use</i></p> <p><i>I can recognise variables and, with support, decide how to control these variables</i></p> <p><i>I can take measurements using a wide range of scientific equipment with accuracy and precision</i></p>	<p>TAPS Investigation Testing Nappy Absorbency</p> <p><i>I can plan my own different types of scientific tests</i></p> <p><i>I can explain my predictions with reasoning</i></p> <p><i>I can choose my own equipment to use</i></p> <p><i>I can recognise variables and, with support, decide how to control these variables</i></p> <p><i>I can make my own decisions about what observations and measurements to take, and what equipment I will use</i></p> <p><i>I can set up further comparative and fair tests based on my previous results</i></p>	<p>Animals, Including Humans</p> <p><i>I can describe the changes as humans develop to old age</i></p> <p><i>I can describe the simple functions of basic parts of the digestive system in other animals (not humans)</i></p> <p><i>I can describe the changes in a variety of animals as they develop to old age</i></p> <p><i>I can recognise the impact of diet and exercise on the way our bodies function (adapted from Yr 6 statutory)</i></p> <p><i>I can plan my own different types of scientific tests</i></p> <p><i>I can explain my predictions with reasoning</i></p>
Notes for teachers	<p>Children can observe and compare the lifecycles of different plants and animals from the local area and around the world and suggest reasons for the differences</p> <p>Children may try and grow new plants from different parts of the parent plant e.g., roots, cuttings, tubers and bulbs</p> <p>Children may observe changes in animals over a period of time (e.g., hatching and rearing chicks) and compare these to different animals</p>	<p>Children might find out about scientists who have invented new materials, such as Spencer Silver, or Ruth Benerito</p> <p>Children might explore reversible changes including evaporating, filtering, sieving, melting and dissolving</p> <p>Children should understand that melting and dissolving are different processes</p> <p>Children should explore changes that are difficult to reverse, such as burning, rusting and other reactions (e.g., vinegar and bicarbonate of soda)</p>	<p>Pupils should look at different theories about the solar system and how and why these have changed over time</p> <p>Children might construct simple shadow clocks and sundials</p> <p>Children may research why some people think Stonehenge was an astronomical clock</p>	<p>Children might make their own parachutes and carry out fair tests to see which shapes or designs are the most effective</p> <p>Children may explore water resistance by exploring different boat shapes</p> <p>Children might see if they can create a set of principles to reduce drag in different environments</p> <p>Children may make products that use levers or other mechanisms and explore their effects</p>	<p>Children need to be able to understand the variables they are testing and how to control them</p> <p>Children need to build on their previous knowledge of fair testing</p> <p>Children may need to conduct some 'practice' experiments to help them choose their method</p>	<p>Children could plan experiments to see how a baby's weight changes as it grows and how they would carry this out if they were professional scientists</p> <p>Children can research and compare the digestive systems of different animals (ruminants, for example), to build on their knowledge from year 4</p> <p>Children can draw timelines to indicate the stages of human growth and development, and learn about the changes experienced in puberty</p>
Links to prior learning	<p>Links to prior learning in this topic</p> <p>Builds on the skills of comparison and contrast from previous years</p> <p>Builds on the skills of sorting and classifying from previous years</p> <p>Builds on the knowledge of the local area from previous years</p>	<p>Builds on previous prediction and comparison skills</p> <p>Builds on knowledge of magnets from year 3</p>	<p>Builds on knowledge of light from year 3, and seasons from EYFS and KS1</p>	<p>Revisits forces learning from year 3</p> <p>Builds on previous knowledge of fair testing</p> <p>Links to DT learning about mechanisms</p>	<p>Builds on previous knowledge of properties of materials</p> <p>Builds on previous knowledge of fair and comparative tests</p>	<p>Make links with year 4 PSHE</p>
Links to future learning	<p>Links to future learning in this topic</p>	<p>Prediction skills are built on in year 6</p>	<p>Light is covered again in year 6</p>	<p>Fair testing and controlling variables are covered again in year 6</p>	<p>Links to preparing their own experiments in YR6</p>	<p>Links with year 5 PSHE and Year 6 PSHE</p>

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6	<p>Living Things and Their Habitats</p> <p><i>I can describe how living things are classified into groups based on their observable characteristics, including microorganisms, plants and animals</i></p> <p><i>I can give reasons for classifying plants and animals based on their characteristics</i></p> <p><i>I can present my findings in a variety of ways</i></p> <p><i>I can use relevant scientific language and illustrations to discuss, communicate and justify my ideas</i></p> <p><i>I can say which secondary sources will be most useful to research my ideas</i></p> <p><i>I can identify and use scientific evidence to support or refute ideas and arguments</i></p>	<p>Animals, Including Humans</p> <p><i>I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</i></p> <p><i>I recognise the importance of diet, exercise, drugs and lifestyle on the way bodies function</i></p> <p><i>I can describe the ways in which nutrients and water are transported within animals, including humans</i></p> <p><i>I can decide if I need to repeat my measurements and explain why</i></p> <p><i>I can decide how to record data and results</i></p> <p><i>I can report and present my findings from enquiries including conclusions, causal relationships and the degree of trust in the results</i></p>	<p>Evolution and Inheritance</p> <p><i>I can recognise that living things have changed over the time and how fossils help us understand this</i></p> <p><i>I know that offspring may not be identical to their parents</i></p> <p><i>I can describe how plants and animals have adapted to their environments and how this can lead to evolution</i></p> <p><i>I can talk about how scientific ideas have developed over time</i></p> <p><i>I can identify and use scientific evidence to support or refute ideas and arguments</i></p> <p><i>I can begin to separate opinion from fact when using secondary sources</i></p>	<p>Light</p> <p><i>I can describe how light travels</i></p> <p><i>I can explain how the way light travels helps us see objects</i></p> <p><i>I can explain why shadows have the shapes that they do</i></p> <p><i>I can make my own decisions about what observations and measurements to take</i></p> <p><i>I can choose the most appropriate equipment and explain why I have chosen it</i></p> <p><i>I can present my findings in a variety of ways</i></p>	<p>TAPS Investigation Heart Rate Poses</p> <p><i>I can plan scientific enquiries where I have to recognise and control variables</i></p> <p><i>I can use my results to create a more accurate follow-up experiment to test my predictions</i></p> <p><i>I can recognise variables, decide how to control them, and explain why they need controlling</i></p> <p><i>I can decide if I need to repeat my measurements and explain why</i></p> <p><i>I can report and present my findings from enquiries including conclusions, causal relationships and the degree of trust in the results</i></p> <p><i>I can use relevant scientific language and illustrations to discuss, communicate and justify my ideas</i></p>	<p>Electricity</p> <p><i>I can explain how to change the brightness of a lamp in a circuit</i></p> <p><i>I can explain variations in how circuit components function</i></p> <p><i>I can use the correct symbols when drawing circuit diagrams</i></p> <p><i>I can use my test results and reasoning skills together to make accurate predictions</i></p> <p><i>I can present my findings in a variety of ways</i></p> <p><i>I can decide if I need to repeat my measurements and explain why</i></p>
Notes for teachers	<p>Pupils should learn about different classification systems and create keys about plants and animals in the local environment</p> <p>Children might research unfamiliar plants and animals and then decide where these fit in the classification system</p>	<p>Pupils might learn about the work of scientists and scientific research about the relationship between diet, exercise, drugs and health</p>	<p>Pupils may learn about the work of palaeontologists like Mary Anning, and about how Charles Darwin and Alfred Wallace developed their ideas about evolution</p> <p>Pupils may look at 'disinformation' about evolution, and look at the differences between this and more scientific literature</p>	<p>Pupils may decide where to place rear-view mirrors on cars, create their own periscopes and use the idea that light travels in straight lines to explain how these work</p> <p>Children could make systematic observations of the relationship between, light sources, shadow puppets and shadow shape and size</p>	<p>Children should be able to identify the variables in their experiment and how to control these</p> <p>Children should be able to plan and conduct a fair test</p> <p>Children should be able to build on their prior knowledge of the circulatory system</p>	<p>Pupils could work systematically by changing one component at a time in a circuit and predicting and observing the effects</p> <p>Pupils could use their knowledge to help them make a circuit with a specific use, such as a traffic light or simple burglar alarm</p>
Links to prior learning	<p>Builds on prior learning about living things and their habitats, and also classification, comparison and sorting</p> <p>Builds on prior learning about the local environment</p>	<p>Links to PSHE learning about staying healthy</p>	<p>Builds on knowledge of fossils from year 3</p> <p>Builds on year 4 learning about living things and their habitats</p>	<p>Builds on learning about light from year 3, and Earth and space from year 5</p>	<p>Links to PSHE learning about staying healthy</p> <p>Links to previous year 6 learning about the circulatory system</p>	<p>Builds on learning from year 4, and various DT units</p>