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| **FS2 Autumn 1**  **The Five Senses** |  |  | ***Identify the five different senses:***  To use correct vocabulary with support.  Ask simple questions. | ***Blindfold investigation:***  Perform simple tests with support (Smell, Sound, Taste and Feel).  To begin to compare objects and use language to describe these by exploring their senses.  With support to record their findings. |  |
| **FS2 Autumn 2** |  |  |  |  |  |
| **FS2 Spring 1 Materials** |  |  | ***Naming materials and their properties:***  Ask simple questions about the world around us.  To begin to use simple features to compare objects and materials | ***Investigation: (Boat to get the Gingerbread man across the river)***  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.  To begin to say whether I was surprised at the results or not. |  |
| **FS2 Spring 2** |  |  |  |  |  |
| **FS2 Summer 1**  **Growth and Change** | ***Observe growth over time:***  Ask simple questions about the world around this.  Begin to use observations and ideas to suggest answers to questions. | ***Observing life cycles:***  Ask simple questions about the world around this.  Begin to use observations and ideas to suggest answers to questions.  Begin to record simple data. | ***Naming and grouping a variety of plants and animals:***  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. |  |  |
| **FS2 Summer 2** |  |  |  |  |  |
| **Year 1 Autumn 1** |  |  |  |  |  |
| **Year 1 Autumn 2 Seasonal Changes** | ***Observe seasons over time:***  Ask simple questions about the world around this.  Begin to use observations and ideas to suggest answers to questions. | ***Observing weather- pattern seeking***  Ask simple questions about the world around this.  Begin to use observations and ideas to suggest answers to questions.  Begin to record simple data.  Can show my results in a simple table that my teacher has given. |  |  |  |
| **Year 1 Spring 1 Use of Everyday Materials** |  |  | ***Sorting materials into natural and man- made:***  Ask simple questions about the world around us.  To begin to use simple features to compare objects, materials and living things and, with help, decide how to sort and group them. | ***Investigate the best material to build the 4th house (3 little pigs):***  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.  To begin to say whether I was surprised at the results or not.  To begin to say what I would change about my investigation. | **Charles Mackintosh Scientist Study**    ***Let’s build a house book (non-fiction book) looking at different houses from around the world:***  To begin to use simple secondary sources to find answers.  To begin to find information to help me from books and computers with help. |
| **Year 1 Spring 2**  **Plants** | ***Observe how plants grow and change over time (buds opening, leaves falling):***  Ask simple questions about the world around this.  Begin to use observations and ideas to suggest answers to questions. |  | ***Grouping and classify a variety of common wild and garden plants including trees:***  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. |  |  |
| **Year 1 Summer 1** |  |  |  |  |  |
| **Year 1 Summer 2 Animals Including Humans** |  |  | ***Identify, compare and classify a range of common animals including, fish, amphibians, reptiles:***  Identify and classify with some support.  To begin to observe and identify, compare and describe. |  | ***Research different animal classifications (mammals, fish, reptiles etc.):***  To begin to use simple secondary sources to find answers.  To begin to find information to help me from books and computers with help. |
| **Year 2 Autumn 1**  **Living Things and their Habitats** |  |  |  |  | ***Research using books and internet habitats of different animals:***  Use simple secondary sources to find answers.  Can find information to help me from books and computers with help. |
| **Year 2 Autumn 2**  **Living things and their habitats** |  | **Can I understand what a food chain is?**  Ask simple questions about the world around this.  Begin to use observations and ideas to suggest answers to questions. | ***Comparing living, dead and thing that have never been alive:***  Ask questions about the world around us.  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. |  |  |
| **Year 2 Spring 1 and Spring 2**  **Use of Everyday Materials** |  |  | ***Group and classify materials based on their properties:***  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. | ***‘Can you find a suitable material for an Umbrella for Ted?’***  ***investigation:***  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 questions.  Can show my results in a table that my teacher has given. | **John Dunlop Scientist Study** |
| **Year 2 Summer 1**  **Plants** | ***Plant seeds and observe them grow into mature plants:***  Ask questions about the world around us.  Observe closely, using simple equipment.  Use observations and ideas to suggest answers to questions.  To say what I am looking for and what I am measuring. |  |  | ***‘What are the best conditions for a plant to grow?’ investigation:***  Ask questions about the world around us.  Perform simple tests. To discuss my ideas about how to find things 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.  Gather and record data to help in answering questions.  Can show my results in a table that my teacher has given. |  |
| **Year 2 Summer 2**  **Animals Including Humans** | ***Observe how different animals grow over time (video, chicks, butterflies in school):***  Ask questions about the world around us.  To observe changes over time and, with guidance, begin to notice patterns and relationships. | ***Notice patterns between different groups of animals and how they grow (amphibians, mammal etc.)*** |  |  | ***Conduct research about basic needs of animals:***  Use simple secondary sources to find answers.  Can find information to help me from books and computers with help. |
| **Year 3 Autumn 1**  **Plants** | ***Celery investigation:***  Begin to develop their ideas about functions, relationships and interactions.  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 (e.g. data loggers). |  |  | ***‘*Can I identify what requirements plants have to live, grow and how do they vary? *experiment***  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.  Begin to report on findings from enquiries, including oral and written  explanations, displays or presentations of results and conclusions.  To say whether I was surprised at the results or not.  To say what I would change about my investigation. |  |
| **Year 3 Autumn 2** |  |  |  |  | . |
| **Year 3 Spring 1 and Spring 2**  **Rocks** |  |  | ***Different types of rock investigation:***  Talk about criteria for grouping and classify and pupils to group different types of rock.  Begin to compare and group according to behaviour or properties, based on testing. |  | **Mary Anning Scientist Study**  ***Researching the formation of rocks:***  Recognise which secondary sources will be most useful to research their ideas.  Am beginning to use straightforward scientific evidence to answer questions or to support their findings. |
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| **Forces and Magnets** |  |  | ***Magnet investigation:***  Begin to explore everyday phenomena and the relationships between living things and familiar environments.  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.  Gather, record, and begin to classify and present data in a variety of ways to help in answering questions | ***Friction investigation:***  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 make some decisions about which types of enquiry will be the best way of answering questions  Begin to think of more than one variable factor.  Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. |  |
| **Year 3 Summer 1 and 2**  **Animals Including**  **Humans** |  | ***Comparison of animals and humans:***  Begin to talk about criteria for grouping, sorting and classifying and use simple keys.  Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. |  |  | ***Research stone age diet with current human diet:***  Begin to explore everyday phenomena and the relationships between living things and familiar environments.  Ask some relevant questions and use different types of scientific enquiries to answer them.  Am beginning to use straightforward scientific evidence to answer questions or to support their findings.  Recognise which secondary sources will be most useful to research their ideas. |
| **Light** | ***Shadow investigation:***  ***(Record shadow lengths over the duration of a few days).***  Begin to raise their own questions about the world around them.  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. |  |  |  |  |
| **Year 4 Autumn 1**  **Electricity** |  | ***Electricity investigation-noticing patterns between circuits:***  Can choose from a selection of equipment.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. |  | **‘How can we make a lightbulb brighter?’ investigation:**  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.  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.  Can choose from a selection of equipment.  Can say what I found out, linking cause and effect. | **Thomas Edison Scientist Study** |
| **Year 4 Autumn 2**  **Living Things and Their Habitats** | ***Exploring the effects of deforestation:***  Explore everyday phenomena and the relationships between living things and familiar environments.  Begin to develop their ideas about functions, relationships and interactions.  Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. |  | ***Classifying the seven groups:***  Gather, record, classify and present data in a variety of ways to help in answering questions.  Raise their own questions about the world around them.  Explore everyday phenomena and the relationships between living things and familiar environments.  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. |  |  |
| **Animals Including Humans** |  | ***Construct and interpret a variety of food chains:***  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. |  |  |  |
| **Year 4 Spring 1 and 2**  **Animals Including Humans continued**  **States of Matter** | ***Observing the water cycle- weather log:***  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 look for naturally occurring patterns and relationships and decide what data to collect to identify them.  Use straightforward scientific evidence to answer questions or to support their findings. |  | ***Compare solids, liquids and gases:***  Identify differences, similarities or changes related to simple scientific ideas and processes.  Compare and group according to behaviour or properties, based on testing.  Begin to develop their ideas about functions, relationships and interactions.  Raise their own questions about the world around them. | ***Teeth ‘egg’ experiment:***  Set up simple practical enquiries, comparative and fair tests.  Can think of more than one variable factor.  Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Can say what I found out, linking cause and effect.  ***‘Can you speed up evaporation?’ experiment:***  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.  Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  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. | ***Research function of different types of teeth:***  ***Research the simple function of the basic parts of the digestive system:***  Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. |
| **Year 4 Summer 1 and 2**  **Sound** |  | ***Investigate patterns between the volume of a sound and the strength of vibrations:***  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 look for naturally occurring patterns and relationships and decide what data to collect to identify them. |  | ***‘Does the size of the object change the pitch of the object?’ investigation:***  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.  Raise their own questions about the world around them.  Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. | ***Researching sounds waves and the way the ear works:***  Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations.  Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. |
| **Year 5 Autumn 1**  **Animals including Humans** |  | ***Pattern seeking- gestational periods. Does the size of the animal affect the gestational period?:***  Begin to identify patterns that might be found in the natural environment.  Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. |  |  | ***Research the gestation periods of other animals and comparing them with humans:***  Begin to report and present findings from enquiries.  Begin to choose how best to present data  Begin to recognise which secondary sources will be most useful to research their ideas. |
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| **Year 5 Autumn 2**  **Properties and Changing Materials** | ***Observing changes that take place (baking cakes and cooking eggs etc.):***  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.  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. |  | ***Grouping and classifying a range of materials including those linked to magnetism and electricity:***  Begin to use and develop keys and other information records to identify, classify and describe living things and materials. | ***Solubility of solids experiment:***  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 use test results to make predictions to set up further comparative and fair tests.  Begin to decide when it is appropriate to do a fair test  Begin to decide how to record data from a choice of familiar approaches.  Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. |  |
| **Year 5 Spring 1 and 2**  **Earth and Space** |  |  |  |  | **Nicolaus Copernicus Scientist Study**  ***Research the different ideas about the shape of the Earth and how ideas of the solar system have developed:***  Begin to identify scientific evidence that has been used to support or refute ideas or arguments.  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. |
| **Forces** |  | ***Explore the effects of friction on movement and find out how it slows or stops moving objects:***  Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  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 report and present findings from enquiries.  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. |  | ***Helicopter air resistance investigation:***  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 use test results to make predictions to set up further comparative and fair tests.  Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.  Begin to suggest improvements to my method and give reasons. | ***Research how the theory of gravitation was developed:***  Begin to identify scientific evidence that has been used to support or refute ideas or arguments.  Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. |
| **Year 5 Summer 1** |  |  |  |  |  |
| **Year 5 Summer 2 Living Things and Their Habitats** | ***Observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world:***  Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.  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. |  |  |  | ***Research the life cycles of other animals around the world (suggesting reasons for similarities and differences):***  Begin to recognise which secondary sources will be most useful to research their ideas.  Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. |
| **Year 6 Autumn 1**  **Animals Including Humans** | ***Monitoring heart rate over a period of time:***  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.  Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.  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. |  |  |  | ***Exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health:***  Begin to recognise scientific ideas change and develop over time. |
| **Evolution and Inheritance** |  |  |  | ***Beak comparative test:***  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. | **Charles Darwin Scientist Study**  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. |
| **Year 6 Autumn 2** |  |  |  |  |  |
| **Year 6 Spring 1 and 2**  **Light** |  |  |  | ***‘How do you cast the best shadow?’ experiment:***  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 how to record data from a choice of familiar approaches.  Use test results to make predictions to set up further comparatives and fair tests.  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. |  |
| **Year 6 Summer 1**  **Electricity** |  |  |  | ***‘How do you make a circuit work?’ investigation:***  Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.  Look for different causal relationships in their data and identify evidence that refutes or supports their ideas. | ***Research the invention of electricity.***  ***Alternatives for fuel research:***  Recognise which secondary sources will be most useful to research their ideas. |
| **Year 6 Summer 2**  **Living Things And Their Habitats** | ***Bread micro-organism observation*:**  Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. |  | ***Grouping and comparing different living things:***  Select the most appropriate ways to answer science questions using different types of scientific enquiry  Draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings.  Identify patterns that might be found in the natural environment.  Use and develop keys and other information records to identify, classify and describe living things and materials. |  |  |