**Dry Sandford Primary School Whole School Science Curriculum**

**Science Co-ordinator- Katie Friday**

Dry Sandford Primary School -Whole School Science Overview -

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| **Year Group/Class** | Autumn Term 1 Year A | | Spring Term 2  Year A | | Summer Term 3  Year A | Autumn Term 1  Year B | | Spring Term 2  Year B | | Summer Term 3  Year B |
| **YearR/1 Tawny Owlets** | Harvest  Identifying Plants | | **Science Week**  Seasonal Changes | | Mini Beasts  My Body | Harvest Identifying Fruit  Identifying Animals | | **Science Week**  Weather and Changes to the Season | | The Word Around us  Everyday Materials |
| **Year 2 Barn Owls** | Living in Habitats  Plants | | **Science Week**  Growing Plants  Exploring Materials | | Growth and Survival  Super Scientists | Living in Habitats  Plants | | **Science Week**  Growing Plants  Exploring Materials | | Growth and Survival  Super Scientists |
| **Year 3 Snowy Owls** | How Plants Grow  States of Matter | | **Science Week**  Rocks,  Fossils and Soils | | Light and Shadow  Changing Sound | Livining in Environments | | **Science Week**  Health and Movement  Eating and Digestion | | Forces and Magnets  Circuits and Conductors |
| **Year 4 Snowy Owls** |
| **Year 5 Eagle Owls** | Living things, Habitats and Life Cycles  Evolution and Inheritance | | **Science Week**  Earth and Space Healthy Bodies | | Forces in Action \*  Changing Circuits -Electricity | Living Things and Classification | | **Science Week**  Properties and Changes of Material  Seeing Light \* | | Growth and Development  Humans  Knowledge of Early  Scientists |
| **Year 6 Eagle Owls** |
| **Forest School**  **Ongoing throughout the school year** | | | | | | | | | | |
| Progression or Enquiry Skills From EYFS through Key Stage 1 and into Key stage 3 | | | | | | | | | | |
| EYFS | | Key Stage One | | Lower Key Stage Two | | | Upper Key Stage Two | | Key Stage 3 | |
| Show how curiosity about objects, events and people Playing & Exploring Questions why things happen Speaking: 30-50 months | | 1.Explore the world around them and raise their own simple questions | | 1.Raise their own relevant questions about the world around them  1. Raise their own questions about the world around them | | | 1. Select Use their science experiences to explore ideas and raise different kinds of questions | | 1.Ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience | |
| Engage in open-ended activity Playing & Exploring | | 2.Experience different types of science enquiries, including practical activities | | 2. Should be given a range of scientific experiences including different types of science enquiries to answer questions | | | 2. Talk about how scientific ideas have developed over time | | 2.Understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence and ideas, together with the importance of publishing results and peer review | |
| Take a risk, engage in new experiences and learn by trial and error Playing & Exploring | | 3.Begin to recognise different ways in which they might answer scientific questions | | 3. Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions | | | 3. and plan the most appropriate type of scientific enquiry to use to answer scientific questions | | 3.Select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate | |
| Find ways to solve problems / find new ways to do things / test their ideas Creating & Thinking Critically | | 4. Carry out simple tests | | 4. 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 | | | 4. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why | | 4.Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact | |
| Develop ideas of grouping, sequences, cause and effect Creating &Thinking Critically Know about similarities and differences in relation to places, objects, materials and living things ELG: The World | | 5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying) | | 5. Talk about criteria for grouping, sorting and classifying; and use simple keys | | | 5. Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment | | 5.Make predictions using scientific knowledge and understanding | |
| Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world The World: 30-50 months | | 6. Ask people questions and use simple secondary sources to find answers | | 6. Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations | | | 6.Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact | | 6.Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety  Evaluate the reliability of methods and suggest possible improvements Evaluate risks  Pay attention to objectivity and concern for accuracy, precision, repeatability and reproducibility. | |
| Closely observes what animals, people and vehicles do The World 8-20 months Use senses to explore the world around them Playing & Exploring | | 7. Observe closely using simple equipment with help, observe changes over time | | 7. Make systematic and careful observations 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 | | | 7. Make their own decisions about what observations to make, what measurements to use and how long to make them for With guidance, they should begin to notice patterns and relationships | | 7.Apply sampling techniques Apply mathematical concepts and calculate results  Use and derive simple equations and carry out appropriate calculations Undertake basic data analysis including simple statistical techniques | |
| Make links and notice patterns in their experience Creating & Thinking Critically | | 8. Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data | | 8. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them | | | 8. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas | | 8.Understand and use SI units and IUPAC (International Union of Pure and Applied Chemistry) chemical nomenclature Make and record observations and measurements using a range of methods for different investigations  Present observations and data using appropriate methods, including tables and graphs | |
| Choose the resources they need for their chosen activities ELG: Self Confidence & Self Awareness Handle equipment and tools effectively ELG: Moving & Handling | | 9. Record simple data | | 9. Take accurate measurements using standard units learn how to use a range of (new) equipment, such as data loggers / thermometers appropriately | | | 9. Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate. | | 9.Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions | |
| Create simple representations of events, people and objects Being Imaginative: 40-60+ months | | 10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out | | 10. Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data | | | 10. Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs | | 10. Present reasoned explanations, including explaining data in relation to predictions and hypotheses Evaluate data, showing awareness of potential sources of random and systematic error | |
| Answer how and why questions about their experiences ELG: Understanding  Make observations of animals and plants and explain why some things occur, and talk about changes ELG: The World | | 11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language | | 11. With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions  and finding ways of improving what they have already done | | | 11. Identify scientific evidence that has been used to support or refute ideas or arguments | | 11.Use their results to make predictions and identify when further observations, comparative and fair tests might be needed Identify further questions arising from their results | |
| Develop their own narratives and explanations by connecting ideas or events ELG: Speaking Builds up vocabulary that reflects the breadth of their experience Understanding: 30-50 month | |  | | 12. Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions | | | 12.Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results | |  | |
|  | |  | | 13. With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data they have collected | | | 13. Use their results to make predictions and identify when further observations, comparative and fair tests might be needed | |  | |
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| Year R/1 Tawny Owlets Overview Of Enquiry Skills | |
| Term 1 Year A  Harvest  Identifying Plants | 1.Explore the world around them and raise their own simple questions  4. Carry out simple tests  5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |
| Term 2 Year A  **Science Week**  Seasonal Changes | 1.Explore the world around them and raise their own simple questions  2.Experience different types of science enquiries, including practical activities  3.Begin to recognise different ways in which they might answer scientific questions  4. Carry out simple tests  8. Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data  9. Record simple data  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out |
| Term 3 Year A  Mini Beasts  My Body | 5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers  7. Observe closely using simple equipment with help, observe changes over time  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |
| Term 1 Year B  Harvest Identifying Fruit  Identifying Animals | 1.Explore the world around them and raise their own simple questions  4. Carry out simple tests  5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |
| Term 2 Year B  **Science Week**  Weather and Changes to the Season | 1.Explore the world around them and raise their own simple questions  2.Experience different types of science enquiries, including practical activities  3.Begin to recognise different ways in which they might answer scientific questions  4. Carry out simple tests  8. Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data  9. Record simple data  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out |
| Term 3 Year B  The Word Around us  Everyday Materials | 5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers  7. Observe closely using simple equipment with help, observe changes over time  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |

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| Year 2 Barn Owls Overview Of Enquiry Skills | |
| Term 1 Year A  Living in Habitats  Plants | 1.Explore the world around them and raise their own simple questions  5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers |
| Term 2 Year A  **Science Week**  Growing Plants  Exploring Materials | 2.Experience different types of science enquiries, including practical activities  3.Begin to recognise different ways in which they might answer scientific questions  4. Carry out simple tests  6. Ask people questions and use simple secondary sources to find answers  8. Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data  9. Record simple data  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |
| Term 3 Year A  Growth and Survival  Super Scientists | 5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers  7. Observe closely using simple equipment with help, observe changes over time  9. Record simple data  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |
| Term 1 Year B  Living in Habitats  Plants | 1.Explore the world around them and raise their own simple questions  5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers |
| Term 2 Year B  **Science Week**  Growing Plants  Exploring Materials | 2.Experience different types of science enquiries, including practical activities  3.Begin to recognise different ways in which they might answer scientific questions  4. Carry out simple tests  6. Ask people questions and use simple secondary sources to find answers  8. Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data  9. Record simple data  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |
| Term 3 Year B  Growth and Survival  Super Scientists | 5. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)  6. Ask people questions and use simple secondary sources to find answers  7. Observe closely using simple equipment with help, observe changes over time  9. Record simple data  10. Use their observations and ideas to suggest answers to questions Talk about what they have found out and how they found it out  11. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language |

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| Year 3/4 Snowy Owls Overview Of Enquiry Skills | |
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| Term 1 Year A  How Plants Grow  States of Matter | 7. Make systematic and careful observations 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  8. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them  1.Raise their own relevant questions about the world around them  2. Should be given a range of scientific experiences including different types of science enquiries to answer questions  3. Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions  4. 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 |
| Term 2 Year A  **Science Week**  Rocks,  Fossils and Soils | 1.Raise their own relevant questions about the world around them  2. Should be given a range of scientific experiences including different types of science enquiries to answer questions  3. Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions  4. 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 |
| Term 3 Year A  Light and Shadow  Changing Sound | 1.Raise their own relevant questions about the world around them  2. Should be given a range of scientific experiences including different types of science enquiries to answer questions  4. 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  10. Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data  12. Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions |
| Term 1 Year B  Living in Environments | 5. Talk about criteria for grouping, sorting and classifying; and use simple keys  6. Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations  7. Make systematic and careful observations 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  8. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them |
| Term 2 Year B  **Science Week**  Health and Movement  Eating and Digestion | 1. Raise their own relevant questions about the world around them  3. Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions  6. Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations |
| Term 3 Year B  Forces and Magnets  Circuits and Conductors | 5. Talk about criteria for grouping, sorting and classifying; and use simple keys  7. Make systematic and careful observations 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  9. Take accurate measurements using standard units learn how to use a range of (new) equipment, such as data loggers / thermometers appropriately  10. Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data  11. With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions  12. Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions  13. With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data they have collected and finding ways of improving what they have already done |

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| Year 5/6 Eagle Owls Overview Of Enquiry Skills | |
| Upper Key Stage 2 | |
| Term 1 Year A  Living things, Habitats and Life Cycles  Evolution and Inheritance | 1. Select Use their science experiences to explore ideas and raise different kinds of questions  2. Talk about how scientific ideas have developed over time  5. Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment  6.Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact  11. Identify scientific evidence that has been used to support or refute ideas or arguments  12.Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results |
| Term 2 Year A  **Science Week**  Earth and Space Healthy Bodies | 2. Talk about how scientific ideas have developed over time  3. and plan the most appropriate type of scientific enquiry to use to answer scientific questions  4. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why  6.Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact  7. Make their own decisions about what observations to make, what measurements to use and how long to make them for With guidance, they should begin to notice patterns and relationships  8. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas  11. Identify scientific evidence that has been used to support or refute ideas or arguments  12.Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results  13. Use their results to make predictions and identify when further observations, comparative and fair tests might be needed |
| Term 3 Year A  Forces in Action \*  Changing Circuits -Electricity | 1. Select Use their science experiences to explore ideas and raise different kinds of questions  4. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why  11. Identify scientific evidence that has been used to support or refute ideas or arguments  12.Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results  13. Use their results to make predictions and identify when further observations, comparative and fair tests might be needed |
| Term 1 Year B  Living Things and Classification | 5. Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment  6.Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact  12.Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results |
| Term 2 Year B  **Science Week**  Properties and Changes of Material  Seeing Light \* | 1. Select Use their science experiences to explore ideas and raise different kinds of questions  3. and plan the most appropriate type of scientific enquiry to use to answer scientific questions  4. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why  11. Identify scientific evidence that has been used to support or refute ideas or arguments  13. Use their results to make predictions and identify when further observations, comparative and fair tests might be needed |
| Term 3 Year B  Growth and Development  Humans  Knowledge of Early  Scientists | 2. Talk about how scientific ideas have developed over time  6.Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact  7. Make their own decisions about what observations to make, what measurements to use and how long to make them for With guidance, they should begin to notice patterns and relationships  8. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas  9. Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate.  10. Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs  12.Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results  13. Use their results to make predictions and identify when further observations, comparative and fair tests might be needed |

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| Year R/1 Tawny Owlets Overview Of Enquiry Skills | |
| Term 1 Year A |  |
| Term 2 Year A |  |
| Term 3 Year A |  |
| Term 1 Year B |  |
| Term 2 Year B |  |
| Term 3 Year B |  |

Year 1 Identifying Plants Identifying animals My Body Everyday materials Seasonal changes Year 2 Living in Habitats Growing Plants Growth and survival Exploring Everyday Materials Super Scientists Year 3 How Plants Grow Health and Movement Rocks, Fossils and Soils Light and Shadow Forces and Magnets Year 4 Living in Environments Eating and Digestion States of Matter Changing Sound Circuits and Conductors Year 5 Life Cycles Changes and Reproduction Properties and Changes of Materials Earth and Space Forces in Action Year 6 Classifying Organisms Healthy Bodies Evolution and Inheritance Seeing Light Changing Circuits