**Science Medium Term Plan-Year 5**

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| **Module 1: The Circle of Life** | | | |
| **Lesson number and name** | **National Curriculum** | **Working Scientifically Links** | **Scientific Enquiry Type** |
| **1: What is a life cycle?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Using a wide range of secondary sources of information |
| **2: What do we know about the life cycles of mammals?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Using a wide range of secondary sources of information |
| **3. What do we know about the life cycles of amphibians?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Using a wide range of secondary sources of information |
| **4: What do we know about the life cycles of insects?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Using a wide range of secondary sources of information |
| **5: What do we know about the life cycles of birds?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Using a wide range of secondary sources of information |
| **6: What makes a successful life cycle?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Identifying scientific evidence that has been used to support or refute ideas or arguments | Finding things out using secondary sources of information |
| **7: How are humans helping endangered animals to complete their life cycles?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Identifying scientific evidence that has been used to support or refute ideas or arguments | Finding things out using secondary sources of information |
| **EL1: Why do animals make incredible journeys as part of their life cycles?** | Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Identifying scientific evidence that has been used to support or refute ideas or arguments | Finding things out using a wide range  of secondary sources of information |
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| **Module 2: Reproduction in Plants and Animals** | | | |
| **Lesson number and name** | **National Curriculum** | **Working Scientifically Links** | **Scientific Enquiry Type** |
| **1: How do flowering plants reproduce?** | Describe the life process of reproduction in some plants and animals | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Grouping and classifying |
| **2: Are all flowers on all plants the same?** | Describe the life process of reproduction in some plants | Identifying scientific evidence that has been used to support or refute ideas or arguments | Grouping and classifying |
| **3: Do all plants reproduce by producing seeds?** | Describe the life process of reproduction in some plants and animals | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Finding things out using a wide range  of secondary sources of information |
| **4: How do amphibians and insects reproduce?** | Describe the life process of reproduction in some plants and animals | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Finding things out using a wide range  of secondary sources of information |
| **5: How do mammals and birds reproduce?** | Describe the life process of reproduction in some plants and animals | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Grouping and classifying |
| **6: How does the human life cycle compare with that of other mammals?** | Describe the changes as humans develop to old age | Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs and bar and line graphs | Noticing patterns |
| **7: How do girls become women?** | Describe the changes as humans develop to old age | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Grouping and classifying |
| **8: How do boys become men?** | Describe the changes as humans develop to old age | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Grouping and classifying |
| **Module 3: Get Sorted!** | | | |
| **Lesson number and name** | **National Curriculum** | **Working Scientifically Links** | **Scientific Enquiry Type** |
| **1: How can we compare and group materials?** | Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets | Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs | Grouping and classifying |
| **2: Is a solid always hard?** | Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results in oral and written forms such as displays and other presentations | Carrying out comparative and fair tests |
| **3: Is a liquid always runny?** | Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets | Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary | Grouping and classifying |
| **4: Are all metals the same?** | Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets | Identifying scientific evidence that has been used to support or refute ideas | Grouping and classifying |
| **5: Are all plastics the same?** | Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets | Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary | Grouping and classifying |
| **6: To bounce or not to bounce: Why are sports balls so different?** | Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets | Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary | Carrying out comparative and fair tests |

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| **Module 4: Everyday Materials** | | | |
| **Lesson number and name** | **National Curriculum** | **Working Scientifically Links** | **Scientific Enquiry Type** |
| **1: Which materials are used in our school buildings, what for and why**? | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Grouping and classifying |
| **2: Weighty problem: Which is the best carrier bag.** | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Planning different types of science enquiries to answer questions, including recognising and controlling variables where necessary | Carrying out comparative and fair tests |
| **3: Which is the best type of plate to use?** | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Planning different types of science enquiries to answer questions, including recognising and controlling variables where necessary | Carrying out comparative and fair tests |
| **4: Cool box conundrum: Can the same container keep cold things cold and hot things hot?** | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Taking measurements, using a wide range of scientific equipment, with increasing accuracy and precision, and taking repeat readings when appropriate | Carrying out comparative and fair tests |
| **5: Mystery material: What will happen if we add water to the material?** | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Taking measurements, using a wide range of scientific equipment, with increasing accuracy and precision, and taking repeat readings when appropriate | Observing changes over different periods of time |
| **6: Nappy ending: What’s the best brand of nappy?** | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Identifying evidence that has been used to support of refute ideas or arguments | Carrying out comparative and fair tests |
| **EL1: Are all bikes the same?** | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations | Grouping and classifying |
| **EL2: Spencer Silver and sticky notes: What’s the stickiest glue?** | Give reasons, based on evidence from comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic | Using test results to make predictions to set up further comparative and fair tests | Carrying out comparative and fair tests |
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| **Module 5: Human Impact** | | | |
| **Lesson number and name** | **National Curriculum** | **Working Scientifically Links** | **Scientific Enquiry Type** |
| **1: What impact do humans have locally?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Identifying differences, similarities or changes related to simple scientific ideas and processes | Grouping and classifying things |
| **2: How can we find out about litter?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions | Grouping and classifying things |
| **3: What types of litter are dropped locally?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Gathering, recording, classifying and presenting data in a variety of ways to help answer questions | Looking for patterns |
| **4: Why does clearing litter matter?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions | Finding things out using secondary sources of information |
| **5: What happens when a food chain is broken?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; using straightforward scientific evidence to answer questions to support findings | Finding things out using secondary sources of information |
| **6: What is the impact of habitat destruction in other parts of the world?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; using straightforward scientific evidence to answer questions to support their findings | Finding things out using secondary sources of information |
| **Enrichment 1: What do zoos do?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Recognising statements that do and do not support an argument | Finding things out using secondary sources of information |
| **Enrichment 2: Should we have zoos?** | Recognise that environments can change and that these changes can sometimes pose dangers to living things | Using straightforward scientific evidence to answer questions or to support their findings | Finding things out using secondary sources of information |
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| **Module 5: Who Am I?** | | | |
| **Lesson number and name** | **National Curriculum** | **Working Scientifically Links** | **Scientific Enquiry Type** |
| **1: Who are you?** | Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment | Making systematic and careful observations. They should choose the challenge based on previous experience of using keys | Grouping and Classifying |
| **2: Who lives here?** | Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment | Making systematic and careful observations and recording findings using diagrams or keys | Grouping and classifying |
| **3: How are vertebrates grouped?** | Recognise that living things can be grouped in a variety of way | Identifying differences, similarities or changes related to simple scientific ideas and processes | Grouping and classifying |
| **4: How are invertebrates grouped**? | Recognise that living things can be grouped in a variety of ways | Identifying differences, similarities or changes related to simple scientific ideas and processes | Grouping and classifying |
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