Science Medium Term Plan-Year 5

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

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

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

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

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