# Within Scientific Enquiry, children will be able to…

## Year 6

**Electricity – Year 6**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Use test results to make predictions to set up further comparative and fair tests.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.

**Light – Year 6**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Living things and their habitats – Year 6**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Animals, including humans – Year 6**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Evolution and Inheritance – Year 6**
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Looking after the environment – Year 6**
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Use test results to make predictions to set up further comparative and fair tests.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Forces – Year 5**
.Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

***Properties and changes of materials – Year 5**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Use test results to make predictions to set up further comparative and fair tests.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.

## Year 5

**Living things and their habitats – Year 5**
Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Earth and Space – Year 5**
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Use test results to make predictions to set up further comparative and fair tests.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Animals, including humans – Year 5**
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Report and present findings from enquiries, including conclusions, causal relationships and explanations of degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.

**Animals , including humans – Year 4**
Set up simple practical enquiries, comparative and fair tests.
Make systematic and careful observations and take accurate measurements.
Record, record, classify and present data in a variety of ways to help in answering questions
Report on findings from enquiries.
Use results to draw simple conclusions, make predictions and suggest improvements.

## Year 4

**States of Matter – Year 4**
Make systematic and careful observations and taking accurate measurements using standard units.
Gather, record, classify and present data in a variety of ways in answering questions.
Record findings using simple scientific language, drawings, labelled diagrams, keys and bar charts.
Use results to draw simple conclusion, make predictions for new values, suggest improvements and raise further questions.

**Sound – Year 4**
Set up simple practical enquiries, comparative and fair tests.
Make systematic and careful observations and taking accurate measurements using standard units.
Record findings using simple scientific language, drawings, labelled diagrams, keys and bar charts.
Report on findings from enquiries, both oral and written.
Identify differences, similarities or changes related to simple scientific ideas and processes.

**Electricity – Year 4**
Ask relevant questions and using different types of scientific enquiries to answer them.
Set up simple practical enquiries, comparative and fair tests.
Make systematic and careful observations and taking accurate measurements using standard units.
Gather, record, classify and present data in a variety of ways in answering questions.
Report on findings from enquiries, both oral and written.
Use straightforward scientific evidence to answer questions to support their findings.

**Year 3- Animals, including humans**
Gather, record, classify and present data in a variety of ways in answering questions.
Record findings using simple scientific language, drawings, labelled diagrams, keys and bar charts
Report on findings from enquiries, both oral and written.
Identify differences, similarities or changes related to simple scientific ideas and processes.
Use straightforward scientific evidence to answer questions to support their findings.

**Living things and their habitats – Year 4**
Gather, record, classify and present data in a variety of ways.
Report on findings from enquiries, both oral and written.
Identify differences, similarities or changes related to simple scientific idea and processes.
Make systematic and careful observations and take accurate measurements.
Record findings using simple scientific language.
Use straightforward scientific evidence to answer questions to support their findings.

## Year 3

**Light – Year 3**
Gather, record, classify and present data in a variety of ways in answering questions.
Record findings using simple scientific language, drawings, labelled diagrams, keys and bar charts.
Report on findings from enquiries, both oral and written.
Identify differences, similarities or changes related to simple scientific ideas and processes.

**Plants – Year 3**
Ask relevant questions and using different types of scientific enquiries to answer them.
Set up simple practical enquiries, comparative and fair tests.
Make systematic and careful observations and taking accurate measurements using standard units.
Gather, record, classify and present data in a variety of ways in answering questions.
Record findings using simple scientific language, drawings, labelled diagrams, keys and bar charts.
Report on findings from enquiries, both oral and written.
Use results to draw simple conclusion, make predictions for new values, suggest improvements and raise further questions.

**Forces and magnets – Year 3**
Set up simple practical enquiries, comparative and fair tests.
Make systematic and careful observations and taking accurate measurements using standard units.
Record findings using simple scientific language, drawings, labelled diagrams, keys and bar charts
Report on findings from enquiries, both oral and written.

**Rocks – Year 3**
Make systematic and careful observations and taking accurate measurements using standard units.
Report on findings from enquiries, both oral and written.
Use results to draw simple conclusion, make predictions for new values, suggest improvements and raise further questions.
Identify differences, similarities or changes related to simple scientific ideas and processes.

## Year 2

**Uses of everyday materials – Year 2**
Perform simple tests
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions

**Living things and their habitats – Year2**
Asking simple questions and recognize that they can be answered in different ways
Observe closely, using simple equipment
Identify and classify
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions

**Animals, including humans – Year 2**
Asking simple questions and recognize that they can be answered in different ways
Perform simple tests
Identify and classify
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions

Plants – Year 2
Asking simple questions and recognize that they can be answered in different ways
Perform simple tests
Identify and classify
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions
Observe closely, using simple equipment

## Year 1

**Everyday materials – Year 1**
Perform simple tests
Identify and classify
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions

**Seasonal change – Year 1**
Perform simple tests
Identify and classify
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions.

**Animals, including humans – Year 1**
Perform simple tests
Identify and classify
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions.

**Plants – Year 1**
Asking simple questions and recognise ways they can be answered
Observe closely, using simple equipment
Identify and classify
Using their observations and ideas to suggest answers to questions
Gather and record data to help in answering questions

## EYFS

UW: Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class
UW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter
ED: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function
ED: Share their creations, explaining the process they have used

PD: Begin to show accuracy and care when drawing
UW: Explore the natural world around them, making observations and drawing pictures of animals and plants
UW: Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class
ED: Make use of props and materials when role playing characters in narratives and stories
PSED: Show an ability to follow instructions involving several ideas or actions