SCIENCE

Disciplinary Science Skills – plan, do, record, evaluate

Progression in Disciplinary Skills at Fawkham CEP School

PLAN - 'plan' investigative skills are woven across all science topics

EYFS	KS1	LKS2	UKS2
In the EYFS, the characteristics of effective learning from the Statutory Framework for the Early Years Foundation Stage are the foundations on which the working scientifically/disciplinary skills build in Key Stage 1. While children are playing and exploring, teachers model, encourage and support them to do the following: show curiosity and ask questions	-asking simple questions and recognising that they can be answered in different ways -	-ask relevant questions and using different types of scientific enquiries to answer them -set up simple practical enquiries, comparative and fair tests	-plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary -use test results to make predictions to set up further comparative and fair tests

SCIENCE

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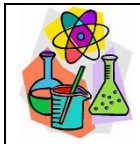
Progression in Skills at Fawkham CEP School

DO - 'do' investigative skills are woven across all science topics

EYFS	KS1	LKS2	UKS2
In the EYFS, the characteristics of effective learning from the Statutory Framework for the Early Years Foundation Stage are the foundations on which the working scientifically/disciplinary skills build in Key Stage 1. While children are playing and exploring, teachers model, encourage and support them to do the following: make observations using their senses and simple equipment use equipment to measure identify, sort and group	-observe closely, using simple equipment -perform simple tests -identify and classify	-make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	-take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate *-group and classify things and recognize patterns.* ***(*non-statutory)*** *-find out using a wide range of secondary sources of information.* ***(*non-statutory)***



SCIENCE

Disciplinary Science Skills – plan, do, record, evaluate

Progression in Skills at Fawkham CEP School

RECORD **- 'record' investigative skills are woven across all science topics**

EYFS	KS1	LKS2	UKS2
In the EYFS, the characteristics of effective learning from the Statutory Framework for the Early Years Foundation Stage are the foundations on which the working scientifically/disciplinary skills build in Key Stage 1. While children are playing and exploring, teachers model, encourage and support them to do the following: record their observations by drawing, taking photographs, using sorting rings or boxes and on simple tick sheets	-gather and record data to help in answering questions	-gather, record, classify and present data in a variety of ways to help in answering questions -record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables -,	-record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs,

SCIENCE

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EVALUATE - **'evaluate' investigative skills are woven across all science topics**

EYFS	KS1	LKS2	UKS2
In the EYFS, the characteristics of effective learning from the Statutory Framework for the Early Years Foundation Stage are the foundations on which the working scientifically/disciplinary skills build in Key Stage 1. While children are playing and exploring, teachers model, encourage and support them to do the following: make direct comparisons use their observations to help them to answer their questions talk about what they are doing and have found out	-use their observations and ideas to suggest answers to questions	-report on findings from enquiries, include oral and written explanations, displays or presentations of results and conclusions use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions -identify differences, similarities or changes related to simple scientific ideas and processes -use straightforward scientific evidence to answer questions or to support their findings.	-report and present findings from enquiries, including conclusions, causal relationships and explanations results, explanations of and 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. *-describe and evaluate their own and other people's scientific ideas related to the topics in the national curriculum (including ideas that have changed over time) using evidence from a range of sources* ***(*non-statutory)*** *-use appropriate scientific language and ideas to explain, evaluate and communicate the methods and findings.* ***(*non-statutory)*** -

SCIENCE ENQUIRY APPROACHES – Y1 to Y6

Comparative / fair testing
Changing one variable to see its effect on another, whilst keeping all others the same.

Research
Using secondary sources of information to answer scientific questions.

Observation over time
Observing changes that occur over a period of time ranging from minutes to months.

Pattern-seeking
Identifying patterns and looking for relationships in enquiries where variables are difficult to control.

Identifying, grouping and classifying
Making observations to name, sort and organise items.

Problem-solving
Applying prior scientific knowledge to find answers to problems.