

KS1: Working Scientifically Knowledge Organiser



How do we work scientifically?



Asking questions that can be answered using a scientific enquiry.



Making predictions using prior knowledge.



Setting up tests to carry out an enquiry.



Recording data using tables, graphs and other means.



Observing and measuring using equipment to make observations.



Interpreting and communicating results to say what you found out.



Evaluating the success of the enquiry approach.

Equipment:



Types of Scientific Enquiry:



Fair Testing



Identifying, Grouping and Classifying



Pattern Seeking



Observing Over Time



Research

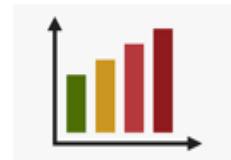
Presenting Data:

Table: Boxes where data (numbers) can be looked at.

Water temperature (°C)	Time taken for sugar to dissolve (seconds)
20	55
30	41
40	27

Bar Chart:

Comparing two or more sets of separate data.



Pictogram: Number of things shown as pictures.

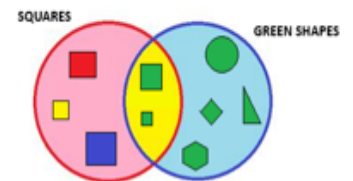


Tally Chart: A way of recording the number of things seen using lines.

Pet	Tally Marks	Number
Cat		10
Dog		4
Hamster		6

Venn Diagram:

Used to sort according to properties.



Vocabulary:

enquiry method prediction variable measure
 record conclusion plan

LKS2: Working Scientifically Knowledge Organiser



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Equipment:



Types of Scientific Enquiry:



Fair Test:
Changing one variable, whilst keeping all of the others the same.



Classifying and Grouping:
Comparing, sorting and organising items and things by their properties.



Observing Over Time:
Watching things change or stay the same over a period of time.



Research Using Secondary Sources:
Using secondary sources of information such as books or the Internet to find out information.



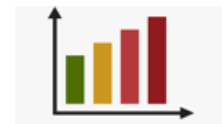
Pattern Seeking:
Looking for patterns and relationships in the things that we see, where variables are difficult to control.

Presenting Data:

Table: Boxes where numerical data can be looked at.

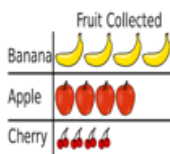
Water temperature (°C)	Time taken for sugar to dissolve (seconds)
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40	27

Bar Chart:
Comparing two or more sets of separate data.



Tally Chart / Pictogram: Ways of recording the number of things seen.

Pet	Tally Marks	Number
Cat		10
Dog		4
Hamster		6



Vocabulary:

enquiry method hypothesis theory prediction
variable measure record conclusion plan

UKS2: Working Scientifically Knowledge Organiser



How do we work scientifically?



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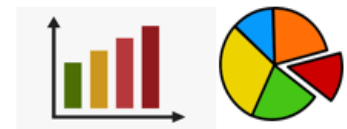
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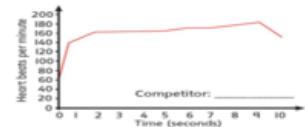
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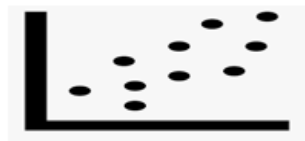
Bar Chart or Pie Chart: Comparing two or more sets of separate data.



Line Graph: Data changing over distance or time.



Scatter Graph: Two sets of numerical data used to plot points. Used to look for patterns.



Tally Chart / Pictogram: Ways of recording the number of things seen.

Pet	Tally Marks	Number
		10
		4
		6

Fruit Collected	Number
Banana	5
Apple	4
Cherry	4

Vocabulary:

enquiry method hypothesis theory prediction
variable measure record conclusion plan