

KS3 Science Skills and Content

At KS3 in Science we follow the AQA KS3 Science specification

<https://www.aqa.org.uk/subjects/science/ks3/ks3-science-syllabus>

	Year 7	Year 8
Autumn Term	Movement Particle Model Speed Separating Mixtures	Breathing Periodic Table and Elements
	November Test (w/b 19th November) on above topics	October Test (w/b 29th October) on all topics covered so far at KS3
Spring Term	Cells Metals and Non-Metals Energy Transfer Variation Current, Voltage and Resistance	Contact Forces Respiration Chemical Reactions Work Evolution
	February Test (w/b 15th February) on all topics covered since start of the year	January Test (w/b 28th January) on all topics covered so far at KS3
	Easter Holiday Project on Earth Structure	Easter Holiday Project on Climate
Summer Term	Acids and Alkalis Interdependence Energy Costs REproduction Light and Sound	Electromagnets and Magnetism Digestion Heating and Cooling Photosynthesis Pressure
	End of Year Assessment on all topics covered since start of the year (w/b June 3rd)	End of Year Assessment on all topics on all topics covered so far at KS3 (w/b June 3rd)
	Gravity Universe	Inheritance Wave Effects and Properties

Science experimental and numeracy skills are taught throughout KS3 and are central to all Science topics.

Bronze	Silver	Gold
Experimental Skills		
<ul style="list-style-type: none"> ● I can name some science equipment. ● I can identify the dependent and independent variables. ● I can suggest a control variable. ● I can write a simple plan. ● I can suggest a risk in an investigation. ● I can make measurements using science equipment. ● I can fill in a results table. ● I can draw a bar chart. ● I can read values from a line graph. ● I can identify an anomaly on a line or bar chart. 	<ul style="list-style-type: none"> ● I can write down a step by step plan. ● I can draw and label science equipment. ● I can identify important control variables. ● I can suggest how to control major risks. ● I can follow written instructions to carry out an investigation. ● I can design a table to put results in. ● I can calculate a mean from a set of results. ● I can draw a line graph when provided with axes. ● I can draw a straight line or curve of best fit. ● I can make a conclusion from results. ● I can suggest sources of error. 	<ul style="list-style-type: none"> ● I can justify use of different methods and science equipment. ● I can identify variables that cannot be controlled properly in an investigation. ● I can write a risk assessment. ● I can carry out a method carefully and consistently. ● I can mark out my own scale on a set of axes and draw a line graph. ● I can identify and use the terms directly proportional and indirectly proportional. ● I can suggest ways to improve an investigation. ● I can define random and systematic error.
Numeracy Skills		
<ul style="list-style-type: none"> ● I can round numbers to the nearest whole number. ● I can understand the symbols for equal to, multiplication, division, addition and subtraction and carry out simple one-step calculations. ● I can measure quantities using scales on measuring equipment. ● I can calculate a percentage. ● I can read numbers in degrees using a protractor. ● I can draw a bar chart. ● I can read values from a line graph. 	<ul style="list-style-type: none"> ● I can round numbers to a stated number of decimal places. ● I can convert between numbers of different orders of magnitude when given the relevant conversion (e.g. between metres and kilometres when $1000\text{m} = 1\text{ km}$). ● I can substitute numbers into an equation when given the quantities to substitute and calculate an unknown value. ● I can interpret pie charts as fractions or percentages. ● I can calculate a mean from a set of results. ● I can draw a line graph when provided with axes. 	<ul style="list-style-type: none"> ● I can round numbers to a stated number of significant figures. ● I can convert very large or very small numbers to standard form. ● I can convert numbers between different orders of magnitude when given the prefix. (e.g. How many Hz in a MHz) ● I understand the symbols for proportional, larger than, smaller than, approximately equal to. ● I can rearrange the subject of an equation and calculate an unknown value. ● I can calculate the size of something using a scale factor. ● I can mark out my own scale on a set of axes and draw a line graph. ● I can identify and use the terms directly proportional and indirectly proportional.

