

This term in Science we will be learning about

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE	<ul style="list-style-type: none"> <li><input type="checkbox"/> Explain how antagonistic muscles work</li> <li><input type="checkbox"/> Explain the function of a synovial joint.</li> <li><input type="checkbox"/> Explain the factors that affect the rate of diffusion.</li> <li><input type="checkbox"/> Explain what causes gas pressure</li> <li><input type="checkbox"/> Explain what up thrust is</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Explain how the structure of specialised cells relates to their function.</li> <li><input type="checkbox"/> Explain what happens during a change of state</li> <li><input type="checkbox"/> Explain what happens to particles in diffusion</li> <li><input type="checkbox"/> Explain the difference between mass and weight</li> <li><input type="checkbox"/> Explain what causes friction</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Know the functions of the nucleus, cytoplasm, cell membrane, cell wall, vacuole, chloroplasts.</li> <li><input type="checkbox"/> Identify structures as cells, tissues or organs</li> <li><input type="checkbox"/> Label diagrams of a skeleton and a synovial joint</li> <li><input type="checkbox"/> Describe the properties of each state of matter</li> <li><input type="checkbox"/> Explain what density means.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Recognise the organelles in animal and plant cells</li> <li><input type="checkbox"/> Recall what a unicellular organism is</li> <li><input type="checkbox"/> Draw particle model diagrams</li> <li><input type="checkbox"/> Recall the names for changes in state</li> <li><input type="checkbox"/> Give examples of common forces</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use strategies which avoid experimental error and can identify potential sources of random and systematic error.</li> <li><input type="checkbox"/> I can write a detailed risk assessment for my experiment.</li> <li><input type="checkbox"/> I can analyse data taking full account of anomalies.</li> <li><input type="checkbox"/> I can justify all aspects of the chart or graph used for displaying results,.</li> <li><input type="checkbox"/> I can suggest ways of modifying the experimental procedures with reasons.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use the formula <math>F = kx</math> for elastic materials.</li> <li><input type="checkbox"/> Draw and interpret a force-extension graph</li> <li><input type="checkbox"/> I can explain how to monitor the control variables.</li> <li><input type="checkbox"/> I can identify hazards, risks and precautions in an experiment.</li> <li><input type="checkbox"/> I can identify anomalous results in my data.</li> <li><input type="checkbox"/> I can justify my chosen method of chart or graph for displaying results.</li> <li><input type="checkbox"/> I can confidently identify patterns in data and use these to describe and explain the relationships between variables using my scientific knowledge.</li> <li><input type="checkbox"/> I can make valid comments on the quality of the collected data.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Describe how to set up and use a light microscope</li> <li><input type="checkbox"/> Draw and interpret distance-time graphs</li> <li><input type="checkbox"/> Calculate density using the equation (<math>d = m/V</math>)</li> <li><input type="checkbox"/> I can identify the variables in an investigation.</li> <li><input type="checkbox"/> I can identify hazards in an investigation and take steps to reduce risk.</li> <li><input type="checkbox"/> I can present data in a correctly labelled table.</li> <li><input type="checkbox"/> I can select appropriate data for calculating a mean.</li> <li><input type="checkbox"/> I can draw graphs with an accurate line of best fit.</li> <li><input type="checkbox"/> I can describe the pattern in a data set and explain it using scientific knowledge.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Sketch force diagrams, representing forces as arrows</li> <li><input type="checkbox"/> Calculate speed from distance and time (<math>s = d/t</math>)</li> <li><input type="checkbox"/> I can identify some variables in an investigation.</li> <li><input type="checkbox"/> I can follow instructions to reduce the risk from hazards in an investigation.</li> <li><input type="checkbox"/> I can safely use a Bunsen burner.</li> <li><input type="checkbox"/> I can calculate a simple mean.</li> <li><input type="checkbox"/> I can present data in a table and, with guidance, produce a chart or graph.</li> <li><input type="checkbox"/> I can draw simple conclusions from a data set.</li> <li><input type="checkbox"/> I can suggest an improvement to an investigation.</li> </ul>

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<b>K N O W L E D G E</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Describe the adaptations of leaves for photosynthesis</li> <li><input type="checkbox"/> Explain why all life on Earth depends on plants</li> <li><input type="checkbox"/> Define the conservation of mass</li> <li><input type="checkbox"/> Explain how the ear works</li> <li><input type="checkbox"/> Explain why refraction happens</li> <li><input type="checkbox"/> Compare transverse and longitudinal waves</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Explain the impact of exercise, asthma and smoking on the lungs</li> <li><input type="checkbox"/> Describe how plants get water and minerals</li> <li><input type="checkbox"/> Describe the arrangement of the elements in the Periodic table</li> <li><input type="checkbox"/> Describe a sound wave in terms of frequency &amp; amplitude</li> <li><input type="checkbox"/> Explain why objects look different colours in different light</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Describe the mechanism of breathing</li> <li><input type="checkbox"/> Summarise the photosynthesis reaction</li> <li><input type="checkbox"/> Define elements and describe their properties</li> <li><input type="checkbox"/> Use the particle model to describe elements and compounds</li> <li><input type="checkbox"/> Explain why objects appear coloured</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Identify structures in the human gas exchange system</li> <li><input type="checkbox"/> Know the structure of an atom</li> <li><input type="checkbox"/> Describe the properties of metals and non-metals</li> <li><input type="checkbox"/> Know the signs of a chemical reaction.</li> <li><input type="checkbox"/> Name the parts of the ear</li> <li><input type="checkbox"/> State the definition of the terms: absorb, opaque, reflect, translucent &amp; transparent</li> </ul>
<b>S K I L L S &amp; A P P L I C A T I O N</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Write and interpret chemical formula</li> <li><input type="checkbox"/> I can use strategies which avoid experimental error and can identify potential sources of random and systematic error.</li> <li><input type="checkbox"/> I can write a detailed risk assessment for my experiment.</li> <li><input type="checkbox"/> I can analyse data taking full account of anomalies.</li> <li><input type="checkbox"/> I can justify all aspects of the chart or graph used for displaying results,.</li> <li><input type="checkbox"/> I can suggest ways of modifying the experimental procedures with reasons.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Name compounds and interpret their composition</li> <li><input type="checkbox"/> Draw a ray diagram to show refraction</li> <li><input type="checkbox"/> I can explain how to monitor the control variables.</li> <li><input type="checkbox"/> I can identify hazards, risks and precautions in an experiment.</li> <li><input type="checkbox"/> I can identify anomalous results in my data.</li> <li><input type="checkbox"/> I can justify my chosen method of chart or graph for displaying results.</li> <li><input type="checkbox"/> I can confidently identify patterns in data and use these to describe and explain the relationships between variables using my scientific knowledge.</li> <li><input type="checkbox"/> I can make valid comments on the quality of the collected data.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Describe how to measure lung volume.</li> <li><input type="checkbox"/> Write equations for simple reactions</li> <li><input type="checkbox"/> Draw a ray diagram to show reflection in a plane mirror</li> <li><input type="checkbox"/> I can identify the variables in an investigation.</li> <li><input type="checkbox"/> I can identify hazards in an investigation and take steps to reduce risk.</li> <li><input type="checkbox"/> I can present data in a correctly labelled table.</li> <li><input type="checkbox"/> I can select appropriate data for calculating a mean.</li> <li><input type="checkbox"/> I can draw graphs with an accurate line of best fit.</li> <li><input type="checkbox"/> I can describe the pattern in a data set and explain it using scientific knowledge.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Identify elements using a Periodic Table</li> <li><input type="checkbox"/> I can identify some variables in an investigation.</li> <li><input type="checkbox"/> I can follow instructions to reduce the risk from hazards in an investigation.</li> <li><input type="checkbox"/> I can safely use a Bunsen burner.</li> <li><input type="checkbox"/> I can calculate a simple mean.</li> <li><input type="checkbox"/> I can present data in a table and, with guidance, produce a chart or graph.</li> <li><input type="checkbox"/> I can draw simple conclusions from a data set.</li> <li><input type="checkbox"/> I can suggest an improvement to an investigation.</li> </ul>

This term in Science (Teacher 1) we will be learning about

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can confidently use a range of complex scientific vocabulary.</li> <li><input type="checkbox"/> I can explain in detail what is meant by the terms accuracy, precision &amp; reliability.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use a range of scientific vocabulary.</li> <li><input type="checkbox"/> I can define the terms reproducibility and repeatability.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use correct scientific vocabulary.</li> <li><input type="checkbox"/> I can define the terms accuracy, precision &amp; reliability.</li> <li><input type="checkbox"/> I know what you need to include in a risk assessment.</li> <li><input type="checkbox"/> I know at least 3 different methods I can use to revise.</li> <li><input type="checkbox"/> I know what it means to interrogate sources of information.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use some scientific key terms.</li> <li><input type="checkbox"/> I can state a range of possible Science career choices.</li> <li><input type="checkbox"/> I can define the terms independent and dependent variable</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can plan an investigation which considers repeatability, reproducibility and reliability.</li> <li><input type="checkbox"/> I can write a detailed risk assessment for my experiment.</li> <li><input type="checkbox"/> I can analyse data using complex statistical analysis and taking full account of anomalies.</li> <li><input type="checkbox"/> I can justify all aspects of the chart or graph used for displaying results,.</li> <li><input type="checkbox"/> I can suggest ways of modifying the experimental procedures with reasons and suggest strategies that will take the investigation further.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can explain how to monitor the control variables.</li> <li><input type="checkbox"/> I can identify hazards, risks and precautions in an experiment.</li> <li><input type="checkbox"/> I can identify anomalous results in my data.</li> <li><input type="checkbox"/> I can justify my chosen method of chart or graph for displaying results.</li> <li><input type="checkbox"/> I can confidently identify patterns in data and use these to describe and explain the relationships between variables using my scientific knowledge.</li> <li><input type="checkbox"/> I can explain limitations in my data and make valid comments on the quality of the collected data.</li> <li><input type="checkbox"/> I can interrogate sources of information.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can identify the variables in an investigation.</li> <li><input type="checkbox"/> I can identify hazards in an investigation and take steps to reduce risk.</li> <li><input type="checkbox"/> I can present data in a table with correctly labelled headings with units.</li> <li><input type="checkbox"/> I can draw graphs with an accurate line of best fit.</li> <li><input type="checkbox"/> I can describe the pattern in a data set and explain it using scientific knowledge.</li> <li><input type="checkbox"/> I can evaluate the effectiveness of a method and give practical ideas on how to improve the method.</li> <li><input type="checkbox"/> I can demonstrate a range of revision strategies.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can identify some variables in an investigation.</li> <li><input type="checkbox"/> I can follow instructions to reduce the risk from hazards in an investigation.</li> <li><input type="checkbox"/> I can present data in a table and, with guidance, produce a chart or graph.</li> <li><input type="checkbox"/> I can draw simple conclusions from a data set.</li> <li><input type="checkbox"/> I can suggest an improvement to an investigation.</li> </ul>

**This term in Science (Teacher 2) we will be learning about**

	<b>Mastery</b>	<b>Working beyond National Standards</b>	<b>Working at national standards</b>	<b>Working below national standards</b>
<b>K N O W L E D G E</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can confidently use a range of complex scientific vocabulary.</li> <li><input type="checkbox"/> I can define the terms random and systematic error</li> <li><input type="checkbox"/> I can justify choosing specific equipment in terms of resolution..</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use a range of scientific vocabulary.</li> <li><input type="checkbox"/> I can define the terms limitation and validity</li> <li><input type="checkbox"/> I can describe the function of a range of science equipment.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use correct scientific vocabulary.</li> <li><input type="checkbox"/> I can identify scientific equipment.</li> <li><input type="checkbox"/> I know at least 3 different methods I can use to revise.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use some scientific key terms.</li> <li><input type="checkbox"/> I can describe what it means by a fair test.</li> <li><input type="checkbox"/> I can identify some scientific equipment.</li> </ul>
<b>S K I L L S &amp; A P P L I C A T I O N</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can write a detailed method for a scientific investigation that includes reducing errors and controlling variables.</li> <li><input type="checkbox"/> I can critically evaluate the validity of scientific claims.</li> <li><input type="checkbox"/> I can identify and explain random and systematic errors.</li> <li><input type="checkbox"/> I can analyse data using complex statistical analysis and taking full account of anomalies.</li> <li><input type="checkbox"/> I can suggest ways of modifying the experimental procedures with reasons and suggest strategies that will take the investigation further.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can write a detailed method for a scientific investigation that carefully considers variables.</li> <li><input type="checkbox"/> I can recognise and critique scientific claims.</li> <li><input type="checkbox"/> I can identify anomalous results and errors in my data.</li> <li><input type="checkbox"/> I can justify my chosen method of chart or graph for displaying results.</li> <li><input type="checkbox"/> I can confidently identify patterns in data and use these to describe and explain the relationships between variables using my scientific knowledge.</li> <li><input type="checkbox"/> I can explain limitations in my data and make valid comments on the quality of the collected data.</li> <li><input type="checkbox"/> I can apply complex maths skills in science.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can write a basic method for a scientific investigation.</li> <li><input type="checkbox"/> I can recognise scientific claims,</li> <li><input type="checkbox"/> I can present data in a table with correctly labelled headings with units.</li> <li><input type="checkbox"/> I can select appropriate data for calculating a mean.</li> <li><input type="checkbox"/> I can draw bar charts and line graphs with an accurate line of best fit.</li> <li><input type="checkbox"/> I can describe the pattern in a data set and explain it using scientific knowledge.</li> <li><input type="checkbox"/> I can evaluate the effectiveness of a method and give practical ideas on how to improve the method.</li> <li><input type="checkbox"/> I can demonstrate a range of revision strategies.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can follow a simple method to collect data</li> <li><input type="checkbox"/> I can calculate a simple mean.</li> <li><input type="checkbox"/> I can present data in a table and, with guidance, produce a chart or graph.</li> <li><input type="checkbox"/> I can draw simple conclusions from a data set.</li> <li><input type="checkbox"/> I can suggest an improvement to an investigation.</li> <li><input type="checkbox"/> I can apply simple maths skills in science.</li> </ul>