



Chapel Hill State School

Science Curriculum and Assessment Yearly Overview 2024

YEAR 6



Curriculum Intent

Year Level Description

The science inquiry skills and science as a human endeavour strands are described across a two-year band. In their planning, schools and teachers refer to the expectations outlined in the achievement standard and also to the content of the science understanding strand for the relevant year level to ensure that these two strands are addressed over the two-year period. The three strands of the curriculum are interrelated and their content is taught in an integrated way. The order and detail in which the content descriptions are organised into teaching and learning programs are decisions to be made by the teacher.

Incorporating the key ideas of science

Over Years 3 to 6, students develop their understanding of a range of systems operating at different time and geographic scales. In Year 5, students are introduced to cause and effect relationships through an exploration of adaptations of living things and how this links to form and function. They explore observable phenomena associated with light and begin to appreciate that phenomena have sets of characteristic behaviours. They broaden their classification of matter to include gases and begin to see how matter structures the world around them. Students consider Earth as a component within a solar system and use models for investigating systems at astronomical scales. Students begin to identify stable and dynamic aspects of systems, and learn how to look for patterns and relationships between components of systems. They develop explanations for the patterns they observe.

Achievement Standards

Spiral Progression and Alignment

Developing the same concepts from one grade level to the next in increasing complexity and application.

YEAR 5

By the end of Year 5, students classify substances according to their observable properties and behaviours. They explain everyday phenomena associated with the transfer of light. They describe the key features of our solar system. They analyse how the form of living things enables them to function in their environments. Students discuss how scientific developments have affected people's lives, help us solve problems and how science knowledge develops from many people's contributions.

Students follow instructions to pose questions for investigation and predict the effect of changing variables when planning an investigation. They use equipment in ways that are safe and improve the accuracy of their observations. Students construct tables and graphs to organise data and identify patterns in the data. They compare patterns in their data with predictions when suggesting explanations. They describe ways to improve the fairness of their investigations, and communicate their ideas and findings using multimodal texts.

YEAR 6

By the end of Year 6, students compare and classify different types of observable changes to materials. They analyse requirements for the transfer of electricity and describe how energy can be transformed from one form to another when generating electricity. They explain how natural events cause rapid change to Earth's surface. They describe and predict the effect of environmental changes on individual living things. Students explain how scientific knowledge helps us to solve problems and inform decisions and identify historical and cultural contributions.

Students follow procedures to develop investigable questions and design investigations into simple cause-and-effect relationships. They identify variables to be changed and measured and describe potential safety risks when planning methods. They collect, organise and interpret their data, identifying where improvements to their methods or research could improve the data. They describe and analyse relationships in data using appropriate representations and construct multimodal texts to communicate ideas, methods and findings.

YEAR 7

By the end of Year 7, students describe techniques to separate pure substances from mixtures. They represent and predict the effects of unbalanced forces, including Earth's gravity, on motion. They explain how the relative positions of Earth, the sun and moon affect phenomena on Earth. They analyse how the sustainable use of resources depends on the way they are formed and cycle through Earth systems. They predict the effect of human and environmental changes on interactions between organisms and classify and organise diverse organisms based on observable differences. Students describe situations where scientific knowledge from different science disciplines and diverse cultures has been used to solve a real-world problem. They explain possible implications of the solution for different groups in society.

Students identify questions that can be investigated scientifically. They plan fair experimental methods, identifying variables to be changed and measured. They select equipment that improves fairness and accuracy and describe how they considered safety. Students draw on evidence to support their conclusions. They summarise data from different sources, describe trends and refer to the quality of their data when suggesting improvements to their methods. They communicate their ideas, methods and findings using scientific language and appropriate representations.

Year 6		Science Curriculum and Assessment Overview		Chapel Hill State School			
Term 1		Term 2		Term 3			
Unit 3		Unit 4		Unit 2			
<p>Our Changing World</p> <p>Students explore how sudden geological changes and extreme weather events can affect Earth's surface. They consider the effects of earthquakes and volcanoes on the Earth's surface and how communities are affected by these events. They gather, record and interpret data relating to weather and weather events. Students explore the ways in which scientists are assisted by the observations of people from other cultures, including those throughout Asia. Students construct representations of cyclones and evaluate community and personal decisions related to preparation for natural disasters. They investigate how predictions regarding the course of tropical cyclones can be improved by gathering data.</p>		<p>Life on Earth</p> <p>Students explore the environmental conditions that affect the growth and survival of living things. They use simulations to plan and conduct fair tests and analyse the results of these tests. Students pose questions, plan and conduct investigations into the environmental factors that affect the growth of living things. They gather, record and interpret observations relating to their investigations. Students consider human impact on the environment and how science knowledge can be used to inform personal and community decisions. They recommend actions to develop environments for native plants and animals.</p>		<p>Making Changes</p> <p>Students investigate changes that can be made to materials and how these changes are classified as reversible or irreversible. They plan investigation methods using fair testing to answer questions. Students identify and assess risks, make observations, accurately record data and develop explanations. They suggest improvements, which can be made to their methods to improve investigations. Students explore the effects of reversible and irreversible changes in everyday materials and how this scientific understanding is used to solve problems that directly affect people's lives..</p>		<p>Energy and Electricity</p> <p>Students investigate electrical circuits as a means of transferring and transforming electricity. They design and construct electrical circuits to make observations, develop explanations and perform specific tasks, using materials and equipment safely. Students explore how energy from a variety of sources can be used to generate electricity and identify energy transformations associated with different methods of electricity production. They identify where scientific understanding and discoveries related to the production and use of electricity have, affected people's lives. They evaluate personal and community decisions related to use of different energy sources and their sustainability.</p>	
Assessment							
<p>Explaining Natural Events and Change</p> <p><i>Educational Research Project (ERP)</i></p> <p>Students explain how natural events cause rapid changes to the Earth's surface and identify contributions to the development of science by people from a range of cultures. They identify how research can improve data.</p> <p>(Linked to U1 Drama - Natural Disasters)</p>		<p>Investigating Mouldy Bread</p> <p><i>Experimental investigation</i></p> <p>Students develop an investigable question and design an investigation into simple cause-and-effect relationships including identifying variables to be changed and measured and potential safety risks. They collect, organise and interpret data to identify environmental factors that contribute to mould growth in bread and explain how scientific knowledge helps to solve problems.</p> <p>Part A: Plan an investigation Part B: Observe, record and analyse results</p>		<p>Testing Change: Reversible or Irreversible?</p> <p><i>Experimental investigation</i></p> <p>Students plan and conduct an investigation into reversible and irreversible changes, including identifying variables to be changed and measured, describing potential safety risks, identifying improvements to methods and constructing texts to communicate ideas, methods and findings</p> <p>Part A: Investigating Change Part B: Observing Change Part C: Communicating (PowerPoint/Oral Presentation)</p> <p>(Oral linked to English)</p>		<p>Analysing Energy and Electricity</p> <p><i>Supervised assessment</i></p> <p>Students analyse requirements for the transfer of electricity in a circuit and describe how energy can be transformed from one form to another to generate electricity. Students explain how scientific knowledge is used to assess energy sources selected for a specific purpose.</p> <p>Part A: Circuits - Design, construct and conduct Part B: Energy sources - Identify energy sources</p> <p>(Linked to Design and Technologies – Hands Off!)</p>	
Achievement Standard – Elements Assessed							
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