



Chapel Hill State School

Science Curriculum and Assessment Yearly Overview 2024

YEAR 5



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 4

By the end of Year 4, students apply the observable properties of materials to explain how objects and materials can be used. They describe how contact and non-contact forces affect interactions between objects. They discuss how natural processes and human activity cause changes to Earth's surface. They describe relationships that assist the survival of living things and sequence key stages in the life cycle of a plant or animal. They identify when science is used to understand the effect of their actions.

Students follow instructions to identify investigable questions about familiar contexts and make predictions based on prior knowledge. They describe ways to conduct investigations and safely use equipment to make and record observations with accuracy. They use provided tables and column graphs to organise data and identify patterns. Students suggest explanations for observations and compare their findings with their predictions. They suggest reasons why a test was fair or not. They use formal and informal ways to communicate their observations and findings.

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 5		Science Curriculum and Assessment Overview		Chapel Hill State School			
Term 1		Term 2		Term 3			
Unit 3		Unit 1		Unit 4			
<p>Now You See It</p> <p>Students investigate the properties of light and the formation of shadows. They investigate reflection angles, how refraction affects our perceptions of an object's location, how filters absorb light and affect how we perceive the colour of objects, and the relationship between light source distance and shadow height. They plan investigations including posing questions, making predictions, and following and developing methods. They analyse and represent data and communicate findings using a range of text types, including reports and labelled and ray diagrams. They explore the role of light in everyday objects and devices and consider how improved technology has changed devices and affected peoples' lives.</p>		<p>Survival in the Environment</p> <p>Students analyse the structural features and behavioural adaptations that assist living things to survive in their environment. They understand that science involves using evidence and comparing data to develop explanations. Students investigate the relationships between the factors that influence how plants and animals survive in their environments, including those that survive in extreme environments, and use this knowledge to design creatures with adaptations that are suitable for survival in prescribed environments.</p>		<p>Matter Matters</p> <p>Students broaden their classification of matter to include gases and begin to see how matter structures the world around them. They understand that solids, liquids and gases have some shared and some distinct observable properties and can behave in different ways. Students pose questions, make predictions and plan investigation methods into the observable properties and behaviours of solids, liquids and gases. They represent data and observations in tables and graphs. They identify patterns and relationships in data and compare patterns with their predictions when suggesting explanations. They suggest ways to improve fairness and accuracy of their investigation</p>		<p>Our Place in the Solar System</p> <p>Students describe the key features of our solar system including planets and stars. They discuss scientific developments that have affected people's lives and describe details of contributions to our knowledge of the solar system from a range of people. With guidance, students will pose questions, plan and conduct investigations to answer questions and solve problems. They decide on variables to change and measure to conduct fair tests. Students communicate their ideas in a variety of multimodal texts including recording in data sheets and as a report for popular media.</p>	
Assessment							
<p>Exploring the Transfer of Light</p> <p><i>Experimental Investigation</i></p> <p>Students plan, predict and conduct a fair investigation to explain everyday phenomena associated with the transfer of light. They discuss how scientific developments have affected people's lives and help us solve problems. Students describe ways to improve the fairness of their investigation and communicate ideas and findings.</p>		<p>Creating a Creature</p> <p><i>Educational Research Project (ERP)</i></p> <p>Students analyse how the form of living things enables them to function in their environments. They use environmental data when suggesting explanations for difference in structural features of creatures</p>		<p>Investigating Evaporation and Explaining Solids, Liquids and Gases</p> <p><i>Experimental Investigation</i></p> <p>Part A: Inquiry</p> <p>Part B: Knowledge Short Answer Test</p> <p>Students plan, conduct and evaluate an investigation into a variable that affects evaporation and describe and apply knowledge of the properties of solids, liquids and gases. They communicate ideas and findings using multimodal texts.</p>		<p>Exploring the Solar System</p> <p><i>Research and Short Answer Knowledge Test</i></p> <p>Students describe key features of the solar system. They describe how science knowledge develops from many people's contributions and explain how scientific developments have affected people's lives and solved problems.</p> <p>(Linked to U3 Design Technologies – Lunar Lander)</p>	
Achievement Standard – Elements Assessed							
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