



# Chapel Hill State School

## Science Curriculum and Assessment Overview 2025 (v8)

### YEAR 4



#### 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 4, students broaden their understanding of classification and form and function through an exploration of the properties of natural and processed materials. They learn that forces include non-contact forces and begin to appreciate that some interactions result from phenomena that can't be seen with the naked eye. They begin to appreciate that current systems, such as Earth's surface, have characteristics that have resulted from past changes and that living things form part of systems. They understand that some systems change in predictable ways, such as through cycles. They apply their knowledge to make predictions based on interactions within systems, including those involving the actions of humans.

#### **Achievement Standards**

#### *Spiral Progression and Alignment*

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

#### **YEAR 3**

By the end of Year 3, students use their understanding of the movement of Earth, materials and the behaviour of heat to suggest explanations for everyday observations. They group living things based on observable features and distinguish them from non-living things. They describe how they can use science investigations to respond to questions.

Students use their experiences to identify questions and make predictions about scientific investigations. They follow procedures to collect and record observations and suggest possible reasons for their findings, based on patterns in their data. They describe how safety and fairness were considered and they use diagrams and other representations to communicate their ideas.

#### **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 4		Science Curriculum and Assessment Overview		Chapel Hill State School			
Term 1		Term 2		Term 3			
Unit 1 V8		Unit 2 V8		Unit 4 V8			
<b>Investigating Soil Erosion</b> Students will explore natural processes and human activity that cause weathering and erosion of Earth's surface. Students relate this to their local area, make observations and predict consequences of future occurrences and human activity. They describe situations where science understanding can influence their own and others' actions. They identify questions and make predictions based on prior knowledge. They safely use equipment and make and record observations with accuracy. They suggest explanations for their observations, compare their findings with their predictions and communicate their observations and findings.		<b>Mapping Life Cycles and Relationships</b> Students investigate life cycles and sequence key stages in the life cycles of plants and animals. They examine relationships between living things and their dependence on each other and on the environment. By considering human and natural changes to the habitats, students will predict the effect of these changes on living things, including the impact on life cycles and the survival of the species. They identify when science is used to understand the effect of their own and others' actions. They identify investigable questions and make predictions based on prior knowledge. They discuss ways to conduct investigations safely and make and record observations with accuracy. They use tables and column graphs to organise their data, suggest explanations for observations and compare their findings with their predictions. They communicate their observations and findings.		<b>Investigating Contact and Non-Contact Forces</b> Students use games to investigate and demonstrate the direction of forces and the effect of contact and non-contact forces on objects. They use their knowledge of forces to make predictions about games and complete games safely in order to collect data. They use tables and column graphs to organise data and identify patterns so that findings can be communicated. They identify how science knowledge of forces helps people understand the effects of their actions.		<b>Investigating Properties of Materials</b> Students investigate physical properties of materials and consider how these properties influence the selection of materials for particular purposes. They consider how science involves making predictions and how science knowledge helps people to understand the effect of their actions.  They make predictions and use appropriate materials and equipment safely to make and record observations when conducting investigations. They represent data, identify patterns in their results, suggest explanations for their results, compare their results with their predictions, and reflect upon the fairness of their investigations. They complete simple reports to communicate their findings.	
Assessment							
<b>Investigating Soil Erosion</b> <i>Investigation</i> Students describe the natural processes and human activity that cause changes to the Earth's surface. They plan, conduct and report on an investigation of the erosion process. Students apply science understandings to formulate control strategies in real-life situations.  Investigating Soil Erosion response		<b>Mapping Life Cycles and Relationships</b> <i>Knowledge Test and ERP</i> Students understand how relationships of living things impact on their life cycle. To describe situations when science is used to understand the effect of actions, and organise and communicate findings.  <b>Part A:</b> ERP (Including Scientific Labelled Diagram) <b>Part B:</b> Knowledge Test		<b>Investigating Contact and Non-Contact Forces</b> <i>Experimental Investigation and ERP</i> Students conduct an investigation about how contact and non-contact forces are exerted on an object. They design and investigate forces games, make a prediction, collect data and identify patterns. Students identify when science is used to understand the effect of their actions.  <b>Part A:</b> Investigation and Report <b>Part B:</b> ERP Game Design and Build  (Linked to U3 Design Technology V8 - Forces Game, to U3 English V9 Persuasive Writing)		<b>Investigating Properties of Materials</b> <i>Supervised Investigation and ERP</i> Students investigate the observable properties of materials and explain how they can be used in real-life situations.  <b>Part A:</b> Investigating Materials <b>Part B:</b> ERP Using Materials for a Purpose	
Achievement Standard – Elements Assessed							
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**Disclaimer:** Please use this Curriculum Map as a guide. Due to professional judgement or circumstances beyond our control, it may be necessary to make changes to the published timetabling, delivery or instrument of an assessment.