

Cross Curriculum Priorities



General Capabilities













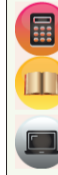




YEAR 5 ACHIEVEMENT STANDARD

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 and how science knowledge develops from many people's contributions.

Students follow instructions to pose questions for investigation, predict what might happen when variables are changed, and plan investigation methods. 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. They use patterns in their data to suggest explanations and refer to data when they report findings. They describe ways to improve the fairness of their methods and communicate their ideas, methods and findings using a range of text types.

Content Descriptors

SCIENCE UNDERSTANDING		SCIENCE AS A HUMAN ENDEAVOUR		SCIENCE INQUIRY SKILLS	
<p>Biological Sciences</p> <p>Living things have structural features and adaptations that help them to survive in their environment. [ACSSU043]</p> <ul style="list-style-type: none"> explaining how particular adaptations help survival such as nocturnal behaviour, silvery coloured leaves of dune plants describing and listing adaptations of living things suited for particular Australian environments exploring general adaptations for particular environments such as adaptations that aid water conservation in deserts 		<p>Nature and Development of Science</p> <p>Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena [ACSHE081]</p> <ul style="list-style-type: none"> developing an understanding of the behaviour of light by making observations of its effects testing predictions relating to the behaviour of solids, liquids and gases by conducting observational experiments researching how scientists were able to develop ideas about the solar system through the gathering of evidence through space exploration 		<p>Questioning and Predicting</p> <p>With guidance, pose questions to clarify practical problems or inform scientific investigation and predict what the findings of an investigation might be. [ACSI031]</p> <ul style="list-style-type: none"> exploring the range of questions that can be asked about a problem or phenomena and with guidance, identifying those questions that could be investigated applying experience from similar situations in the past to predict what might happen in a new situation 	
<p>Chemical Sciences</p> <p>Solids, liquids and gases have different observable properties and behave in different ways [ACSSU077]</p> <ul style="list-style-type: none"> recognising that substances exist in different states depending on the temperature observing that gases have mass and take up space, demonstrated by using balloons or bubbles exploring the way solids, liquids and gases change under different situations such as heating and cooling recognising that not all substances can be easily classified on the basis of their observable properties 		<p>Important contributions to the advancement of science have been made by people from a range of cultures [ACSHE082]</p> <ul style="list-style-type: none"> describing how scientists from a range of cultures have improved our understanding of the solar system, such as Copernicus, Khayyám and Galileo researching the different types of scientists who work in teams in space exploration, and Australia's involvement in space exploration learning how Aboriginal and Torres Strait Islander people used observation of the night sky to assist with navigation 		<p>Planning and Conducting</p> <p>With guidance, select appropriate investigation methods to answer questions and solve problems. [ACSI086]</p> <ul style="list-style-type: none"> experiencing a range of ways of investigating questions, including experimental testing, internet research, field observations and exploring simulations discussing the advantages of certain types of investigation for answering certain types of questions considering different ways to approach problem solving, including researching, using trial and error, experimental testing and creating models 	
<p>Earth and Space Sciences</p> <p>The Earth is part of a system of planets orbiting around a star (the sun). [ACSSU078]</p> <ul style="list-style-type: none"> identifying the planets of the solar system and comparing how long they take to orbit the sun modelling the relative size of and distance between Earth, other planets in the solar system and the sun recognising the role of the sun as a provider of energy for the Earth 		<p>Use and the Influence of Science</p> <p>Scientific understandings, discoveries and inventions are used to solve problems that directly affect people's lives. [ACSHE083]</p> <ul style="list-style-type: none"> investigating how the development of materials such as plastics and synthetic fabrics have led to the production of useful products describing how technologies developed to aid space exploration have changed the way people live, work and communicate exploring objects and devices that include parts that involve the reflection, absorption or refraction of light such as mirrors, sunglasses and prisms 		<p>Decide which variable should be changed and measured in fair tests and accurately observe, measure and record data, using digital technologies as appropriate [ACSI087]</p> <ul style="list-style-type: none"> discussing in groups how investigations can be made as fair as possible using tools to accurately measure objects and events in investigation and exploring which tools provide the most accurate measurements using familiar units such as grams, seconds and meters and developing the use of standard multipliers such as kilometres and millimetres recording data in tables and diagrams or electronically as digital images and spreadsheets 	
<p>Physical Sciences</p> <p>Light from a source forms shadows and can be absorbed, reflected and refracted. [ACSSU080]</p> <ul style="list-style-type: none"> drawing simple labelled ray diagrams to show the paths of light from a source to our eyes comparing shadows from point and extended light sources such as torches and fluorescent tubes classifying materials as transparent, opaque or translucent based on whether light passes through them or is absorbed recognising that the colour of an object depends on the properties of the object and the colour of the light source exploring the use of mirrors to demonstrate the reflection of light recognising the refraction of light at the surfaces of different transparent materials, such as when light travels from air to water or air to glass 		<p>Scientific knowledge is used to inform personal and community decisions. [ACSHE217]</p> <ul style="list-style-type: none"> considering how best to ensure growth of plants considering how decisions are made to grow particular plants and crops depending on environmental conditions comparing the benefits of using solid, liquid or gaseous fuels to heat a home describing the safety aspects of using gases 		<p>Use equipment and materials safely, identifying potential risks. [ACSI088]</p> <ul style="list-style-type: none"> explaining rules for safe processes and use of equipment 	
				<p>Processing and Analysing Data and Information</p> <p>Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate. [ACSI090]</p> <ul style="list-style-type: none"> constructing tables, graphs and other graphic organisers to show trends in data identifying patterns in data and developing explanations that fit these patterns identifying similarities and differences in qualitative data in order to group items or materials 	
				<p>Compare data with predictions and use as evidence in developing explanations. [ACSI218]</p> <ul style="list-style-type: none"> sharing ideas as to whether observations match predictions, and discussing possible reasons for predictions being incorrect 	
				<p>Evaluating</p> <p>Suggest improvements to methods used to investigate a question or solve a problem. [ACSI091]</p> <ul style="list-style-type: none"> working collaboratively to identify where methods could be improved, including where testing was not fair and practices could be improved 	
				<p>Communicating</p> <p>Communicate ideas, explanations and processes in a variety of ways, including multi-modal texts. [ACSI093]</p> <ul style="list-style-type: none"> discussing how models represent scientific ideas and constructing physical models to demonstrate an aspect of scientific understanding constructing multi-modal texts to communicate science ideas using labelled diagrams, including cross-sectional representations, to communicate ideas 	

Relevant Primary Connections Unit

- Plants in Action- Biological Sciences (re-published unit available June 2012)
- Material World and Package it Better- Chemical Sciences (re-published units available September 2012)
- Beneath Our Feet- Earth and Space Sciences (formerly known as Buried in Time)
- Smooth Moves- Physical Sciences (re-published unit available end of January 2012)

Supplementary Resources

- BBC Bitesize Interactive activities
- Stretch Science- Pearson Education
- A-Z Science (books and news articles)
- National Digital Resources
- ABC Science
- BBC Schools Science Clips
- Brain Pop