

Stage 2 Science



STAGE STATEMENT

By the end of Stage 2 students are responsive to ideas and show interest in and enthusiasm for science and technology. They appreciate the importance of science and technology in their lives and show a willingness to improve the quality of their local environment.

Students begin to initiate their own investigations and develop ideas for design tasks based on their prior science and technology knowledge and experiences. When using the processes of Working Scientifically and Working Technologically, they begin to develop and apply a sequence of steps.

When engaging in the processes of Working Scientifically and Working Technologically, students safely and carefully manipulate available tools, materials and equipment. They identify ways of improving techniques and methods used in their investigations and design tasks. Students suggest ways that findings from the processes of Working Scientifically and Working Technologically can inform further investigations and design tasks. They use a range of representations to document and communicate methods, techniques, findings, ideas and information, including digital technologies as appropriate.

Students identify when science is used to ask investigable questions and predict outcomes. They follow instructions to plan and conduct a range of first-hand investigations, including fieldwork. Students make and record observations, using formal measurements as appropriate and suggesting reasons why methods were fair or not. They organise and identify patterns in data using provided tables and simple column graphs. Students suggest reasons for observations and compare findings with predictions.

Students explore a design task and develop a design brief that identifies simple design criteria. They continue to generate and develop ideas and begin to use creative thinking techniques, including brainstorming and sketching. They begin to develop and apply a structured plan to produce their solutions for built environments, information and products. Students use design criteria and feedback to explain how their design solution could be adjusted and improved to meet their needs and those of others.

Students use their understanding of the Natural Environment to describe observable changes on the Earth's surface that result from natural and human processes. They relate movements of the Earth to regular observable changes and describe interactions between objects that result from contact and non-contact forces. Students sequence key stages in the life cycle of a plant or animal, distinguish between living and non-living things and group them based on observable features. They identify relationships between living things and describe situations where science knowledge can influence their own and others' actions.

Students relate the behaviour of heat to observable changes in state that occur between solids and liquids. In suggesting explanations for everyday observations, they identify how the observable properties of materials influence their use. Using their understanding of the Made Environment, students describe how products are designed, produced and used in different ways by people. They describe how people interact within a place and space, and explain how these are designed to meet the needs of users.

OUTCOMES

Outcome		
Values and Attitudes	ST2-1VA	shows interest in and enthusiasm for science and technology, responding to their curiosity, questions and perceived needs, wants and opportunities
	ST2-2VA	demonstrates a willingness to engage responsibly with local, national and global issues relevant to their lives, and to shaping sustainable futures
	ST2-3VA	develops informed attitudes about the current and future use and influence of science and technology based on reason
Skills	ST2-4WS	investigates their questions and predictions by analysing collected data, suggesting explanations for their findings, and communicating and reflecting on the processes undertaken
	ST2-5WT	applies a design process and uses a range of tools, equipment, materials and techniques to produce solutions that address specific design criteria
Knowledge and Understanding	ST2-6PW	identifies ways heat is produced and that heat moves from one object to another
	ST2-7PW	describes everyday interactions between objects that result from contact and non-contact forces
	ST2-8ES	describes some observable changes over time on the Earth's surface that result from natural processes and human activity
	ST2-9ES	describes how relationships between the sun and the Earth cause regular changes
	ST2-10LW	describes that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features
	ST2-11LW	describes ways that science knowledge helps people understand the effect of their actions on the environment and on the survival of living things
	ST2-12MW	identifies that adding or removing heat causes a change of state between solids and liquids

	ST2-13MW	identifies the physical properties of natural and processed materials, and how these properties influence their use
	ST2-14BE	describes how people interact within built environments and the factors considered in their design and construction
	ST2-15I	describes ways that information solutions are designed and produced, and factors to consider when people use and interact with information sources and technologies
	ST2-16P	describes how products are designed and produced, and the ways people use them