



Year Level	Level Description	Content Description and <i>Elaboration</i>
Foundation	<p>In Foundation, students observe and describe the behaviours and properties of everyday objects, materials and living things. They explore change in the world around them, including changes that impact on them, such as the weather, and changes they can effect, such as making things move or change shape.</p> <p>They learn that seeking answers to questions and making observations is a core part of science and use their senses to gather different types of information.</p>	<p><i>investigating different forms of clothing used for different activities (ACSSU003)</i></p> <p><i>comparing the traditional materials used for clothing from around the world (ACSSU003)</i></p> <p><i>linking the changes in the daily weather to the way we modify our behaviour and dress for different conditions, including examples from different cultures (ACSSU004)</i></p>
Year 1	<p>In Year 1, students infer simple cause-and-effect relationships from their observations and experiences, and begin to link events and phenomena with observable effects. They observe changes that can be large or small and happen quickly or slowly.</p> <p>They explore the properties of familiar objects and phenomena, identifying similarities and differences. Students begin to value counting as a means of comparing observations, and are introduced to ways of organising their observations.</p>	-
Year 2	<p>In Year 2, students describe the components of simple systems, such as stationary objects subjected to pushes or pulls, or combinations of materials, and show how objects and materials interact through direct manipulation. They observe patterns of growth and change in living things, and describe patterns and make predictions.</p> <p>They explore the use of resources from Earth and are introduced to the idea of the flow of matter when considering how water is used. They use counting and informal measurements to make and compare observations and begin to recognise that organising these observations in tables makes it easier to show patterns.</p>	<p><i>identifying toys from different cultures that use the forces of push or pull (ACSSU033)</i></p> <p><i>exploring how different cultures have made inks, pigments and paints by mixing materials (ACSHE035)</i></p>
Year 3	<p>In Year 3, students observe heat and its effects on solids and liquids and begin to develop an understanding of energy flows through simple systems. In observing day and night, they develop an appreciation of regular and predictable cycles. Students order their observations by grouping and classifying; in classifying things as living or non-living they begin to recognise that classifications are not always easy to define or apply.</p> <p>They begin to quantify their observations to enable comparison, and learn more sophisticated ways of identifying and representing relationships, including the use of tables and graphs to identify trends. They use their understanding of relationships between components of simple systems to make predictions.</p>	-
Year 4	<p>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.</p> <p>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.</p>	<p><i>considering the effect of events such as floods and extreme weather on the landscape, both in Australia and in the Asia region (ACSSU075)</i></p>
Year 5	<p>In Year 5, students are introduced to cause and effect relationships that relate to form and function through an exploration of adaptations of living things. They explore observable phenomena associated with light and begin to appreciate that phenomena have sets of characteristic behaviours.</p> <p>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.</p>	<p>Important contributions to the advancement of science have been made by people from a range of cultures (ACSHE082)</p> <p><i>considering how decisions are made to grow particular plants and crops depending on environmental conditions (ACSHE217)</i></p>
Year 6	<p>In Year 6, students explore how changes can be classified in different ways. They learn about transfer and transformations of electricity, and continue to develop an understanding of energy flows through systems. They link their experiences of electric circuits as a system at one scale, to generation of electricity from a variety of sources at another scale and begin to see links between these systems.</p> <p>They develop a view of Earth as a dynamic system, in which changes in one aspect of the system impact on other aspects; similarly they see that the growth and survival of living things are dependent on matter and energy flows within a larger system. Students begin to see the role of variables in measuring changes and learn how look for patterns and relationships between variables. They develop explanations for the patterns they observe, drawing on evidence.</p>	<p><i>investigating major geological events such as earthquakes, volcanic eruptions and tsunamis in Australia, the Asia region and throughout the world (ACSSU096)</i></p> <p><i>recognising that earthquakes can cause tsunamis (ACSSU096)</i></p> <p>Important contributions to the advancement of science have been made by people from a range of cultures (ACSHE099)</p> <p><i>investigating how people from different cultures have used sustainable sources of energy, for example water and solar power (ACSHE099)</i></p> <p><i>investigating the development of earthquake measurements from the Chinese invention of the seismograph in the second century (ACSHE099)</i></p> <p><i>researching the scientific work involved in global disaster alerts and communication, such as cyclone, earthquake and tsunami alerts (ACSHE100)</i></p> <p><i>researching the use of methane generators in Indonesia (ACSHE100)</i></p> <p><i>recognising that science can inform choices about where people live and how they manage natural disasters (ACSHE220)</i></p>



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Year 7	<p>In Year 7, students explore the diversity of life on Earth and continue to develop their understanding of the role of classification in ordering and organising information. They use and develop models such as food chains, food webs and the water cycle to represent and analyse the flow of energy and matter through ecosystems and explore the impact of changing components within these systems. They consider the interaction between multiple forces when explaining changes in an object's motion. They explore the notion of renewable and non-renewable resources and consider how this classification depends on the timescale considered.</p> <p>They investigate relationships in the Earth, sun, moon system and use models to predict and explain events. Students make accurate measurements and control variables to analyse relationships between system components and explore and explain these relationships through increasingly complex representations.</p>	<p><i>researching specific examples of human activity, such as the use of fire by traditional Aboriginal people and the effects of palm oil harvesting in Sumatra and Borneo (ACSSU112)</i></p> <p><i>explaining why different regions of the Earth experience different seasonal conditions (ACSSU115)</i></p>
Year 8	<p>In Year 8, students are introduced to cells as microscopic structures that explain macroscopic properties of living systems. They link form and function at a cellular level and explore the organisation of body systems in terms of flows of matter between interdependent organs. Similarly, they explore changes in matter at a particle level, and distinguish between chemical and physical change.</p> <p>They begin to classify different forms of energy, and describe the role of energy in causing change in systems, including the role of heat and kinetic energy in the rock cycle. Students use experimentation to isolate relationships between components in systems and explain these relationships through increasingly complex representations. They make predictions and propose explanations, drawing on evidence to support their views.</p>	<p><i>investigating the role of science in the development of technology important to the economies and communities of the Asia–Pacific regions, for example car manufacture, earthquake prediction and electronic optics (ACSH136)</i></p>
Year 9	<p>In Year 9, students consider the operation of systems at a range of scales. They explore ways in which the human body as a system responds to its external environment and the interdependencies between biotic and abiotic components of ecosystems. They are introduced to the notion of the atom as a system of protons, electrons and neutrons, and how this system can change through nuclear decay.</p> <p>They learn that matter can be rearranged through chemical change and that these changes play an important role in many systems. They are introduced to the concept of the conservation of matter and begin to develop a more sophisticated view of energy transfer. They begin to apply their understanding of energy and forces to global systems such as continental movement.</p>	<p><i>relating the extreme age and stability of a large part of the Australian continent to its plate tectonic history (ACSSU180)</i></p> <p><i>investigating contemporary science issues related to living in a Pacific country located near plate boundaries, for example, Japan, Indonesia, New Zealand (ACSH228)</i></p>
Year 10	<p>In the Year 10 curriculum students explore systems at different scales and connect microscopic and macroscopic properties to explain phenomena. Students explore the biological, chemical, geological and physical evidence for different theories, such as the theories of natural selection and the Big Bang. Atomic theory is developed to understand relationships within the periodic table.</p> <p>Understanding motion and forces are related by applying physical laws. Relationships between aspects of the living, physical and chemical world are applied to systems on a local and global scale and this enables students to predict how changes will affect equilibrium within these systems.</p>	-