Science and technology K-6 sample scope and sequence

## Learning overview

### Stage 3 – odd year

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|  | Outcomes | Learning overview |
| Term 1 | Working scientifically: ST3-1WS-S  Design and production: ST3-2DP-T, ST3-3DP-T  Earth and space: ST3-10ES-S  Digital technologies: ST3-11DI-T | Focus – sudden geological events and their management  Students investigate changes on Earth’s surface caused by sudden geological changes and the exploration of how these may be mitigated. They examine how digital systems and data are used to predict, measure or respond to these changes and develop solutions to problems using this knowledge.  There is an opportunity to connect with learning in Geography (Factors that shape places - environments shape places). |
| Term 2 | Working scientifically: ST3-1WS-S  Living world: ST3-4LW-S  Earth and space: ST3-10ES-S | Focus – survival and adaptations  Students investigate the growth and survival of living things and how their adaptations over time suit their environment. They explore how living things respond to the impact of extreme weather events on the environment.  There is an opportunity to complement learning in Geography (Factors that shape places - bushfire hazard). |
| Term 3 | Working scientifically: ST3-1WS-S  Design and production: ST3-2DP-T, ST3-3DP-T  Physical world: ST3-8PW-ST  Digital technologies: ST3-11DI-T | Focus – changing forces  Students investigate the difference between contact and non-contact forces and how to make a force stronger or weaker. They explore how digital systems can be used to record, analyse and represent different types of data.  There is an opportunity to connect with learning in PDHPE (Movement skill and performance) in relation to adjusting the force and speed of an object to improve accuracy and control and Mathematics (Length, mass and time and data) in relation to collecting and analysing data. |
| Term 4 | Working scientifically: ST3-1WS-S  Design and production: ST3-2DP-T  Material world: ST3-6MW-S, ST3-7MW-T | Focus – matter and materials  Students investigate the different properties of solids, liquids and gases, and consider combining and separating mixtures. They use this knowledge to inform design solutions for an identified need or opportunity. |

### Stage 3 – even year

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|  | Outcomes | Learning overview |
| Term 1 | Working scientifically: ST3-1WS-S  Design and production: ST3-2DP-T, ST3-3DP-T  Earth and space: ST3-10ES-S  Digital technologies: ST3-11DI-T | Focus – Earth’s place in space and space technology  Students investigate Earth’s place in the solar system and explore how digital systems and data are used to enhance and represent human knowledge about space. Students develop a digital solution to communicate their scientific learning or provide a solution to an identified need or opportunity.  There is an opportunity to connect learning about Aboriginal and Torres Strait astronomy with Geography (A diverse and connected world) in relation to and interactions and connections between people, places and environments. |
| Term 2 | Working scientifically: ST3-1WS-S  Design and production: ST3-2DP-T  Living world: ST3-4LW-S, ST3-5LW-T | Focus – sustainable food and fibre  Students investigate how and why food and fibre are produced in sustainable, managed environments that enable people to grow and be healthy.  There is an opportunity to connect with learning in History (The Australian colonies) and Geography (Factors that shape places - factors that change environments) in relation to the impact of settlement on Aboriginal peoples and the environment, by examining examine Aboriginal and Torres Strait Islander land management practices  There is also an opportunity to connect with learning in Geography (A diverse and connected world) in relation to sustainable food and fibre production in Asian contexts, as well as trade and economy. |
| Term 3 | Working scientifically: ST3-1WS-S  Design and production: ST3-2DP-T  Physical world: ST3-9PW-ST  Digital technologies: ST3-11DI-T | Focus – energy transformations and electrical energy in products and systems  Students investigate how energy is transformed from one form to another and how electrical energy can control movement in products and systems. They make connections to how this occurs within digital systems, networks and the transmission of data. |
| Term 4 | Design and production: ST3-2DP-T  Material world: ST3-7MW-T | Focus – properties of materials and their use  Students investigate functional and structural properties of a range of materials. They design a sustainable solution considering the properties of materials to meet an identified need or opportunity.  There are opportunities to build on prior learning earlier in the year from the living world and physical world outcomes. |

[Science and Technology K-6 Syllabus (2017)](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/science/science-and-technology-k-6-new-syllabus) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales.