Science and technology K-6 sample scope and sequence

## Year-level based

### Year 1 and Year 2

#### Term 1 – material world

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|  | Year 1 | Year 2 |
| Content focus | Year 1 investigates how materials can be changed, manipulated and combined. | Year 2 develops a design solution demonstrating the suitability of materials for a purpose. |
| Focus or inquiry questions | What changes occur when materials are combined? | How do properties of materials determine their use? |
| Skills outcomes | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-3DP-T – describes, follows and represents algorithms to solve problems | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-2DP-T – uses materials, tools and equipment to develop solutions for a need or opportunity |
| Knowledge and understanding outcomes | Material world ST1-6MW-S – identifies that materials can be changed and combined | Material world ST1-7MW-T – describes how the properties of materials determine their use |

#### Term 2 – living world and digital technologies

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|  | Year 1 | Year 2 |
| Content focus | The focus is on the features of living things, their environment and how they change and reproduce. Students investigate how digital systems display data and use a sequence of steps to solve problems. | Students investigate how plants and animals are used to satisfy our needs for food and fibre. They investigate how digital systems use algorithms to solve problems and communicate. |
| Focus or inquiry questions | What are the external features of living things?  How can we improve a local environment to encourage living things to thrive?  How do living things change as they grow?  What is data and how can we represent it? | How do humans use plants and animals?  How do we record instructions for others to follow and understand? |
| Skills outcomes | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-2DP-T – uses materials, tools and equipment to develop solutions for a need or opportunity | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-2DP-T – uses materials, tools and equipment to develop solutions for a need or opportunity  Design and production ST1-3DP-T – describes, follows and represents algorithms to solve problems |
| Knowledge and understanding outcomes | Living world ST1-4LW-S – describes observable features of living things and their environments  Digital technologies ST1-11DI-T – identifies the components of digital systems and explores how data is represented | Living world ST1-4LW-S – describes observable features of living things and their environments  Living world ST1-5LW-T – identifies how plants and animals are used for food and fibre products  Digital technologies ST1-11DI-T – identifies the components of digital systems and explores how data is represented |

#### Term 3 – physical world and digital technologies

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|  | Year 1 | Year 2 |
| Content focus | Year 1 focuses on the identification of light, sound and heat energy, and how they are sensed and produced. They explore what data is and how it is stored and represented. | Year 2 students further develop their understanding of forces and energy and how these can be used for specific purposes in products. They follow and represent steps and decisions (algorithms) to solve problems. |
| Focus or inquiry questions | What are the different forms of energy around us and how can we detect them?  What components might make up a digital system? | How are forces used for a purpose?  How can we record instructions for others to follow and understand? |
| Skills outcomes | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-2DP-T – uses materials, tools and equipment to develop solutions for a need or opportunity  Design and production ST1-3DP-T – describes, follows and represents algorithms to solve problems | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-2DP-T – uses materials, tools and equipment to develop solutions for a need or opportunity  Design and production ST1-3DP-T – describes, follows and represents algorithms to solve problems |
| Knowledge and understanding outcomes | Physical world ST1-8PW-S – describes common forms of energy and explores some characteristics of sound energy  Digital technologies ST1-11DI-T – identifies the components of digital systems and explores how data is represented | Physical world ST1-9PW-ST – investigates how forces and energy are used in products  Digital technologies ST1-11DI-T – identifies the components of digital systems and explores how data is represented |

#### Term 4 – Earth and space and digital technologies

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|  | Year 1 | Year 2 |
| Content focus | Year 1 focuses on the observable changes that occur in the sky and landscape. Students are introduced to regular atmospheric and astronomical events. | Year 2 explores how the Earth’s resources are used and investigate their conservation. |
| Focus or inquiry questions | How can we investigate the observable changes that occur in the sky and the land?  What components might make up a digital system? | What are Earth’s resources and how do we use and care for them?  What is data and how can we store and represent it? |
| Skills outcomes | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-3DP-T – describes, follows and represents algorithms to solve problems | Working scientifically ST1-1WS-S – observes, questions and collects data to communicate and compare ideas  Design and production ST1-2DP-T – uses materials, tools and equipment to develop solutions for a need or opportunity |
| Knowledge and understanding outcomes | Earth and space ST1-10ES-S – recognises observable changes occurring in the sky and on the land and identifies Earth’s resources  Digital technologies ST1-11DI-T – identifies the components of digital systems and explores how data is represented | Earth and space ST1-10ES-S – recognises observable changes occurring in the sky and on the land and identifies Earth’s resources  Digital technologies ST1-11DI-T – identifies the components of digital systems and explores how data is represented |

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