





New Zealand Achievement Standards Alignment (I-Z)

The presentations offered by The Educated Choices Program provide support for teaching and learning of the following standards:

Science, Years 7-13		Environment and Modern Agriculture	Healthful Eating
Years 7-8 Level 3	<p>Nature of Science Students will be able to:</p> <p>Understanding about science</p> <ul style="list-style-type: none"> • Appreciate that science is a way of explaining the world and that science knowledge changes over time. • Identify ways in which scientists work together and provide evidence to support their ideas. Investigating in science • Build on prior experiences, working together to share and examine their own and others' knowledge. • Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. <p>Communicating in science</p> <ul style="list-style-type: none"> • Begin to use a range of scientific symbols, conventions, and vocabulary. • Engage with a range of science texts and begin to question the purposes for which these texts are constructed. <p>Participating and contributing</p> <ul style="list-style-type: none"> • Use their growing science knowledge when considering issues of 	✓	✓

	<p>concern to them.</p> <ul style="list-style-type: none"> ● Explore various aspects of an issue and make decisions about possible actions. <p>Living World Students will be able to:</p> <p>Life processes</p> <ul style="list-style-type: none"> ● Recognise that there are life processes common to all living things and that these occur in different ways. <p>Ecology</p> <ul style="list-style-type: none"> ● Explain how living things are suited to their particular habitat and how they respond to environmental changes, both natural and human induced. <p>Evolution</p> <ul style="list-style-type: none"> ● Begin to group plants, animals, and other living things into science-based classifications. ● Explore how the groups of living things we have in the world have changed over long periods of time and appreciate that some living things in New Zealand are quite different from living things in other areas of the world. <p>Planet Earth and Beyond Students will be able to:</p> <p>Earth systems</p> <ul style="list-style-type: none"> ● Appreciate that water, air, rocks and soil, and life forms make up our planet and recognise that these are also Earth's resources. <p>Interacting systems</p> <ul style="list-style-type: none"> ● Investigate the water cycle and its effect on climate, landforms, and life. Astronomical systems ● Investigate the components of the solar system, developing an 		
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	<p>appreciation of the distances between them</p> <p>Physical World Students will be able to:</p> <p>Physical inquiry and physics concepts</p> <ul style="list-style-type: none"> • Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations. <p>Material World Students will:</p> <p>Properties and changes of matter</p> <ul style="list-style-type: none"> • Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials. • Compare chemical and physical changes. <p>Chemistry and society</p> <ul style="list-style-type: none"> • Relate the observed, characteristic chemical and physical properties of a range of different materials to technological uses and natural processes. 		
<p>Years 7-11 Level 4</p>	<p>Nature of Science Students will be able to:</p> <p>Understanding about science</p> <ul style="list-style-type: none"> • Appreciate that science is a way of explaining the world and that science knowledge changes over time. • Identify ways in which scientists work together and provide evidence 		

	<p>to support their ideas.</p> <p>Investigating in science</p> <ul style="list-style-type: none"> ● Build on prior experiences, working together to share and examine their own and others' knowledge. ● Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. <p>Communicating in science</p> <ul style="list-style-type: none"> ● Begin to use a range of scientific symbols, conventions, and vocabulary. ● Engage with a range of science texts and begin to question the purposes for which these texts are constructed. <p>Participating and contributing</p> <ul style="list-style-type: none"> ● Use their growing science knowledge when considering issues of concern to them. ● Explore various aspects of an issue and make decisions about possible actions. <p>Living World</p> <p>Students will be able to:</p> <p>Life processes</p> <ul style="list-style-type: none"> ● Recognise that there are life processes common to all living things and that these occur in different ways. <p>Ecology</p> <ul style="list-style-type: none"> ● Explain how living things are suited to their particular habitat and how they respond to environmental changes, both natural and human-induced. <p>Evolution</p> <ul style="list-style-type: none"> ● Begin to group plants, animals, and other living things into science-based classifications. ● Explore how the groups of living things we have in the world have 		
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changed over long periods of time and appreciate that some living things in New Zealand are quite different from living things in other areas of the world.

Planet Earth and Beyond

Students will be able to:

Earth systems

- Develop an understanding that water, air, rocks and soil, and life forms make up our planet and recognise that these are also Earth's resources.

Interacting systems

- Investigate the water cycle and its effect on climate, landforms, and life.

Astronomical systems

- Investigate the components of the solar system, developing an appreciation of the distances between them.

Physical World

Students will be able to:



Physical inquiry and physics concepts

- Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations.

Material World

Students will be able to:

Properties and changes of matter

	<ul style="list-style-type: none"> ● Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials. ● Compare chemical and physical changes. <p>The structure of matter</p> <ul style="list-style-type: none"> ● Begin to develop an understanding of the particle nature of matter and use this to explain observed changes. <p>Chemistry and society</p> <ul style="list-style-type: none"> ● Relate the observed, characteristic chemical and physical properties of a range of different materials to technological uses and natural processes. 		
<p>Years 7-13 Level 5</p>	<p>Nature of Science Students will be able to:</p> <p>Understanding about science</p> <ul style="list-style-type: none"> ● Understand that scientists' investigations are informed by current scientific theories and aim to collect evidence that will be interpreted through processes of logical argument. <p>Investigating in science</p> <ul style="list-style-type: none"> ● Develop and carry out more complex investigations, including using models. ● Show an increasing awareness of the complexity of working scientifically, including recognition of multiple variables. ● Begin to evaluate the suitability of the investigative methods chosen. <p>Communicating in science</p> <ul style="list-style-type: none"> ● Use a wider range of science vocabulary, symbols, and conventions. ● Apply their understandings of science to evaluate both popular and scientific texts (including visual and numerical literacy). <p>Participating and contributing</p> <ul style="list-style-type: none"> ● Develop an understanding of socio-scientific issues by gathering 		

relevant scientific information in order to draw evidence-based conclusions and to take action where appropriate.

Living World

Students will be able to:

Life processes

- Identify the key structural features and functions involved in the life processes of plants and animals.
- Describe the organisation of life at the cellular level. Ecology
- Investigate the interdependence of living things (including humans) in an ecosystem.

Evolution

- Describe the basic processes by which genetic information is passed from one generation to the next.

Planet Earth and Beyond

Students will be able to:

Earth systems

- Investigate the composition, structure, and features of the geosphere, hydrosphere, and atmosphere.

Interacting systems



- Investigate how heat from the Sun, the Earth, and human activities is distributed around Earth by the geosphere, hydrosphere, and atmosphere.

Astronomical systems

- Investigate the conditions on the planets and their moons, and the factors affecting them.

Physical World

Students will be able to:

	<p>Physical inquiry and physics concepts</p> <ul style="list-style-type: none"> Identify and describe the patterns associated with physical phenomena found in simple everyday situations involving movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe energy changes and conservation of energy, simple electrical circuits, and the effect of contact and non-contact on the motion of objects. <p>Using physics</p> <ul style="list-style-type: none"> Explore a technological or biological application of physics. <p>Material World</p> <p>Students will be able to:</p> <p>Properties and changes of matter</p> <ul style="list-style-type: none"> Investigate the chemical and physical properties of different groups of substances, for example, acids and bases, fuels, and metals. Distinguish between pure substances and mixtures and between elements and compounds. <p>The structure of matter</p> <ul style="list-style-type: none"> Describe the structure of the atoms of different elements. Distinguish between an element and a compound, a pure substance and a mixture at particle level. <p>Chemistry and society</p> <ul style="list-style-type: none"> Link the properties of different groups of substances to the way they are used in society or occur in nature. 		
<p>Years 9-13 Level 6</p>	<p>Nature of Science</p> <p>Students will be able to:</p> <p>Understanding about science</p> <ul style="list-style-type: none"> Understand that scientists' investigations are informed by current scientific theories and aim to collect evidence that will be interpreted 		

	<p>through processes of logical argument.</p> <p>Investigating in science</p> <ul style="list-style-type: none"> ● Develop and carry out more complex investigations, including using models. ● Show an increasing awareness of the complexity of working scientifically, including recognition of multiple variables. ● Begin to evaluate the suitability of the investigative methods chosen. <p>Communicating in science</p> <ul style="list-style-type: none"> ● Use a wider range of science vocabulary, symbols, and conventions. ● Apply their understandings of science to evaluate both popular and scientific texts (including visual and numerical literacy). <p>Participating and contributing</p> <ul style="list-style-type: none"> ● Develop an understanding of socio-scientific issues by gathering relevant scientific information in order to draw evidence-based conclusions and to take action where appropriate. <p>Living World</p> <p>Students will be able to:</p> <p>Life processes</p> <ul style="list-style-type: none"> ● Relate key structural features and functions to the life processes of plants, animals, and microorganisms and investigate environmental factors that affect these processes. <p>Ecology</p> <ul style="list-style-type: none"> ● Investigate the impact of natural events and human actions on a New Zealand ecosystem. <p>Evolution</p> <ul style="list-style-type: none"> ● Explore patterns in the inheritance of genetically controlled characteristics. ● Explain the importance of variation within a changing environment. 		
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	<p>Planet Earth and Beyond Students will be able to:</p> <p>Earth systems</p> <ul style="list-style-type: none"> ● Investigate the external and internal processes that shape and change the surface features of New Zealand. <p>Interacting systems</p> <ul style="list-style-type: none"> ● Develop an understanding of how the geosphere, hydrosphere, atmosphere, and biosphere interact to cycle carbon around Earth. <p>Astronomical systems</p> <ul style="list-style-type: none"> ● Investigate the interactions between the solar, lunar, and Earth cycles and the effect of these on Earth. <p>Physical World Students will be able to:</p> <p>Physical inquiry and physics concepts</p> <ul style="list-style-type: none"> ● Investigate trends and relationships in physical phenomena (in the areas of mechanics, electricity, electromagnetism, heat, light and waves, and atomic and nuclear physics). ● Demonstrate an understanding of physical phenomena and concepts by explaining and solving questions and problems that relate to straightforward situations. <p>Using physics</p> <ul style="list-style-type: none"> ● Investigate how physics knowledge is used in a technological or biological application. <p>Material World Students will be able to:</p> <p>Properties and changes of matter</p> <ul style="list-style-type: none"> ● Identify patterns and trends in the properties of a range of groups of substances, for example, acids and bases, metals, metal compounds, 		
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	<p>and hydrocarbons.</p> <ul style="list-style-type: none"> • Explore factors that affect chemical processes. <p>The structure of matter</p> <ul style="list-style-type: none"> • Distinguish between atoms, molecules, and ions (includes covalent and ionic bonding). • Link atomic structure to the organisation of the periodic table. • Use particle theory to explain factors that affect chemical processes. <p>Chemistry and society</p> <ul style="list-style-type: none"> • Investigate how chemical knowledge is used in a technological application of chemistry 		
<p>Years 10-13 Level 7</p>	<p>Nature of Science Students will be able to:</p> <p>Understanding about science</p> <ul style="list-style-type: none"> • Understand that scientists have an obligation to connect their new ideas to current and historical scientific knowledge and to present their findings for peer review and debate. <p>Investigating in science</p> <ul style="list-style-type: none"> • Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and scientific theories and models. <p>Communicating in science</p> <ul style="list-style-type: none"> • Use accepted science knowledge, vocabulary, symbols, and conventions when evaluating accounts of the natural world and consider the wider implications of the methods of communication and/or representation employed. <p>Participating and contributing</p> <ul style="list-style-type: none"> • Use relevant information to develop a coherent understanding of socioscientific issues that concern them, to identify possible 	✓	✓

responses at both personal and societal levels.

Living World

Students will be able to:

Life processes

- Explore the diverse ways in which animals and plants carry out the life processes.

Ecology

- Explore ecological distribution patterns and explain possible causes for these patterns.

Evolution

- Understand that DNA and the environment interact in gene expression.

Ecology and evolution

- Explain how the interaction between ecological factors and natural selection leads to genetic changes within populations.

Planet Earth and Beyond

Students will be able to do:

Earth systems and interacting systems

- Develop an understanding of the causes of natural hazards and their interactions with human activity on Earth.

Astronomical systems



- Explain the nature and life cycles of different types of stars in terms of energy changes and time.

Physical World

Students will be able to:

Physical inquiry and physics concepts

- Investigate physical phenomena (in the areas of mechanics, electricity,



	<p>electromagnetism, light and waves, and atomic and nuclear physics) and produce qualitative and quantitative explanations for a variety of unfamiliar situations.</p> <ul style="list-style-type: none"> Analyse data to deduce complex trends and relationships in physical phenomena. <p>Using physics</p> <ul style="list-style-type: none"> Use physics ideas to explain a technological or biological application of physics. <p>Material World</p> <p>Students will be able to:</p> <p>Properties and changes of matter</p> <ul style="list-style-type: none"> Investigate and measure the chemical and physical properties of a range of groups of substances, for example, acids and bases, oxidants and reductants, and selected organic and inorganic compounds. <p>The structure of matter</p> <ul style="list-style-type: none"> Relate properties of matter to structure and bonding. Develop an understanding of and use the fundamental concepts of chemistry (for example, equilibrium and thermochemical principles) to interpret observations. <p>Chemistry and society</p> <ul style="list-style-type: none"> Apply knowledge of chemistry to explain aspects of the natural world and how chemistry is used in society to meet needs, resolve issues, and develop new technologies. 		
<p>Years 12-13 Level 8</p>	<p>Nature of Science</p> <p>Students will be able to:</p> <p>Understanding about science</p> <ul style="list-style-type: none"> Understand that scientists have an obligation to connect their new ideas to current and historical scientific knowledge and to present 		





	<p>their findings for peer review and debate.</p> <p>Investigating in science</p> <ul style="list-style-type: none"> ● Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and scientific theories and models. <p>Communicating in science</p> <ul style="list-style-type: none"> ● Use accepted science knowledge, vocabulary, symbols, and conventions when evaluating accounts of the natural world and consider the wider implications of the methods of communication and/or representation employed. <p>Participating and contributing</p> <ul style="list-style-type: none"> ● Use relevant information to develop a coherent understanding of socioscientific issues that concern them, to identify possible responses at both personal and societal levels. <p>Living World</p> <p>Students will be able to:</p> <p>Life processes, ecology, and evolution</p> <ul style="list-style-type: none"> ● Understand the relationship between organisms and their environment. ● Explore the evolutionary processes that have resulted in the diversity of life on Earth and appreciate the place and impact of humans within these processes. ● Understand how humans manipulate the transfer of genetic information from one generation to the next and make informed judgments about the social, ethical, and biological implications relating to this manipulation. <p>Planet Earth and Beyond</p>		
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	<p>Students will be able to:</p> <p>Earth systems and interacting systems</p> <ul style="list-style-type: none"> • Develop an in-depth understanding of the interrelationship between human activities and the geosphere, hydrosphere, atmosphere, and biosphere over time. <p>Astronomical systems</p> <ul style="list-style-type: none"> • Explore recent astronomical events or discoveries, showing understanding of the concepts of distance and time. <p>Physical World</p> <p>Students will be able to:</p> <p>Physical inquiry and physics concepts</p> <ul style="list-style-type: none"> • Investigate physical phenomena (in the areas of mechanics, electricity, electromagnetism, light and waves, and atomic and nuclear physics) and produce qualitative and quantitative explanations for a variety of complex situations. • Analyse and evaluate data to deduce complex trends and relationships in physical phenomena. <p>Using physics</p> <ul style="list-style-type: none"> • Use physics ideas to explain a technological, biological, or astronomical application of physics and discuss related issues. <p>Material World</p> <p>Students will be able to:</p> <p>Properties and changes of matter</p> <ul style="list-style-type: none"> • Investigate and measure the chemical and physical properties of a range of groups of substances, for example, acids and bases, oxidants and reductants, and selected organic and inorganic compounds. <p>The structure of matter</p> <ul style="list-style-type: none"> • Relate properties of matter to structure and bonding. 		
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	<ul style="list-style-type: none"> Develop an understanding of and use the fundamental concepts of chemistry (for example, equilibrium and thermochemical principles) to interpret observations. <p>Chemistry and society</p> <ul style="list-style-type: none"> Apply knowledge of chemistry to explain aspects of the natural world and how chemistry is used in society to meet needs, resolve issues, and develop new technologies. 		
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Social Sciences, Years 7-13		Environment and Modern Agriculture	Healthful Eating
Years 7-8 Level 3	<p>Social Studies Students will gain knowledge, skills, and experience to:</p> <ul style="list-style-type: none"> Understand how groups make and implement rules and laws. Understand how cultural practices vary but reflect similar purposes. Understand how people view and use places differently. Understand how people make decisions about access to and use of resources. Understand how people remember and record the past in different ways. Understand how early Polynesian and British migrations to New Zealand have continuing significance for tangata whenua and communities. Understand how the movement of people affects cultural diversity and interaction in New Zealand. 	✓	✓
Years 7-11 Level 4	<p>Social Studies Students will gain knowledge, skills, and experience to:</p> <ul style="list-style-type: none"> Understand how the ways in which leadership of groups is acquired and exercised have consequences for communities and societies. 	✓	✓

	<ul style="list-style-type: none"> ● Understand how people pass on and sustain culture and heritage for different reasons and that this has consequences for people. ● Understand how exploration and innovation create opportunities and challenges for people, places, and environments. ● Understand that events have causes and effects. ● Understand how producers and consumers exercise their rights and meet their responsibilities. ● Understand how formal and informal groups make decisions that impact on communities. ● Understand how people participate individually and collectively in response to community challenges. 		
<p>Years 7-13 Level 5</p>	<p>Social Studies Students will gain knowledge, skills, and experience to:</p> <ul style="list-style-type: none"> ● Understand how systems of government in New Zealand operate and affect people’s lives, and how they compare with another system. ● Understand how the Treaty of Waitangi is responded to differently by people in different times and places. ● Understand how cultural interaction impacts on cultures and societies. ● Understand that people move between places and how this has consequences for the people and the places. ● Understand how economic decisions impact on people, communities, and nations. ● Understand how people’s management of resources impacts on environmental and social sustainability. ● Understand how the ideas and actions of people in the past have had a significant impact on people’s lives. ● Understand how people seek and have sought economic growth through business, enterprise, and innovation. ● Understand how people define and seek human rights. 		

<p>Years 9-13 Level 6</p>	<p>Students will gain knowledge, skills, and experience to:</p> <p>Social Studies</p> <ul style="list-style-type: none"> • Understand how individuals, groups, and institutions work to promote social justice and human rights. • Understand how cultures adapt and change and that this has consequences for society. <p>History</p> <ul style="list-style-type: none"> • Understand how the causes and consequences of past events that are of significance to New Zealanders shape the lives of people and society. • Understand how people’s perspectives on past events that are of significance to New Zealanders differ. <p>Geography</p> <ul style="list-style-type: none"> • Understand that natural and cultural environments have particular characteristics and how environments are shaped by processes that create spatial patterns. • Understand how people interact with natural and cultural environments and that this interaction has consequences. <p>Economics</p> <ul style="list-style-type: none"> • Understand how, as a result of scarcity, consumers, producers, and government make choices that affect New Zealand society. • Understand how the different sectors of the New Zealand economy are interdependent. 		
<p>Years 10-13 Level 7</p>	<p>Students will gain knowledge, skills, and experience to:</p> <p>Social Studies</p> <ul style="list-style-type: none"> • Understand how communities and nations meet their responsibilities and exercise their rights in local, national, and global contexts. • Understand how conflicts can arise from different cultural beliefs and ideas and be addressed in different ways with differing outcomes. 		



	<p>History</p> <ul style="list-style-type: none"> ● Understand how historical forces and movements have influenced the causes and consequences of events of significance to New Zealanders. ● Understand how people’s interpretations of events that are of significance to New Zealanders differ. Geography Understand how the processes that shape natural and cultural environments change over time, vary in scale and from place to place, and create spatial patterns. ● Understand how people’s perceptions of and interactions with natural and cultural environments differ and have changed over time. <p>Economics</p> <ul style="list-style-type: none"> ● Understand how economic concepts and models provide a means of analysing contemporary New Zealand issues. ● Understand how government policies and contemporary issues interact. 		
<p>Years 12-13 Level 8</p>	<p>Students will gain knowledge, skills, and experience to:</p> <p>Social Studies</p> <ul style="list-style-type: none"> ● Understand how policy changes are influenced by and impact on the rights, roles, and responsibilities of individuals and communities. ● Understand how ideologies shape society and that individuals and groups respond differently to these beliefs. <p>History</p> <ul style="list-style-type: none"> ● Understand that the causes, consequences, and explanations of historical events that are of significance to New Zealanders are complex and how and why they are contested. ● Understand how trends over time reflect social, economic, and political forces. <p>Geography</p> <ul style="list-style-type: none"> ● Understand how interacting processes shape natural and cultural 		



	<p>environments, occur at different rates and on different scales, and create spatial variations.</p> <ul style="list-style-type: none"> • Understand how people’s diverse values and perceptions influence the environmental, social, and economic decisions and responses that they make. <p>Economics</p> <ul style="list-style-type: none"> • Understand that well functioning markets are efficient but that governments may need to intervene where markets fail to deliver efficient or equitable outcomes. • Understand how the nature and size of the New Zealand economy is influenced by interacting internal and external factors. 		
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Technology, Years 7-13	Environment and Modern Agriculture	Healthful Eating
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<p>Years 7-8 Level 3</p>	<p>Technological Practice Students will be able to:</p> <p>Planning for practice</p> <ul style="list-style-type: none"> • Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. <p>Brief development</p> <ul style="list-style-type: none"> • Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. <p>Outcome development and evaluation</p> <ul style="list-style-type: none"> • Investigate a context to develop ideas for potential outcomes. Trial and evaluate these against key attributes to select and develop an 	<p>✓</p>	<p>✓</p>
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	<p>outcome to address the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity.</p> <p>Technological Knowledge Students will be able to:</p> <p>Technological modeling</p> <ul style="list-style-type: none"> • Understand that different forms of functional modeling are used to inform decision making in the development of technological possibilities and that prototypes can be used to evaluate the fitness of technological outcomes for further development. <p>Technological products</p> <ul style="list-style-type: none"> • Understand the relationship between the materials used and their performance properties in technological products. <p>Technological systems</p> <ul style="list-style-type: none"> • Understand that technological systems are represented by symbolic language tools and understand the role played by the “black box” in technological systems. <p>Nature of Technology Students will be able to:</p> <p>Characteristics of technology</p> <ul style="list-style-type: none"> • Understand how society and environments impact on and are influenced by technology in historical and contemporary contexts and that technological knowledge is validated by successful function. <p>Characteristics of technological outcomes</p> <ul style="list-style-type: none"> • Understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures. 		
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<p>Years 7-11 Level 4</p>	<p>Technological Practice Students will be able to:</p> <p>Planning for practice</p> <ul style="list-style-type: none"> Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome. <p>Brief development</p> <ul style="list-style-type: none"> Justify the nature of an intended outcome in relation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation. <p>Outcome development and evaluation</p> <ul style="list-style-type: none"> Investigate a context to develop ideas for feasible outcomes. Undertake functional modeling that takes account of stakeholder feedback in order to select and develop the outcome that best addresses the key attributes. Incorporating stakeholder feedback, evaluate the outcome's fitness for purpose in terms of how well it addresses the need or opportunity. <p>Technological Knowledge Students will be able to:</p> <p>Technological modeling</p> <ul style="list-style-type: none"> Understand how different forms of functional modeling are used to explore possibilities and to justify decision making and how prototyping can be used to justify refinement of technological outcomes. <p>Technological products</p> <ul style="list-style-type: none"> Understand that materials can be formed, manipulated, and/or 		
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	<p>transformed to enhance the fitness for the purpose of a technological product.</p> <p>Technological systems</p> <ul style="list-style-type: none"> • Understand how technological systems employ control to allow for the transformation of inputs to outputs. <p>Nature of Technology</p> <p>Students will be able to:</p> <p>Characteristics of technology</p> <ul style="list-style-type: none"> • Understand how technological development expands human possibilities and how technology draws on knowledge from a wide range of disciplines. <p>Characteristics of technological outcomes</p> <ul style="list-style-type: none"> • Understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions. 		
<p>Years 7-13 Level 5</p>	<p>Technological Practice</p> <p>Students will be able to:</p> <p>Planning for practice</p> <ul style="list-style-type: none"> • Analyse their own and others' planning practices to inform the selection and use of planning tools. • Use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion. <p>Brief development</p> <ul style="list-style-type: none"> • Justify the nature of an intended outcome in relation to the need or opportunity. • Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation. 		

	<p>Outcome development and evaluation</p> <ul style="list-style-type: none"> ● Analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. ● Undertake ongoing functional modeling and evaluation that takes account of key stakeholder feedback and trialing in the physical and social environments. ● Use the information gained to select and develop the outcome that best addresses the specifications. ● Evaluate the final outcome's fitness for purpose against the brief. <p>Technological Knowledge Students will be able to:</p> <p>Technological modeling</p> <ul style="list-style-type: none"> ● Understand how evidence, reasoning, and decision making in functional modeling contribute to the development of design concepts and how prototyping can be used to justify ongoing refinement of outcomes. <p>Technological products</p> <ul style="list-style-type: none"> ● Understand how materials are selected, based on desired performance criteria. <p>Technological systems</p> <ul style="list-style-type: none"> ● Understand the properties of subsystems within technological systems. <p>Nature of Technology Students will be able to:</p> <p>Characteristics of technology</p> <ul style="list-style-type: none"> ● Understand how people's perceptions and acceptance of technology impact on technological developments and how and why technological knowledge becomes codified. Characteristics of 		
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	<p>technological outcomes • Understand that technological outcomes are fit for purpose in terms of time and context. Understand the concept of malfunction and how “failure” can inform future outcomes.</p>		
<p>Years 9-13 Level 6</p>	<p>Technological Practice Students will be able to:</p> <p>Planning for practice</p> <ul style="list-style-type: none"> • Critically analyse their own and others’ past and current planning practices in order to make informed selection and effective use of planning tools. • Use these to support and justify ongoing planning that will see the development of an outcome through to completion. <p>Brief development</p> <ul style="list-style-type: none"> • Justify the nature of an intended outcome in relation to the need or opportunity and justify specifications in terms of key stakeholder feedback and wider community considerations. <p>Outcome development and evaluation</p> <ul style="list-style-type: none"> • Critically analyse their own and others’ outcomes to inform the development of ideas for feasible outcomes. • Undertake ongoing experimentation and functional modeling, taking account of stakeholder feedback and trialing in the physical and social environments. • Use the information gained to select, justify, and develop a final outcome. • Evaluate this outcome’s fitness for purpose against the brief and justify the evaluation, using feedback from stakeholders. <p>Technological Knowledge Students will be able to:</p>		

	<p>Technological modeling</p> <ul style="list-style-type: none"> • Understand the role and nature of evidence and reasoning when managing risk through technological modeling. <p>Technological products</p> <ul style="list-style-type: none"> • Understand how materials are formed, manipulated, and transformed in different ways, depending on their properties, and understand the role of material evaluation in determining suitability for use in product development. <p>Technological systems</p> <ul style="list-style-type: none"> • Understand the implications of subsystems for the design, development, and maintenance of technological systems. <p>Nature of Technology</p> <p>Students will be able to:</p> <p>Characteristics of technology</p> <ul style="list-style-type: none"> • Understand the interdisciplinary nature of technology and the implications of this for maximising possibilities through collaborative practice. <p>Characteristics of technological outcomes</p> <ul style="list-style-type: none"> • Understand that some technological outcomes can be perceived as both product and system. • Understand how these outcomes impact on other outcomes and practices and on people’s views of themselves and possible futures. 		
<p>Years 10-13 Level 7</p>	<p>Technological Practice</p> <p>Students will be able to:</p> <p>Planning for practice</p> <ul style="list-style-type: none"> • Critically analyse their own and others’ past and current planning and management practices in order to develop and employ project management practices that will ensure the effective development of 		

	<p>an outcome to completion.</p> <p>Brief development</p> <ul style="list-style-type: none"> ● Justify the nature of an intended outcome in relation to the issue to be resolved and justify specifications in terms of key stakeholder feedback and wider community considerations. <p>Outcome development and evaluation</p> <ul style="list-style-type: none"> ● Critically analyse their own and others' outcomes and evaluative practices to inform the development of ideas for feasible outcomes. ● Undertake a critical evaluation that is informed by ongoing experimentation and functional modeling, stakeholder feedback, and trialing in the physical and social environments. ● Use the information gained to select, justify, and develop an outcome. ● Evaluate this outcome's fitness for purpose against the brief. ● Justify the evaluation, using feedback from stakeholders and demonstrating a critical understanding of the issue. <p>Technological Knowledge</p> <p>Students will be able to:</p> <p>Technological modeling</p> <ul style="list-style-type: none"> ● Understand how the "should" and "could" decisions in technological modeling rely on an understanding of how evidence can change in value across contexts and how different tools are used to ascertain and mitigate risks <p>Technological products</p> <ul style="list-style-type: none"> ● Understand the concepts and processes employed in materials evaluation and the implications of these for design, development, maintenance, and disposal of technological products. <p>Technological systems</p> <ul style="list-style-type: none"> ● Understand the concepts of redundancy and reliability and their implications for the design, development, and maintenance of 		
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	<p>technological systems.</p> <p>Nature of Technology Students will be able to:</p> <p>Characteristics of technology</p> <ul style="list-style-type: none"> • Understand the implications of ongoing contestation and competing priorities for complex and innovative decision making in technological development. <p>Characteristics of technological outcomes</p> <ul style="list-style-type: none"> • Understand that technological outcomes are a resolution of form and function priorities and that malfunction affects how people view and accept outcomes. 		
<p>Years 12-13 Level 8</p>	<p>Technological Practice Students will be able to:</p> <p>Planning for practice</p> <ul style="list-style-type: none"> • Critically analyse their own and others' past and current planning and management practices in order to develop and employ project management practices that will ensure the efficient development of an outcome to completion. <p>Brief development</p> <ul style="list-style-type: none"> • Justify the nature of an intended outcome in relation to the context and the issue to be resolved. Justify specifications in terms of key stakeholder feedback and wider community considerations. <p>Outcome development and evaluation</p> <ul style="list-style-type: none"> • Critically analyse their own and others' outcomes and fitness-for-purpose determinations in order to inform the development of ideas for feasible outcomes. • Undertake a critical evaluation that is informed by ongoing experimentation and functional modelling, stakeholder feedback, 		

	<p>trailing in the physical and social environments, and an understanding of the issue as it relates to the wider context.</p> <ul style="list-style-type: none"> ● Use the information gained to select, justify, and develop an outcome. ● Evaluate this outcome’s fitness for purpose against the brief. Justify the evaluation, using feedback from stakeholders and demonstrating a critical understanding of the issue that takes account of all contextual dimensions. <p>Technological Knowledge Students will be able to:</p> <p>Technological modeling</p> <ul style="list-style-type: none"> ● Understand the role of technological modeling as a key part of technological development, justifying its importance on moral, ethical, sustainable, cultural, political, economic, and historical grounds. <p>Technological products</p> <ul style="list-style-type: none"> ● Understand the concepts and processes employed in materials development and evaluation and the implications of these for design, development, maintenance, and disposal of technological products. <p>Technological systems</p> <ul style="list-style-type: none"> ● Understand operational parameters and their role in the design, development, and maintenance of technological systems. <p>Nature of Technology Students will be able to:</p> <p>Characteristics of technology</p> <ul style="list-style-type: none"> ● Understand the implications of technology as intervention by design and how interventions have consequences, known and unknown, intended and unintended. <p>Characteristics of technological outcomes</p>		
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| | <ul style="list-style-type: none">• Understand how technological outcomes can be interpreted and justified as fit for purpose in their historical, cultural, social, and geographical locations. | | |
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