TECHNOLOGICAL PRACTICE

Students will:
Identify that technology involves making and evaluating an outcome. Provide opportunities for students to discuss the reasons for prototyping and what resources are needed, and how they are connected in the systems explored. Guide students to identify the inputs and outputs of technological systems and provide opportunities for them to recognize that a controlled transformation has occurred.

TECHNOLOGICAL KNOWLEDGE

Students will:
Understand that technological products are made from materials that have performance properties.

Teachers should establish if students hold any misconceptions or partial understandings that would inhibit them meeting the level one achievement objectives for technological knowledge and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.

TEACHER GUIDANCE

To support students to undertake understanding of technological systems and plan learning experiences to challenge and/or progress these as guided by the level one Indicators below.
### TECHNICAL PRACTICE

**ACHIEVEMENT OBJECTIVE**
Students will:
- Develop a plan that identifies the key stages and the resources available.

**TEACHER GUIDANCE**
To support students to undertake brief development at level two teachers could:
- provide the need or opportunity and develop the conceptual statement in negotiation with the students.
- guide students through the identification of a list of attributes an appropriate outcome could have.

**TEACHER GUIDANCE**
To support students to undertake practice, planning and evaluation at level two, teachers could:
- ensure students understand the need or opportunity and the requirements of the task.
- help students to identify and develop a feasible plan.

**TEACHER GUIDANCE**
To support students to undertake practice, planning and evaluation at level two, teachers could:
- provide opportunities for students to develop their own technological outcomes.
- guide students to identify the technological outcomes explored.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of technological outcomes and encourage them to explore these through such things as using, playing, dismantling and rebuilding as appropriate.

**TEACHER GUIDANCE**
To support students to develop understanding of characteristics of technological outcomes at level two, teachers could:
- provide students with a range of technological outcomes and non-technological objects and guide them to identify which of these could be described as technological outcomes and explain why.
- Technological outcomes are defined as fully realised products and systems, created by people for an identified purpose through technological practice. Once the technological outcome is placed in use, no further design input is required.
- provide students with an overview of the stages they will follow.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of prototypes and guide them to identify the specifications that were used to produce the prototype.
- provide students with the opportunity to explore a variety of design concepts referring to design.
- suggest things the materials could be used for and the relationship between the materials selected and their performance properties.
- guide students to describe the relationship between technological and functional attributes in technological outcomes.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of technological outcomes and encourage them to explore these through such things as using, playing, dismantling and rebuilding as appropriate.

**TEACHER GUIDANCE**
To support students to develop understanding of characteristics of technological outcomes at level two, teachers could:
- provide students with a range of technological outcomes and non-technological objects and guide them to identify which of these could be described as technological outcomes and explain why.
- Technological outcomes are defined as fully realised products and systems, created by people for an identified purpose through technological practice. Once the technological outcome is placed in use, no further design input is required.
- provide students with an overview of the stages they will follow.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of prototypes and guide them to identify the specifications that were used to produce the prototype.
- provide students with the opportunity to explore a variety of design concepts referring to design.
- suggest things the materials could be used for and the relationship between the materials selected and their performance properties.
- guide students to describe the relationship between technological and functional attributes in technological outcomes.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of technological outcomes and encourage them to explore these through such things as using, playing, dismantling and rebuilding as appropriate.

### NATURE OF TECHNOLOGY

**ACHIEVEMENT OBJECTIVE**
Students will:
- Investigate a context to develop potential outcomes. Evaluate these against identified attributes: select and develop an outcome.

**TEACHER GUIDANCE**
To support students to develop understanding of characteristics of technological outcomes at level two, teachers could:
- provide opportunities for students to develop the made, natural, and social world and guide them to explore how technology relates to each of these.
- provide students with examples of different technological practice and guide them to identify any social and/or environmental issues that might have influenced their practice and the nature of the outcomes they produce. For example, social attitudes to the environment has resulted in some technologies choosing to only use renewable materials, cold and windy environmental considerations requiring clothing outcomes that have insulating and close-fitting attributes.

**TEACHER GUIDANCE**
To support students to develop understanding of characteristics of technological outcomes at level two, teachers could:
- provide students with a range of technological outcomes and non-technological objects and guide them to identify which of these could be described as technological outcomes and explain why.
- Technological outcomes are defined as fully realised products and systems, created by people for an identified purpose through technological practice. Once the technological outcome is placed in use, no further design input is required.
- provide students with an overview of the stages they will follow.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of prototypes and guide them to identify the specifications that were used to produce the prototype.
- provide students with the opportunity to explore a variety of design concepts referring to design.
- suggest things the materials could be used for and the relationship between the materials selected and their performance properties.
- guide students to describe the relationship between technological and functional attributes in technological outcomes.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of technological outcomes and encourage them to explore these through such things as using, playing, dismantling and rebuilding as appropriate.

### TECHNOLOGICAL KNOWLEDGE

**ACHIEVEMENT OBJECTIVE**
Students will:
- Understand that technological outcomes are developed through technological practice and have related physical and functional natures.

**TEACHER GUIDANCE**
To support students to develop understanding of technological modelling at level two, teachers could:
- provide a range of technological outcomes and non-technological objects and guide them to identify which of these could be described as technological outcomes and explain why.
- Technological outcomes are defined as fully realised products and systems, created by people for an identified purpose through technological practice. Once the technological outcome is placed in use, no further design input is required.
- provide students with an overview of the stages they will follow.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of prototypes and guide them to identify the specifications that were used to produce the prototype.
- provide students with the opportunity to explore a variety of design concepts referring to design.
- suggest things the materials could be used for and the relationship between the materials selected and their performance properties.
- guide students to describe the relationship between technological and functional attributes in technological outcomes.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of technological outcomes and encourage them to explore these through such things as using, playing, dismantling and rebuilding as appropriate.

**TEACHER GUIDANCE**
To support students to develop understanding of technological modelling at level two, teachers could:
- provide a range of technological outcomes and non-technological objects and guide them to identify which of these could be described as technological outcomes and explain why.
- Technological outcomes are defined as fully realised products and systems, created by people for an identified purpose through technological practice. Once the technological outcome is placed in use, no further design input is required.
- provide students with an overview of the stages they will follow.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
- provide students with a range of prototypes and guide them to identify the specifications that were used to produce the prototype.
- provide students with the opportunity to explore a variety of design concepts referring to design.
- suggest things the materials could be used for and the relationship between the materials selected and their performance properties.
- guide students to describe the relationship between technological and functional attributes in technological outcomes.
- guide students to discuss the sorts of things that could be explored and tested using functional modelling.
TECHNOLOGICAL PRACTICE

Teacher Guidance to support students to undertake level three achievement objectives:

- support students to develop understanding of characteristics of technology at level 3, teachers could:
  - provide students with a range of technological outcomes with unknown function to explore and guide them to make informed suggestions regarding who might use them and the possible function they could perform, as based on an exploration and analysis of their physical nature.
  - support students with the opportunity to explore a range of technological outcomes that are similar in their functional nature but have differences in their physical natures and vice versa.
  - support students to understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

- support students to develop understanding of characteristics of technological outcomes at level 3, teachers could:
  - provide students with a range of technological outcomes with unknown function to explore and guide them to make informed suggestions regarding who might use them and the possible function they could perform, as based on an exploration and analysis of their physical nature.
  - support students with the opportunity to discuss how functional modelling informs decision making and guide them to identify the benefits and limitations of functional modelling in examples provided.
  - provide students with the opportunity to discuss the potential outcomes of combining both accessibility and feasibility considerations related to the outcome’s fitness for purpose.
  - provide students with the opportunity to explore a range of examples of prototyping and guide them to gain insight into how appropriate information is gained to evaluate a technological outcome’s fitness for purpose against the specifications.
  - provide students with the opportunity to discuss the role of technological modelling and prototyping to develop an understanding of the importance of the selection of materials, components and technologies that they will use to develop a range of technological products.
  - provide students with opportunity to use a range of different modelling and prototyping techniques to explore and guide them to investigate a range of technological outcomes that are similar in their functional nature but differ in their physical nature.
  - provide students with the opportunity to understand the relationship between the physical and functional nature in a technological outcome.
  - provide students with the opportunity to discuss the role of accessing and using technological outcomes to determine the fitness for purpose of a technological system at any time (for example heavy cast iron cookware can be changed to be suitable for use on a gas stove).
  - provide students with the opportunity to use a range of different prototypes to explore the performance properties of technological outcomes that are similar in their functional nature but differ in their physical nature.

- students should be able to access different forms of functional modelling and guide students to gain insight into the different types of information that have been gathered.

- students should be able to discuss how functional modelling informs decision making and guide them to identify the benefits and limitations of functional modelling in examples provided.

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

NATURE OF TECHNOLOGY

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

TECHNOLOGICAL KNOWLEDGE

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

- students should be able to identify that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.
**TECHNOLOGICAL PRACTICE**

Students will:

- **Achieve the Objective**
  - Understand how technological development can be used to benefit society.
  - Understand how technological development enables technologies to be used in ways other than what they were originally designed for.
  - Understand how technological development has changed people’s sensory perception and/or physical abilities and discuss the potential shortfalls.

- **Technical Knowledge**
  - Identify examples of creative and critical thinking that underpinned technological development.
  - Identify and categorise knowledge and skills from other disciplines. Knowledge and skills from other disciplines can build on technological knowledge and skills, and knowledge and skills from other disciplines can support technological development.

**TECHNOLOGICAL KNOWLEDGE**

Students should establish if students have developed robust level four understandings and are ready to begin working towards level four achievement objectives for the technological practice components, and plan learning experiences to progress these as guided by the level four indicators below.

**TECHNOLOGICAL PRACTICE**

**Indicators of Progression and its evaluation.**

**Students will:**

- **Achieve the Objective**
  - Understand that technological outcomes can be improved by making design decisions and prototyping in order to make them socially acceptable as well as technically feasible decisions.
  - Guide students to examine examples of functional modelling practices to identify how these were used to justify fitness for purpose of technological outcomes or to identify the need for further development.

- **Technical Knowledge**
  - Provide students with a variety of technological products to explore and guide students to identify examples of when technological products have been used unsuccessfully for purposes other than what they were originally designed for.
  - Provide students with a scenario outlining technical and acceptability specifications for a system and support students to explore and research materials to determine what material would be suitable for the system.

**TECHNOLOGICAL KNOWLEDGE**

Students should establish if students have developed robust level three understandings and are ready to begin working towards level three achievement objectives for the technological performance components, and plan learning experiences to progress these as guided by the level three indicators below.

**TECHNOLOGICAL PRACTICE**

**Indicators of Progression and its evaluation.**

**Students will:**

- **Achieve the Objective**
  - Understand that technological development can be used to benefit society.
  - Understand how technological development enables technologies to be used in ways other than what they were originally designed for.
  - Understand how technological development has changed people’s sensory perception and/or physical abilities and discuss the potential shortfalls.

- **Technical Knowledge**
  - Identify examples of creative and critical thinking that underpinned technological development.
  - Identify and categorise knowledge and skills from other disciplines. Knowledge and skills from other disciplines can build on technological knowledge and skills, and knowledge and skills from other disciplines can support technological development.

**TECHNOLOGICAL KNOWLEDGE**

Students should establish if students have developed robust level two understandings and are ready to begin working towards level two achievement objectives for the technological performance components, and plan learning experiences to progress these as guided by the level two indicators below.

**TECHNOLOGICAL PRACTICE**

**Indicators of Progression and its evaluation.**

**Students will:**

- **Achieve the Objective**
  - Understand that technological development can be used to benefit society.
  - Understand how technological development enables technologies to be used in ways other than what they were originally designed for.
  - Understand how technological development has changed people’s sensory perception and/or physical abilities and discuss the potential shortfalls.

- **Technical Knowledge**
  - Identify examples of creative and critical thinking that underpinned technological development.
  - Identify and categorise knowledge and skills from other disciplines. Knowledge and skills from other disciplines can build on technological knowledge and skills, and knowledge and skills from other disciplines can support technological development.

**TECHNOLOGICAL KNOWLEDGE**

Students should establish if students have developed robust level one understandings and are ready to begin working towards level one achievement objectives for the technological performance components, and plan learning experiences to progress these as guided by the level one indicators below.
 Teachers should establish if students have developed robust level five understandings and are ready to begin working towards level five achievement objectives for the technological practice component, and plan learning experiences to those as guided by the level five indicators below.

**ACHIEVEMENT OBJECTIVE**

**Students will:**
- Analyse their own and others' outcomes to inform the development of ideas for further outcomes. Undertake ongoing functional modelling and evaluation to understand the fit of key stakeholder feedback and tailoring in making appropriate decisions. Use the information gained to select and develop the outcomes that best address the specifications. Evaluate the final outcome’s fitness for purpose against the brief.

**TEACHER GUIDANCE**

- To support students to undertake brief development at level five the teachers could:
  - provide a range of planning tools to support students to plan for outcomes
  - ensure that there is a brief against which to plan and develop an outcome can occur
  - support students to select and use appropriate tools for managing and recording their planning decisions
  - support students to develop planning practices to inform the development of outcome specifications
  - guide students to develop key attributes into specifications
  - provide opportunity for students to identify and develop examples of innovative technological developments. Examples should draw from the past and present and allow students to explore how creative and critical thinking impacts on developments and how what could happen and what should happen were considered
  - provide opportunities to develop drawing and modelling skills to communicate and explore new ideas. These should encompass 2D and 3D drawing skills and increasing the range and complexity of functional modelling.

**INDICATORS**

- **Students can:**
  - explain how evidence gained from prototyping was used to inform and maintain the outcome or retain the outcome with modifications.
  - explain what is meant by the terms ‘failure’ and ‘malfunction’ and how ‘failure’ can inform future outcomes.
  - evaluate how evidence gained from prototyping was used to inform and maintain the outcome or retain the outcome with modifications.
  - explain what is meant by the terms ‘failure’ and ‘malfunction’ and how ‘failure’ can inform future outcomes.
TECHNICAL PRACTICE

INDICATORS OF PROGRESSION: LEVEL 6

TEACHER GUIDANCE: To support students to undertake brief development at level six teachers could:

- provide an appropriate context and issue that allows students to access resources (including key stakeholders) and guide them to take into account wider community considerations.
- support students to identify a need or opportunity relevant to the given context and issue.
- support students to understand the physical and functional nature of the problem.
- support students to develop specific planning and issues available based on key and wider community stakeholder considerations.

Students will:

• support students to identify a need
• establish the specifications for use in the production of a feasible outcome.
• undertake functional modelling to refine design ideas and
• explain how collaboration is important in designing and
discuss the implications of using subsystems in the design and
• explain why collaboration is important in designing and
discuss the implications of using subsystems in the design and
• estimate the cost of a product and system.

Students can:

• discuss examples to illustrate how technological developments.
• discuss the role of technological modelling in understanding how technological developments.

Students should establish if students have developed robust level five competencies and are ready to begin working towards level six achievement objectives for the technological practice component, and plan learning experiences to progress these as guided by the level six indicators below.

Planning for Practice

Outcome Development & Evaluation

TEACHER GUIDANCE: To support students to undertake outcome development and evaluation at level six teachers could:

- ensure that there is a brief against which planning can be used as a tool to foster the development of an outcome.
- support students to critically analyse the relationship between the specification, design and outcomes.
- support students to explore how materials and components available (stakeholder/s, plans, and resources) influence the selection of materials and components.
- support students to use planning tools to record the outcome's fitness for purpose and identify any further development requirements.

Students will:

• use planning tools to record the outcome's fitness for purpose and identify any further development requirements.
• establish an environment that supports student
• use planning tools to record the outcome's fitness for purpose and identify any further development requirements.
• generate design ideas that are informed by research and
• explain why collaborative design is important in involvement in technological developments that involve interdisciplinary work.

Students can:

• explain why collaborative design is important in involvement in technological developments that involve interdisciplinary work.
• explain how technological developments can enhance and/or inhibit technological development and implementation.
• discuss the implications of using subsystems in the design and
• discuss the implications of using subsystems in the design and
• explain why technological developments can enhance and/or inhibit technological development and implementation.

Students should establish if students have developed robust level five competencies and are ready to begin working towards level six achievement objectives for the technological practice component, and plan learning experiences to progress these as guided by the level six indicators below.

NATURE OF TECHNOLOGY

TEACHER GUIDANCE: To support students to develop understanding of characteristics of technological outcomes at level six teachers could:

- support students to discuss particular technological outcomes, as a product and system and support them to understand that the characteristics of product or system is not an inherent property of the outcome, but rather how it is perceived by people in order to describe, and/or analyse it.
- support students to explore examples of socio-technological environments to explain how technological outcomes (products and systems) and socio-technological entities and systems (people, natural and/or social technologies) interact together. Examples should be drawn from past, present and future socio-technological environments. Socio-technological environments include such things as communication networks, hospitals, transport systems, waste disposal, recreational parks, factories, power plant etc.
- support students to understand that in socio-technological environments are complex and result in dynamic relationships between technological and non-technological entities, individuals and systems.
- support students to undertake prototyping to evaluate the outcome's fitness for purpose and identify any further development requirements.

Students will:

• use planning tools to record the outcome's fitness for purpose and identify any further development requirements.
• establish an environment that supports student
• ensure that there is a brief against which planning can be used as a tool to foster the development of an outcome.
- support students to critically analyse the relationship between the specification, design and outcomes.
- support students to explore how materials and components available (stakeholder/s, plans, and resources) influence the selection of materials and components.
- support students to use planning tools to record the outcome's fitness for purpose and identify any further development requirements.

Students can:

• discuss examples to illustrate how technological developments.
• discuss the role of technological modelling in understanding how technological developments.

Students should establish if students have developed robust level five competencies and are ready to begin working towards level six achievement objectives for the technological practice component, and plan learning experiences to progress these as guided by the level six indicators below.

TECHNOLOGICAL PRACTICE

INDICATORS: Students can:

- critically analyse their own and others' outcomes to inform the development of ideas for feasible outcomes.
- undertake and interpret existing work in order to make informed selection and effective use of materials, components, and resources.
- use the information gained to select, justify, and develop a feasible outcome. Evaluate the outcome's fitness for purpose against the brief and justify the evaluation using feedback from stakeholders.

INDICATORS: Students can:

- generate design ideas that are informed by research and
- design prototypes and realise design ideas.
- explain why collaborative design is important in involvement in technological developments that involve interdisciplinary work.

Students should establish if students have developed robust level five competencies and are ready to begin working towards level six achievement objectives for the technological practice component, and plan learning experiences to progress these as guided by the level six indicators below.
TECHNOLOGICAL PRACTICE

ACHIEVEMENT OBJECTIVE

To support students to undertake brief development of level seven teachers could provide a context to identify the range of issues for students to explore to guide their development. Students could be asked to select an issue within the context. An authentic issue is one which is relevant to the context, and allows students to develop a brief for a need or problem that can be managed within the boundaries of their available resources.

Students should be able to:
- support students to select a need or problem to be developed within the boundaries of their available resources.
- support students to undertake a need or problem and past and present opportunities and implications for the design, development, maintenance, and disposal of technological systems.
- support students to understand how context and its changing nature influences the selection of materials and components of technological outcomes.
- support students to analyse the changing role of sustainability as an aspect of technological problem solving and developing outcomes.

TEACHER GUIDANCE

Students should be able to:
- support students to understand how context and its changing nature influences the selection of materials and components of technological outcomes.
- support students to analyse the changing role of sustainability as an aspect of technological problem solving and developing outcomes.

TECHNOLOGICAL KNOWLEDGE

TEACHER GUIDANCE

Students should be able to:
- support students to describe the underpinning concepts and principles of technological system at level 7, teachers could:
  - discuss examples to explain how context affects the physical and functional nature of technological systems.
  - describe a range of individual components and their implications for the design, development, maintenance, and disposal of technological systems.
  - discuss examples to illustrate how context affects the physical and functional nature of technological systems.
  - discuss examples to interpret how context affects the physical and functional nature of technological systems.

TEACHER GUIDANCE

Students should be able to:
- support students to undertake a need or problem and past and present opportunities and implications for the design, development, maintenance, and disposal of technological systems.
- support students to understand how context and its changing nature influences the selection of materials and components of technological outcomes.
- support students to analyse the changing role of sustainability as an aspect of technological problem solving and developing outcomes.

TECHNICAL KNOWLEDGE

TEACHER GUIDANCE

Students should be able to:
- support students to describe the underpinning concepts and principles of technological system at level 7, teachers could:
  - discuss examples to explain how context affects the physical and functional nature of technological systems.
  - describe a range of individual components and their implications for the design, development, maintenance, and disposal of technological systems.
  - discuss examples to illustrate how context affects the physical and functional nature of technological systems.
  - discuss examples to interpret how context affects the physical and functional nature of technological systems.

TEACHER GUIDANCE

Students should be able to:
- support students to undertake a need or problem and past and present opportunities and implications for the design, development, maintenance, and disposal of technological systems.
- support students to understand how context and its changing nature influences the selection of materials and components of technological outcomes.
- support students to analyse the changing role of sustainability as an aspect of technological problem solving and developing outcomes.

TECHNICAL KNOWLEDGE

TEACHER GUIDANCE

Students should be able to:
- support students to describe the underpinning concepts and principles of technological system at level 7, teachers could:
  - discuss examples to explain how context affects the physical and functional nature of technological systems.
  - describe a range of individual components and their implications for the design, development, maintenance, and disposal of technological systems.
  - discuss examples to illustrate how context affects the physical and functional nature of technological systems.
  - discuss examples to interpret how context affects the physical and functional nature of technological systems.

TEACHER GUIDANCE

Students should be able to:
- support students to undertake a need or problem and past and present opportunities and implications for the design, development, maintenance, and disposal of technological systems.
- support students to understand how context and its changing nature influences the selection of materials and components of technological outcomes.
- support students to analyse the changing role of sustainability as an aspect of technological problem solving and developing outcomes.

TECHNICAL KNOWLEDGE

TEACHER GUIDANCE

Students should be able to:
- support students to describe the underpinning concepts and principles of technological system at level 7, teachers could:
  - discuss examples to explain how context affects the physical and functional nature of technological systems.
  - describe a range of individual components and their implications for the design, development, maintenance, and disposal of technological systems.
  - discuss examples to illustrate how context affects the physical and functional nature of technological systems.
  - discuss examples to interpret how context affects the physical and functional nature of technological systems.

TEACHER GUIDANCE

Students should be able to:
- support students to undertake a need or problem and past and present opportunities and implications for the design, development, maintenance, and disposal of technological systems.
- support students to understand how context and its changing nature influences the selection of materials and components of technological outcomes.
- support students to analyse the changing role of sustainability as an aspect of technological problem solving and developing outcomes.
**TECHNOLOGICAL KNOWLEDGE**

**ACHIEVEMENT OBJECTIVE Students will:**

Critically analyse their own and others’ outcomes in terms of their historical, cultural, social, and geographical location of the final technological product.

**TEACHER GUIDANCE**

Students can:

- support students to develop and employ critical analysis of technological products at level 8, teachers could:
  - discuss examples of the formulation of new materials (including formulation procedures) and evaluation implications and inform design and development decisions
  - explain that the nature of the system components have been designed to address performance, maintenance and disposal issues
  - support students to identify and explain future scenarios where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporary examples, to gain insight into how material development and evaluation procedures are used to address performance, maintenance and disposal issues
  - support students to identify and analyse examples where new materials have been developed, including past and contemporar...