Technology

Essential Learnings by the end of **Year 7**

Learning and assessment focus

Students use their understandings of the relationships between technology and society to consider the roles people play in shaping products and processes. They use their imagination and creativity to investigate and identify needs, wants, design specifications and constraints. They understand the characteristics of a range of resources (information, materials and/or systems) and assess their suitability for a specific purpose and context. They compare and describe the characteristics of Australian and imported resources, investigating their impact on Australian technological processes and products. They investigate design challenges and consider the roles that people play in shaping technologies to meet changing needs and wants and preferred futures. They recognise the many different fields of technology and the people who work in occupations that use technology to design solutions for community needs.

Students use the essential processes of **Ways of working** to develop and demonstrate their **Knowledge and understanding**. They individually and collaboratively develop their ability to work technologically by generating, assessing and communicating design ideas and by selecting and using resources, tools and techniques, to design and make products to meet specifications. They analyse and respond to decisions about technology and its impact on people, their environments and their communities. They reflect on their learning and evaluate the suitability of products and processes and recommend improvements.

Students select and use tools and technologies, including information and communication technologies (ICTs), in purposeful ways. They make use of the potential that ICTs provide to inquire, create and communicate within technology contexts.

Students demonstrate evidence of their learning over time in relation to the following assessable elements:

- knowledge and understanding

- investigating and designing

- producing

- evaluating

- reflecting.

Ways of working

Students are able to:

- investigate and analyse the purpose, context, specifications and constraints for design ideas

- generate and evaluate design ideas and determine suitability based on purpose, specifications and constraints

- communicate the details of designs showing relative proportion, using labelled drawings, models and/or plans

- select resources, techniques and tools to make products that meet specifications

- plan and manage production procedures and modify as necessary

- make products to meet specifications by manipulating and processing resources

- identify risks and justify and apply safe practices

- evaluate the suitability of products and processes for the purpose and context, and recommend improvements

- reflect on and identify the impacts of products and processes on people, their communities and environments

- reflect on learning, apply new understandings and identify future applications.

Knowledge and understanding

Technology as a human endeavour

Technology influences and impacts on people, their communities and environments.

- Design and development of products are influenced by societies' changing needs and wants, and include artefacts, systems, environments and services

  e.g.   telephone technologies continue to develop as lifestyles change and demand more time-efficient practices.

- Product design and production decisions are influenced by specifications, constraints and aspects of appropriateness including functions, aesthetics, ethics, culture, available finances and resources, and sustainability

  e.g.   menu design is influenced by type of cuisine, cultural theme and cost.

- Decisions made about the design, development and use of products can impact positively or negatively on people, their communities and environments

  e.g.   food packages can be designed and developed using recycled materials.

Information, materials and systems (resources)

The characteristics of resources are matched with tools and techniques to make products to meet design challenges.

- Resources are selected according to their characteristics, to match requirements of design challenges and suit the user

  e.g.   an indoor or outdoor hydroponics garden and irrigation system can be designed based on suitability of materials and characteristics.

- Techniques and tools are selected to manipulate or process resources to enhance the quality of products and to match design ideas, standards and specifications

  e.g.   a story can be recreated with digital media to make it more appealing.