Government of **Western Australia**
School Curriculum and Standards Authority

SAMPLE TEACHING AND LEARNING OUTLINE

TECHNOLOGIES

DESIGN AND TECHNOLOGIES: FOOD AND FIBRE PRODUCTION

YEAR 2

2020/22236v2 [PDF 2020/33415]

This document is an introduction to planning a teaching and learning outline with syllabus content for Year 2 Design and Technologies: Food and fibre production context. It provides suggested sequencing and timing for teaching the syllabus content, giving students the opportunity to study at least one of the contexts for Design and Technologies. For further details on curriculum requirements and available options, teachers should refer to the School Curriculum and Standards Authority's (the Authority's):

- *Policy Standards for Pre-primary to Year 10: Teaching, Assessing and Reporting*
- Table 1: *Western Australian Curriculum and Assessment Outline*: curriculum requirements and available options.

Schools may choose to teach the syllabus content for two hours per week for a semester, **or** one hour per week for the year. Sample plans provide a range of possible learning experiences from which assessment should be drawn. This *Year 2 Sample Teaching and Learning Outline* provides teachers with possible learning experiences over eight weeks and unpacks the syllabus content to support teachers in their understanding.

A presentation (*Western Australian Curriculum Technologies Presentation*), which unpacks the process to develop this plan, is available on the Presentations page of the Authority website (https://k10outline.scsa.wa.edu.au/home/resources/presentations).

Year 2 Syllabus Content – Design and Technologies: Food and fibre production context

Content	Description
Technologies and society	People design and produce familiar products, services and environments to meet local and community needs
Food and fibre production	Food and fibre choices for healthy living
Investigating and defining	Explore design to meet needs or opportunities
Designing	Develop, communicate and discuss design ideas through describing, drawing, modelling and/or a sequence of steps
Producing and implementing	Use components and given equipment to safely make solutions
Evaluating	Use simple criteria to evaluate the success of design processes and solutions
Collaborating and managing	Work independently, or collaboratively when required, to organise information and ideas to safely create and share sequenced steps for solutions

Year Level Description

Learning in Design and Technologies builds on the dispositions developed in the early years. Learning focuses on practical and applied knowledge and understanding of process and production skills.

In Year 2, students have opportunities to create solutions in at least one of the following technologies contexts: Engineering principles and systems; Food and fibre production; and Materials and technologies specialisations. Students experience designing and producing products, services and environments.

Students have opportunities to investigate technologies: materials, systems, components, tools and equipment, including their purpose and how they meet personal and social needs within local settings. They develop an understanding of how society and environmental sustainability factors influence design and technologies decisions. Students evaluate and judge designed solutions using questions such as 'How does it work?', 'What purpose does it meet?', 'Who will use it?', 'What do I like about it?' or 'How can it be improved?' They are encouraged to make judgments about the design solutions in order to solve problems in their own design ideas.

Students begin to consider the impact of their decisions, and of technologies, on others and the environment, including in relation to preferred futures. They have opportunities to reflect on their participation in a design process. With support, students develop new strategies and engage in different ways of evaluating and judging products, services and environments based on personal preferences.

Using a range of techniques, including a variety of graphical representations to communicate, students draw, model and explain design ideas; label drawings; draw products and simple environments; and verbalise design ideas.

Year 2 Learning Area: Technologies – Design and Technologies (context: Food and fibre production)			
Year 2 Achievement Standard At Standard, students identify and exemplify roles of people that design and produce products, services and environments within the community. In Engineering principles and systems, students use a range of forces to move objects and observe the reactions. In Food and fibre production, students make simple connections between healthy living, food and fibre choices. In Materials and technologies specialisations, students develop ideas and make design decisions, considering both the characteristics and properties of materials. With all Design and Technologies contexts, students explore design to meet needs or opportunities. They develop, communicate and discuss design ideas through describing, drawing, modelling and/or sequenced steps. Students use components and given equipment to safely make solutions. They use simple criteria to evaluate the success of design processes and solutions. Students work independently, or collaboratively, to organise information and ideas to safely create and share sequenced steps for solutions.			
Weeks	**Syllabus content**	**Content unpacked**	**Suggested teaching and learning experiences**
1	**Food and fibre production** Food and fibre choices for healthy living	• Explore: ▪ available produce and food from the community, gardens, or locally grown (if applicable) ▪ produce chosen for meal preparation ▪ food choices when eating out or at the canteen ▪ convenience food options ▪ food choices at the supermarket.	**Food choices for healthy living** • Discuss healthy food choices people make. • Discuss the *Australian Dietary Guidelines.* Refer to: ▪ Refresh.ED (http://www.refreshedschools.health.wa.gov.au) ▪ Nutrition Australia Healthy Eating Pyramid (http://www.nutritionaustralia.org/national/resource/healthy-eating-pyramid) ▪ Eatforhealth.gov.au (https://www.eatforhealth.gov.au/). • Consider and discuss student food choices in different scenarios (family, school, socially). • Describe food pyramids and nutrient requirements. Refer to: ▪ Eatforhealth.gov.au (https://www.eatforhealth.gov.au/). • Make simple connections between food choices and healthy living: ▪ What is unhealthy? ▪ What are healthy living choices? • Describe links between food choices and healthy living. • Design a canteen or home menu that promotes healthy food choices. Refer to: ▪ Nestlé for healthier kids (https://www.healthyactivekids.com.au).
2	**Technologies and society** People design and produce familiar products, services and environments to meet local and community needs **Investigating and defining** Explore design to meet needs or opportunities **Evaluating** Use simple criteria to evaluate the success of design processes and solutions	• Explore design features of products to meet needs, such as familiar food packaging: ▪ What carries the food? ▪ What protects the food? ▪ How is food transported from the shop to home, from home to the school? • Examples of design features may include, but are not limited to: ▪ egg cartons ▪ bottles with handles ▪ packaging of fruits and vegetables (fragile fruits) ▪ lunch box designs and bento boxes. • Consider design features of familiar products, including: ▪ the purpose of the package and package material used to protect the food, such as: ○ cardboard ○ paper ○ tin ○ plastic ○ glass ○ wax ▪ considerations for safe transport ▪ considerations for temperature control	**Food packaging** • Explore the design of a familiar food product that is packaged, and discuss: ▪ choice of packaging material ▪ shape and size used for the packaged food ▪ design suitability, such as: ○ egg cartons ○ biscuit packaging ○ cereal boxes ○ tinned products, including shape and size. • Open packages to investigate the internal space. • Deconstruct the package and: ▪ investigate the characteristics of the material – thick, thin, hard, soft, stiff, bendy, shiny, dull, light, heavy ▪ flatten the product to observe the shape and how it is folded ▪ fix the flattened out package material to a larger sheet of paper and annotate the design features of the package ▪ describe the: ○ use of colour ○ shape ○ images ○ text. • Use simple criteria to evaluate the success of the design.

Weeks	Syllabus content	Content unpacked	Suggested teaching and learning experiences
		▪ the design of the package to ensure the consumer receives the highest quality product.	
3–4	**Designing** Develop, communicate and discuss design ideas through describing, drawing, modelling and/or a sequence of steps **Producing and implementing** Use components and given equipment to safely make solutions **Collaborating and managing** Work independently, or collaboratively when required, to organise information and ideas to safely create and share sequenced steps for solutions	• Design features of a product's packaging, including: ▪ shape ▪ colour ▪ size ▪ dimensions ▪ choice of materials.	**Product packaging – school (or classroom) packaging** • Investigate classroom items that need a 'tidy-up container' or packaging. • Develop the design idea (collaboratively or independently): ▪ record the shape and size of the product to be packaged ▪ determine the size and shape of the package to suit the product ▪ discuss and draw design ideas ▪ select suitable packaging materials ▪ plan a sequence of steps to produce the package. • Use components and given equipment to safely make solutions: ▪ create the design solution as planned ▪ mark out the planned shape for the package ▪ safely cut out the package ▪ fold the package ▪ test the package and make modification. • Use simple criteria to evaluate the design process and the final package.
5	**Food and fibre production** Food and fibre choices for healthy living **Investigating and defining** Explore design to meet needs or opportunities	• Natural fibres are grown and sourced from either: ▪ plants, such as cotton, flax or linen, bamboo, jute, raffia ▪ animal hair or fleece from a range of animals, such as sheep, goats, silk from silkworms. • Synthetic fibres are usually sourced from a combination of chemicals that create a polymer, such as: ▪ polyester, nylon, acrylic.	**Fibre choices** • Use sensory experience and practical activity to explore properties of fibres: ▪ use appropriate language to describe tactile/touch sensations ▪ investigate the characteristics of different fibres ▪ describe how different fibres respond to scrunching, wetting, pulling, rolling and folding. • Consider the everyday uses of fibres in common household items, such as dish cloth, sponge, tea towel, bed linen, lounge chairs, blinds and curtains: ▪ discuss use and practicality of different fibres ▪ annotate the characteristics of the fibres identified in common household items. • Discuss fibre choices for healthy living: ▪ develop simple criteria to evaluate fibre choices ▪ consider why some materials, such as natural fibres, are preferred as healthy living choices.
6	**Investigating and defining** Explore design to meet needs or opportunities **Evaluating** Use simple criteria to evaluate the success of design processes and solutions **Collaborating and managing** Work independently, or collaboratively when required, to organise information and ideas to safely create and share sequenced steps for solutions		**Packaging choices** • Identify materials and/or fibres: ▪ consider lunch box, school bag, shirt, hat, sportswear, shoes ○ use simple criteria to evaluate material/fibre choices ▪ discuss healthy living consideration for these choices ○ keeping food at a safe temperature ○ ease of cleaning a school bag ○ comfort of school clothing worn (Does it keep the wearer cool/warm?). • Explain links between the design and the needs of the individual user. • Select one item from the list above and collaboratively explore the design elements: ▪ annotate and label a drawing of the selected item ▪ use a graphic organiser, such as a Plus, Minus, Interesting chart or Venn diagram to organise the information. • Select a familiar household item to improve: ▪ develop an annotated drawing or design prototype to exemplify improvements ▪ develop a sequence of steps to improve the design idea ▪ model a simple criteria to evaluate the success of the design improvement.

Weeks	Syllabus content	Content unpacked	Suggested teaching and learning experiences
7–8	**Designing** Develop, communicate and discuss design ideas through describing, drawing, modelling and/or a sequence of steps **Producing and implementing** Use components and given equipment to safely make solutions **Evaluating** Use simple criteria to evaluate the success of design processes and solutions	• Fibre choices that encourage healthy living and sustainability.	**Fibre choices** • Explore the effectiveness of microfibre technology used in the community and in the home: ▪ engage in a practical cleaning activity: o windows o work stations ▪ use simple criteria to evaluate the effectiveness of different microfibres tested. • Explore the design of microfibre technology and consider community needs. • Design a new product incorporating microfibre technology and develop: ▪ annotated drawings ▪ a prototype based on the annotated drawing.