

PRIMED

Teacher resource

Year

7

Technologies



Department of **Primary Industries and Regional Development**
Department of **Training and Workforce Development**
Department of **Education**

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Resources overview: Exploring food and fibre production

PRIMED mission

To increase student understanding of agriculture, fisheries, fibre, forestry and food (primary industries) careers to enable Year 7–12 students to make informed career-pathway choices.

These resources provide rich tasks focused on the *Western Australian Curriculum* within a primary industries context.

Exploring food and fibre

This series of activities challenges students to explore primary industries and the production of food and fibre commodities in Western Australia.

Using an input-process-output (IPO) model, students explore the process involved in producing a food or fibre commodity in Western Australia. They engage with innovative examples of primary production to identify how environmental, economic and social factors influence the sustainable production process of commodities in Western Australia.

Students complete the learning activities by designing a model to represent a futureproof food or fibre production system, and label the key features of their design.

Curriculum links

This resource is designed to be a learning pathway for Year 7 Technologies students to develop their understanding of the *Western Australian Curriculum Design and Technologies* content descriptions:

Context:

- Food and fibre production (ACTDEK032)

Knowledge and understandings:

- Technologies and society (ACTDEK029 [and](#) ACTDEK030)

Processes and production skills:

- Investigating and defining (WATPPS39 and WATPPS40)
- Producing and implementing (WATPPS43)
- Collaborating and managing (WATPPS45)
- Designing (WATPPS41 and WATPPS42)
- Evaluating (WATPPS44)

Resource set structure

The resource set is structured around constructivist learning principles using a '5-E's instructional model: engage, explore, explain, elaborate and evaluate.

With this combined approach:

1. Students' interest and minds are **engaged** in thinking about the products we use daily and where these products come from.
2. Students **explore** what they know about the products produced in Western Australia. They compare different regional growing zones and explore the different food and fibre production that takes place in Western Australia.
3. Students **explain** how products are made and explore the IPO production model. Students review the triple bottom line (TBL) model and how it can be used by businesses to review their productivity. They explain the concept of sustainability and discover ways in which businesses balance all areas of production to ensure they meet each of the three factors that determine sustainability.
4. Students undertake a design challenge to **elaborate** on a range of concepts, such as:
 - identifying types of farming practices
 - understanding what is produced in Western Australia and why
 - understanding the on-farm process of making a commodity, using the IPO model
 - exploring design solutions to a future food or fibre production system.
5. Students **evaluate** their learning and application of the design process.

Educational process	Teaching and learning activities	Teacher resources / Student activities
Engage	<p>Module 1: Know your product (approximately 1–2 hours)</p> <p>This activity is designed to engage students by:</p> <ul style="list-style-type: none"> • exploring the products we use daily • connecting the products to their origins. <p>Students will use images from store catalogues to sort items into various categories (for example, plant or animal and value-added product or raw commodity) and the industry area the item originates from.</p>	<p>PowerPoint presentation:</p> <ul style="list-style-type: none"> • 1.0 Know your products <p>Student worksheets:</p> <ul style="list-style-type: none"> • 1.1 KWHL chart • 1.2 Primary industries in Western Australia
Explore	<p>Module 2: Western Australian food and fibre (approximately 1–2 hours)</p> <p>Students explore the:</p> <ul style="list-style-type: none"> • nine Western Australian regional development zones and identify the commodities grown in each region • many factors that influence why different commodities are grown in different regions. 	<p>Online resources:</p> <ul style="list-style-type: none"> • Western Australian Premium Food and Beverage video <https://www.youtube.com/watch?v=fBucltbkfyk> • Buy West Eat Best – WA Food Map • Buy West Eat Best WA Seasonal Calendar <p>Student worksheet:</p> <ul style="list-style-type: none"> • 2.1 Western Australian regional development zones
Explain 1	<p>Module 3: The production process (approximately 1–2 hours)</p> <p>Introduce students to the IPO model and review the steps required to produce raw commodities. This module also provides students with an understanding of the roles people have in the production of commodities.</p>	<p>Online resource:</p> <ul style="list-style-type: none"> • Cotton Australia website: How to grow a pair of jeans <https://cottonaustralia.com.au/grow-a-pair-of-jeans> <p>Student worksheet:</p> <ul style="list-style-type: none"> • 3.1 Understand the production process

Educational process	Teaching and learning activities	Teacher resources / Student activities
Explain 2	<p>Module 4: Sustainable food and fibre production (approximately 1–2 hours) Introduce students to the TBL framework as a tool to evaluate the performance of a primary industry production enterprise, such as a wheat farm.</p> <p>Students learn how primary industry producers must balance their production systems to meet social, economic and environmental factors to be sustainable.</p>	<p>PowerPoint presentation:</p> <ul style="list-style-type: none"> 4.0 The triple bottom line <p>Student worksheet:</p> <ul style="list-style-type: none"> 4.1 The triple bottom line
Elaborate	<p>Module 5: Futureproof design challenge (approximately 5–6 hours) In this activity students apply their knowledge of Western Australian primary industry food or fibre production to design a representative model of a sustainable futureproof production process.</p> <p>They apply the methodology learnt in previous lessons to:</p> <ol style="list-style-type: none"> write a description of the production process for their chosen commodity use their description, and information about the production location in Western Australia, to produce their model as a diorama, digital design (in an application like CoSpaces Edu), a digital slide presentation, a booklet or a brochure. 	<p>Student worksheet:</p> <ul style="list-style-type: none"> 5.1 Design challenge: Futureproof food and fibre production <p>Online resources:</p> <ul style="list-style-type: none"> Digital platform to produce a 3D digital design, such as: <ul style="list-style-type: none"> https://cospaces.io/edu/ https://education.minecraft.net/
Evaluate	<p>Module 6: Reflection time (approximately 1 hour) Students complete a self-reflection using given criteria to evaluate their design process and solution undertaken in Module 5. They also reflect on their collaboration and management.</p>	<p>Student worksheets:</p> <ul style="list-style-type: none"> 5.1 Design challenge: Futureproof food and fibre production 1.1 KWHL chart

Teaching guide: Exploring food and fibre production

Learning resources and sequence

Module 1: Know your products

(approximately 1–2 hours)



Focus

This module focuses on the connection between the products we use daily and their origins. It provides students with the opportunity to identify the primary industries in Western Australia that produce our food and fibre.

Expected learning

Students will be able to:

- identify their prior knowledge of food and fibre production in Western Australia
- sort a range of everyday products into various categories including, but not limited to, food, fibre or other; food groups; natural or synthetic; and raw or value-added
- identify at least one product that originates from primary industries in Western Australia.

Background information

An extensive range of products are produced worldwide. In this module, we focus on two types of products: food and fibre.

The Australian Curriculum defines food and fibre as human-produced or harvested resources used to directly sustain life. They are produced in managed environments such as farms and plantations or harvested from wild stocks.

One of the distinguishing features of food and fibre production, compared with other forms of production, is that the final product is a **raw material**.

Raw materials are:

- basic unrefined materials, such as cotton, wheat, wool, fruit and timber
- the output from production that takes place in **primary industry**, including agriculture, forestry, fibre, fishing, food and mining.

Know your products:

It is important for students to be able to classify a range of different products according to source, to help them understand where products originate from. They should ask questions such as:

- Is this product natural or manmade?
- If it is a natural product, does it come from a plant or an animal?
- Which industry does the product come from?
- What primary industries operate in Western Australia?

Useful definitions:

- The Oxford University Press dictionary ([Lexico.com](https://www.lexico.com)) (2021) defines commodity as a raw material or primary agricultural product that can be bought and sold, such as copper or coffee.
- The US Department of Agriculture defines value-added agriculture as a change in the physical state or form of the product (such as milling wheat into flour or making strawberries into jam).

Equipment required

- PowerPoint projection facility
- PowerPoint presentation 1.0 Know your products
- Student worksheets:
 - 1.1 KWHL chart
 - 1.2 Primary industries in Western Australia
- Scissors, glue and pens
- Catalogues of grocery or department store

Instructions for suggested activities

Prior knowledge:

- Students complete the first 3 columns of a KWHL (**k**nows, **w**ants to know, **h**ow they will find out) reflection chart on food and fibre production in Western Australia. They can do this in their workbooks or use worksheet 1.1 provided (printed in A3 size).
- Collect the charts and review the responses to establish students' prior knowledge and their learning wishes. At the end of the learning experience (Module 6), ask students to review this chart as part of their evaluation and to reflect on their learning.

Product sorting:

- Students (individually or in small groups) use grocery or department store catalogues and cut out images of a range of products.
- Present PowerPoint presentation 2.0 to the class:
 - On slide 2, ask the students, "When you go shopping, do you ever consider how all the products we buy get to the shops?"
 - On slide 3, ask students to sort each of their item image cuttings on their desks into one of three groups: food, fibre and other.
 - On slide 4, explain that some products are commodities and others are value-added products. Use the images to explain the terms 'commodity' and 'value-added product'. Students then re-sort their items into these groups.
 - On slide 5, introduce the [Australian Guide to Healthy Eating](#) from the Australian Dietary Guidelines website as an example of categorising food into groups. Students then re-sort their food item images into these groups: vegetables and legumes/beans, fruit, milk, yoghurt, cheese and/or alternatives, lean meats, grain (cereal) foods, and discretionary foods.
 - On slide 6, introduce fibre classifications. Ask students either to re-sort their fibre item images into these groups or (when they are at home later) to read some of their clothes' labels and consider whether the clothing is natural or synthetic.

Plenary activity:

Students complete worksheet 1.2, either as a printed document or in their workbooks, by selecting and gluing the image of a product that has originated from the primary industries listed on the worksheet.

Module 2: Western Australian food and fibre**(approximately 1–2 hours)****Focus**

Students explore the Western Australian regional development zones and identify the commodities grown in each region. They explore the many factors that influence why different commodities are grown in the different locations of the State.

Expected learning

Students will be able to:

- identify the key features of the nine regional development zones
- identify the different commodities grown in different regions
- explain why different commodities are grown in different regions of Western Australia.

Background information

The [DPIRD Agriculture and Food website](#) provides the following information:

“Western Australia’s (WA) agriculture and food sector is a world-class producer of high-quality, safe agriculture, food and fibre products, vital to our state’s economy and to feeding the Western Australian community and people in our target export markets.

For the past decade, about 70 per cent of the State’s agrifood exports has been destined for Asia, with China, Indonesia and Vietnam some of our largest markets.

With growing demand for premium agrifood products, especially in Asia, WA is in a good position to build on its reputation as a reliable supplier of clean, safe and high-quality food to overseas markets.”

Agriculture, food, fibre, fisheries and forestry exports were valued at \$8.4 billion (2018–19).

Source: [Primary Industries Plan 2020-24](#)

Western Australia is divided into nine regional development zones:

- [Kimberley](#)
- [Pilbara](#)
- [Gascoyne](#)
- [Mid West](#)
- [Wheatbelt](#)
- [Peel](#)
- [South West](#)
- [Great Southern](#)
- [Goldfields-Esperance](#)

Within these regions, a number of primary industries take place including, but not exclusive to:

- [poultry and eggs](#)
- [fibre](#)
- [dairy](#)
- [aquaculture and seafood](#)
- [grain](#)
- [grape and wine](#)
- [horticulture](#)
- [meat and livestock](#)
- [forestry/timber](#)

Equipment required

- Computer and internet access for research
- Video playing facility
- DPIRD '[Western Australian Premium Food and Beverage](#)' video
- Buy West Eat Best – WA Food Map
- Buy West Eat Best WA Seasonal Calendar
- Student worksheet 2.1 Western Australian regional development zones (print page 2 in A3)

Optional supporting resources:

- Regional climate zones map
<http://www.bom.gov.au/climate/climate-guides/>
- WA Open for Business website
<http://www.waopenforbusiness.wa.gov.au/Why-Western-Australia/Discover-Western-Australia>
- Buy West Eat Best website
<https://www.buywesteatbest.org.au/>
- DPIRD website
<http://www.drd.wa.gov.au/regions/Pages/default.aspx>

Instructions for suggested activities

Introduction:

- Ask students to write down in their workbooks all the food and fibre commodities they see in this clip.
- Play the '[Western Australian Premium Food and Beverage](#)' video.
- Ask students to share what they saw in the video.
- Summarise by highlighting that all these commodities/products are produced in Western Australia.

Explore Western Australia:

- Share the Buy West Eat Best PDFs – Western Australian Food Map (A3) and WA Seasonal Calendar with students.
- Explain that Western Australia is divided into nine regional development zones.
- Use worksheet 2.1 to guide students to conduct a jigsaw-style investigation into what agricultural practices take place in each regional zone and why.
You may wish to divide the class into nine groups and allocate a zone to each group to research and complete a summary on the sheet provided. Alternatively, students can complete this task in their workbooks or on a digital sharing platform of your choice.
- Provide students with the opportunity to share their findings with the class. The class should aim to have a good understanding of:
 - what is grown/produced in Western Australia
 - where in Western Australia it is grown/produced
 - why it is grown/produced there.

Plenary activity:

Share the Buy West Eat Best Western Australian Food Map A3 PDF again and facilitate a class discussion summarising why different food and fibre products are produced in different zones of Western Australia.

Module 3: The production process

(approximately 1–2 hours)



Focus

Students learn about the input-process-output (IPO) model and review the steps required to produce raw commodities. This task also provides students with an understanding of the roles people have in the production of commodities.

Expected learning

Students will be able to:

- define production and primary production
- analyse a primary production example using the IPO model.

Background information

The Oxford University Press dictionary ([Lexico.com](https://www.lexico.com)) (2021) defines production as the action of making or manufacturing from components or raw materials, or the process of being so manufactured.

The Oxford University Press dictionary ([Lexico.com](https://www.lexico.com)) (2021) defines primary production as the production of raw materials for industry.

In Western Australia, primary production includes the agricultural, fishing and forestry industries.

IPO model

When we grow/produce something, we put into action a sequence of activities requiring skills and knowledge. It can involve using materials, tools (technology) and perhaps help from other people. The process will hopefully yield a useful product, but it may have also produced other things such as by-products and waste.

To help us understand what happens when something is made, we can organise the range of activities that may occur during production as: **input**, **process** and **output**.

IPO Explained

Input	<p>The inputs are everything that is needed to make something, including:</p> <p>Materials – the ingredients that are transformed during the production process into the final product.</p> <p>Equipment – the machines, hardware, software and tools used to carry out the process. It includes the technology to make the production possible.</p> <p>Facilities – a place to work and implement the production process. The location and proximity to goods and services are important factors in determining other inputs that are available.</p> <p>Knowledge and skills – necessary to apply the technology to transform materials into products.</p> <p>Labour – the people who will carry out the tasks in various occupations that contribute to the process. It includes those who develop, manage and implement the production process.</p> <p>Energy – what is needed to power all the stages of production, such as sunlight, electricity and fuel.</p>
Process	<p>The production process is the series of steps taking place to create the final product.</p> <p>These steps convert the materials into the final product; the conversion process uses all the inputs identified above to generate something new.</p> <p>The process involves the application of known scientific and technical strategies and operations. It includes all activities – from the initial transport of materials to begin production, to the packaging and distribution of the final product.</p>
Output	<p>The output is the result of the production process, including not only the finished products but also other by-products, waste and impacts (intentional and unintentional). These may include detrimental side effects, such as negative impacts on the environment. No system is isolated, and every process has an impact.</p> <p>The goal of production is to output products of value to consumers and contribute to the economy.</p>

Why is it important for us to understand the production process?

We are all consumers of food and fibre products. We use these products either directly (for example, eating fruit and vegetables) or as part of our own production process (for example, cooking). Food and fibre also provide the raw materials for the wide range of manufactured products we purchase, like clothing and processed food.

Knowing what and who is involved in the process, and where it occurs, allows us to:

- develop a broader picture of production occurring in our state, our country and the world
- understand our connection to these production activities
- make informed judgements about the products we choose to purchase. We can choose products, for example, that support local industry, that are environmentally sustainable or that have a provenance that confirms quality
- expand our world view and consider new possibilities and opportunities, such as the broad range of career prospects associated with the production process.

Equipment required

- Internet access to download and play the (either as a class or individually).
- Student worksheet 3.1 Understand the production process

Instructions for suggested activities

Introduction:

- Define production and primary production to students.
- Explain that when things are grown or made there is a process that must take place. For example:
 - growing crops on farms requires planting/seeding, a growing period, a drying period and harvesting
 - producing livestock involves inseminating, birthing, rearing, weaning and grazing of stock.
- Explain that although the process for every commodity produced is different, all the steps in a process can be organised into the IPO model.
- Define inputs, process and output to students, then discuss the IPO process using honey production on page 1 of worksheet 3.1 as an example.
- Students complete page 2 of the worksheet.

Understanding the production process:

- Go through the PowerPoint presentation [How to grow a pair of jeans](#).
- Students complete the rest of worksheet 3.1.

Additional activity:

As a class, plant seeds for germination and record the steps taken in the growing process using the IPO model. For example:

- use a window planter box to grow herbs, tomatoes or spinach or other vegetables
- set up an outdoor kitchen garden
- use a mushroom kit to grow mushrooms in the classroom
- take part in a program like the WA Potatoes [Seed for Schools program](#).

Module 4: Sustainable food and fibre production (approximately 1–2 hours)



Focus

This activity introduces students to the triple bottom line (TBL) framework as a tool to evaluate the performance of a primary industry production enterprise – for example, a wheat farm. It explores how primary industry producers must balance their production systems to meet social, economic and environmental factors to be sustainable.

Expected learning

Students will be able to:

- define sustainability
- review the TBL framework to explain sustainability
- apply the TBL framework to a primary industry and review the factors that influence the sustainable production of commodities.

Background information

The Oxford University Press dictionary ([Lexico.com](https://www.lexico.com)) defines sustainability as: avoidance of the depletion of natural resources in order to maintain an ecological balance.

Sustainable food and fibre production systems need to protect:

- biodiversity and ecosystems
- human wellbeing, social equity and cultural diversity
- economic viability.

Sustainable Development Goals (SDGs)



“The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice.”

Source: United Nations (n.d.) [Take Action for the Sustainable Development Goals](https://www.un.org/sustainabledevelopment/) UN website, accessed 28 March 2021

The webpage has links to resources and videos that explain the SDGs.

Image: unknown author, Public domain, via Wikimedia Commons Source: https://commons.wikimedia.org/wiki/File:Sustainable_Development_Goals.svg

The TBL framework

The TBL framework (Elkington 1994) is a common assessment model for businesses to use to understand their success. Traditionally the 'bottom line' of a business referred to its financial profit. Now we understand the need to consider other aspects of the business to determine its sustainability and overall success.

The 'triple bottom line' asks businesses to balance social, economic and environmental factors to ensure their practices are sustainable.

Triple bottom line explained

Social (People) How socially responsible an organisation has been throughout its history.	Economic (Profit) The traditional measure of the financial profit made by an organisation.	Environmental (Planet) How environmentally responsible an organisation has been.
<p>People are the core of any business.</p> <p>Social aspects of a business include:</p> <ul style="list-style-type: none"> - employees - labourers - customers - the community in which you work - fair work practices - equal opportunities - fair trade - social justice. <p>It is reported that companies who ignore people and social good are subjected to higher economic costs and lower profits.</p>	<p>All businesses must be profitable.</p> <p>Economic aspects of a business include:</p> <ul style="list-style-type: none"> - labour costs - output costs, including waste and transport - infrastructure costs - technology costs - production costs - materials or resources costs - end-product sale price - marketing costs. <p>A company must consider all overhead costs when setting a price for their end product, as well as knowing what customers are willing to pay for a product.</p>	<p>Businesses are using natural resources and raw materials to manufacture products; therefore, they must pay attention to the condition of our planet.</p> <p>Environmental aspects of a business include:</p> <ul style="list-style-type: none"> - using natural resources - energy efficiency - limiting greenhouse gases - preventing contamination - reducing waste - replacing depleted resources - repairing ecosystems. <p>Being environmentally responsible can give a company an advantage in the market when customers are looking for environmentally responsible products to purchase.</p>

Sources:

- Gupta, SK (n.d.) [What is triple bottom line \(TBL\)? \(Explained with examples\) – The future benchmark](#), Business Strategy Hub website, accessed on 15 March 2021
- Sustainability Illustrated (8 April 2014) Triple bottom line (3 pillars): sustainability in business, [video], *Sustainability Illustrated*, YouTube <<https://www.youtube.com/watch?v=2f5m-jBf81Q>>, accessed on 28 March 2021

Equipment required

- PowerPoint projection facility
- PowerPoint presentation 4.0 The triple bottom line
- Student worksheet 4.1 The triple bottom line

Instructions for suggested activities

Introduce and explain:

- Ask the class what they believe the word 'sustainability' means.
- Define sustainability for the class.
- Ask students to provide an example of how a primary industry enterprise might practise sustainability.
- Explain that for a food and fibre production business to be sustainable it must find a balance between economic, environmental and social factors.

PowerPoint:

- Present PowerPoint presentation 4.0 to the class. Students can take notes on worksheet 4.1.
 - On slide 2, explain the three factors that food and fibre primary industries must consider.
 - On slide 3, introduce the TBL framework.
 - On slide 4, explain the TBL framework. Use the table in the background information above to explain each element: social, economic and environmental.

Plenary activity:

As a class, review the case study in worksheet 4.1 and ask students to share their opinions on what factors makes this enterprise sustainable.

Module 5: Futureproof design challenge (approximately 5–6 hours)



Focus

In this module students apply their knowledge of Western Australian primary industry food or fibre production to design a representative model of a sustainable futureproof production process.

They apply the methodology learnt in previous lessons to:

1. write a description of the production process for their chosen commodity
2. use their description, and information about the production location in Western Australia to create a representative model of the commodity's production system. Their model can be presented as a diorama, digital design in an application like CoSpaces Edu or Minecraft: Education Edition, a digital slide presentation, a booklet or a brochure.

Expected learning

Students will be able to:

- investigate a food or fibre produced in Western Australia
- apply the design process to plan a futureproof food or fibre production model
- produce a representative model.

Background information

Types of farming practices

Types of food and fibre production systems may include vertical farming, rooftop or community gardens, plantations, broadacre or aquaculture farms, orchards and market gardens.

Agriculture takes many forms. (Access the North Fremantle Social Farm website

<<https://www.northfreosocialfarm.org/>> for an example of a social/community farm.)

Farming practices can be:

- intensive systems, which use high levels of inputs and outputs per unit of land and can use high levels of mechanisation (for example, mushroom production)
- extensive systems, which use a smaller number of inputs and outputs per unit of land (for example, grazing sheep on natural pastures).

The design challenge

You may choose to give students an option on their presentation method, or adapt the task to be a physical model, such as a diorama or a digital build, depending on your resources/facilities.

Presentation methods:

- Diorama (access tips on the wikiHow website page [How to make a diorama](#))
- Minecraft: Education Edition <<https://education.minecraft.net/>> – a game-based learning platform that can be used to promote problem-solving, creativity and collaboration. Students can create a sustainable farm using the application. Access [How to create a sustainable farm in Minecraft: Windows 10 and Xbox One](#) for tips.
- CoSpaces Edu <<https://cospaces.io/edu/>> – a virtual 3D modelling application. For tips, access the 'Creating in CoSpaces Edu – Beginner tutorial' YouTube video <https://www.youtube.com/watch?v=2WWCnNjeMzM>.

Equipment required

- Student worksheet 5.1 Design challenge: Futureproof food and fibre production
- Materials for diorama or access to digital application technology

Instructions for suggested activities

Guide students through worksheet 5.1 and ensure they have a clear understanding of the criteria.

Note: The task provided is a guide that you can adapt to suit the needs of your students and the resources available to you. You may choose to:

- have students complete the challenge in pairs or small groups
- have students undertake their research task in a workbook, file or folio, or you can prepare a graphic organiser to guide students with their research
- expand this design challenge document into a structured work booklet.

Module 6: Reflection time**(approximately 1 hour)****Focus**

This activity is a student self-reflection of given criteria to evaluate their design process and solution undertaken in Module 5.

Students will also reflect on how they collaborated and managed their processes.

Expected learning

Students will be able to reflect on:

- their learning
- the application of the design process for their design solution.

Background information

When evaluating their design solution (their food and fibre production model) students should:

- use the criteria they developed at the start of the design challenge
- review their KWHL chart (worksheet 1.1) and complete the 'What have I Learnt?' column.

Equipment required

Student worksheets:

- 5.1 Design challenge: Futureproof food and fibre production
- 1.1 KWHL chart

Instructions for suggested activities

Students are to independently complete:

- the evaluation section of the design challenge worksheet 5.1
- the 'What have I Learnt?' column from the KWHL chart from Module 1.

Acknowledgements

page 1:

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Agricultural Marketing Resource Centre (n.d.) *USDA value-added ag definition*, AGMRC website, <<https://www.agmrc.org/business-development/valueadded-agriculture/articles/usda-value-added-ag-definition>>, accessed 25 May 2021

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National Health and Medical Research Centre (2017), 'Australian guide to healthy eating', NHMRC website, <<https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating>><https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating>>, accessed 25 May 2021

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Department of Primary Industries and Regional Development (last updated 23 March 2021) [*Western Australia's agriculture and food sector*](#), DPIRD website, accessed 25 May 2021

Department of Primary Industries and Regional Development (last updated 17 December 2020) [*Primary Industries Plan 2020-2024*](#), DPIRD website, accessed 20 April 2021

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Department of Primary Industries and Regional Development (19 November 2020) 'Western Australian Premium Food and Beverage' [video], *DPIRD*, YouTube <<https://www.youtube.com/watch?v=fBucltbfbkyk>>, accessed 24 April 2021

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Cotton Australia (n.d.), [*How to grow a pair of jeans*](#), Cotton Australia website, accessed 10 April 2021

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wikiHow (last updated 19 April 2021) [*How to make a diorama*](#), wikiHow website accessed 28 April 2021

Windows Central (last updated 13 September 2016) [*How to create a sustainable farm in Minecraft: Windows 10 and Xbox One*](#), Cale Hunt, website accessed 15 April 2021

CoSpaces Edu (3 July 2020) 'Creating in CoSpaces Edu – Beginner tutorial' YouTube video <<https://www.youtube.com/watch?v=2WWCnNjeMzM>>, assessed 27 May 2021

Additional teaching resource links: Exploring food and fibre production

Access these websites for more information and resources about primary production industries in Western Australia.

General agriculture

Department of Primary Industries and Regional Development (DPIRD) Regional Development website

<http://www.drd.wa.gov.au/regions/Pages/default.aspx>

DPIRD Agriculture and Food website

<https://www.agric.wa.gov.au/>

DPIRD WA Open for Business website

<http://www.waopenforbusiness.wa.gov.au/Why-Western-Australia/Discover-Western-Australia>

Buy West Eat Best website

<https://www.buywesteatbest.org.au/>

Regional climate zones map on the Australian Government Bureau of Meteorology website

<http://www.bom.gov.au/climate/climate-guides/>

Resources explaining the Australian Made labelling system on the Australian Made website

<https://www.australianmade.com.au/why-buy-australian-made/for-kids/>

Videos of different farming practices on the Visible Farmer website

<https://www.visiblefarmer.com/Watch/>

On-farm virtual reality experiences on the Farm VR website

<https://app.farmvr.com/experiences>

Meat and livestock

Meat and livestock Australia

<https://www.mla.com.au/>

Meat and livestock summary in the 'Sectors' tab of the DPIRD WA Open for Business website

<http://www.waopenforbusiness.wa.gov.au/Sectors/Meat-Livestock>

Red Meat Green Facts

<https://www.redmeatgreenfacts.com.au/>

Fibre

Wool

Trust in Wool website

<https://trustinaustralianwool.com.au/>

Wool Mark Learning Centre website

<https://www.woolmarklearningcentre.com/>

Wool industry facts (on the DPIRD Agriculture and Food website)

<https://www.agric.wa.gov.au/agricultural-exports/wool-industry-facts>

Cotton

Cotton Australia website

<https://cottonaustralia.com.au/>

Dairy

Dairy summary in the 'Sectors' tab of the DPIRD WA Open for Business website

<http://www.waopenforbusiness.wa.gov.au/Sectors/Dairy>

Western Australian College of Agriculture: Denmark – Robotic Dairy

<https://www.denmarkag.wa.edu.au/the-college/college-farm/dairy/>

Grain

Grains and feed summary in the 'Sectors' tab of the DPIRD WA Open for Business website

<http://www.waopenforbusiness.wa.gov.au/Sectors/Grain-Feeds>

Crops (on the DPIRD Agriculture and Food website)

<https://www.agric.wa.gov.au/crops/grains>

Grain production map (on the DPIRD Agriculture and Food website)

<https://www.agric.wa.gov.au/wheat/grain-production-western-australia-map>

Horticulture

Vegetables WA website

<https://vegetableswa.com.au/>

AusVeg website

<https://ausveg.com.au/>

Horticulture summary in the 'Sectors' tab of the DPIRD WA Open for Business website

<http://www.waopenforbusiness.wa.gov.au/Sectors/Horticulture>

Hort Innovation website

<https://www.horticulture.com.au/>

Aquaculture and seafood

Marine Stewardship Council website

<https://www.msc.org/en-au>

Aquaculture and seafood summary in the 'Sectors' tab of the DPIRD WA Open for Business website

<http://www.waopenforbusiness.wa.gov.au/Sectors/Seafood-Aquacultures>