Technology 7–8 – Food and agricultural practices –

sample assessment task 1 notification

Grow up! – vertical garden adventure

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# Task description

**Type of task**: sustainability in the supply chain flowchart.

**Outcomes being assessed**:

A student:

* explains relationships between sustainability, design and production **TE4-SDP-01**
* describes the practices and processes of designers and producers **TE4-PDP-01**

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**Suggested weighting**: 25%

Select a common agricultural food crop grown in NSW, research the production and supply chain and identify stages where sustainability plays a significant role.

Create a flowchart outlining the journey of the crop grown in NSW through the supply chain – from planting to reaching customers.

Choose 3 key stages that use practices or technologies to improve sustainability. For each of these stages, explain how these practices help make the process more sustainable.

**Research the production process**

* Pick one common agricultural food crop grown in NSW, for example, apples.
* Investigate the production and supply chain of your chosen food crop. Research the main stages, starting with how the soil is prepared or how it is planted, following through all stages until it reaches customers in stores.
* Identify 3 key stages where specific practises or technologies could contribute to sustainability.
* For the 3 chosen stages, research one sustainable practice or technology used in that part of the production and supply chain. This could be things like water-saving irrigation systems, energy-efficient equipment or recycling waste.

**Design an annotated flowchart**

* Make a simple flowchart showing the entire supply chain for your crop, from start to finish. You can use ovals, rectangles, arrows, parallelograms and simple drawings to represent each stage.
* Flowcharts can be hand-drawn or created digitally using software such as Canva, Lucid Chart, Miro or Google Docs.
* Write a concise explanation for each sustainable practice or technology researched, describing how it supports the environment or makes the supply chain more sustainable. Think about how it uses fewer resources, produces less waste or has a smaller impact on the environment.
* Make sure your flowchart is easy to read and understand. Use different colours, clear labels or other helpful features to make it interesting and informative.

Table 1 – parts of a flowchart

|  |  |
| --- | --- |
| Flowchart symbol | Meaning |
| Oval flowchart symbol. | The starting or ending point of the system. |
| Rectangle flowchart symbol. | A single step or action in a process. |
| Rhobus flowchart symbol. | An input into the process. |
| Arrow flowchart symbol. | Used to guide the viewer along their flowcharting path. |

## Submission details

**Format of submission**

* The final submission should be an annotated flowchart, demonstrating your understanding of the production supply chain and the sustainability practices in the industry.
* Flowcharts can be created and submitted digitally or as a hard copy.

# Steps to success

Table 2 – assessment preparation schedule

|  |  |
| --- | --- |
| Steps | What I need to do and when I need to do it? |
| Choose an agricultural plant | **What do I need to do?** Select a common agricultural plant grown in New South Wales. For example, apples, wheat or grapes.**When do I need to do it?** Complete this during the initial research phase, ideally within one to 2 days. |
| Research the supply chain | **What do I need to do?** Research the entire production supply chain for your chosen plant, from planting to customer use. Consider stages such as growing, harvesting, processing, packaging and distribution.**When do I need to do it?** Dedicate 2 – 3 days to gather information from textbooks, online resources or other educational sources. |
| Identify 3 key sections to focus on | **What do I need to do?** From the production supply chain, identify 3 key sections where sustainability is particularly relevant, or technology plays a significant role. For example, you might choose **growing**, **processing** and **distribution** as your key sections.**When do I need to do it?** This should be done once you have a general understanding of the production supply chain. Aim to complete this step within the first week. |
| Research sustainability practices in the 3 sections identified above | **What do I need to do?** For each of the 3 key sections, research specific sustainability practices or technologies used in that part of the production process.**When do I need to do it?** This will require additional research and analysis. Aim to complete this step by the end of the first week. |
| Design a flow chart | **What do I need to do?** Create a flowchart that outlines the agricultural supply chain and includes annotations explaining one of the sustainability practices or technologies in each of the 3 key sections.**When do I need to do it?** Begin designing the flowchart during the second week of the task. This might take 2 – 3 sessions to complete, allowing for revisions. |
| Add annotations to the flowchart | **What do I need to do?** Add annotations to the flowchart that describe the sustainability practices or technologies in each key section. Be sure to explain how these practices contribute to sustainability or impact the agricultural industry.**When do I need to do it?** This step should be completed once the flowchart structure is in place. Aim to finish this step by the middle of the second week. |
| Review and revise | **What do I need to do?** Review the flowchart for clarity, structure and visual appeal. Make any necessary revisions to ensure annotations are clear and informative. Ask your teacher for feedback on your draft.**When do I need to do it?** This should be done towards the end of the task, allowing time for final revisions and checks. Aim to complete this step one to 2 days before submission. If you are asking for teacher feedback, complete this earlier. |
| Submit the annotated flowchart | **What do I need to do?** Submit the final annotated flowchart to the teacher for assessment. Ensure that it meets all criteria for research, design and communication.**When do I need to do it?** Submit the flowchart by the due date specified by your teacher. |

# What is the teacher looking for?

Students communicate how specific sustainability practices within a production supply chain contribute to a more environmentally conscious agricultural process. Students should offer a comprehensive overview of the supply chain while highlighting the sustainable methods used at key stages.

Working individually, students select an agricultural crop grown in New South Wales and document the supply chain process using a flowchart representation, with each stage clearly identified and accurately depicting the sequential order of production.

Students will use their understanding of the steps within the supply chain to identify significant stages where sustainability plays a crucial role. For 3 key stages within the chain, students will include a concise annotation that describes a production practice or technology used and explain how it contributes to improved sustainability.

This task requires students to present an engaging flowchart with a clear structure, using symbols, shapes or connections that make the information easy to follow and understand. Creativity is encouraged, with the use of appropriate methods for presentation, which could include digital technologies such as Canva or LucidChart.

# Marking guidelines

Table 3 – assessment marking guidelines

|  |  |
| --- | --- |
| Grade | Marking guideline descriptors |
| A | * The student comprehensively explores the entire agricultural supply chain, identifying critical stages.
* The student extensively links 3 stages to a specific sustainable practice or technology, providing a thorough explanation of their impact on the environment or industry.
* The student’s flowchart is clear, well-organised, and engaging, with detailed annotations that communicate complex ideas effectively.
* The student demonstrates a thorough understanding of the relationship between production processes and sustainability, applying this knowledge effectively throughout the task.
 |
| B | * The student thoroughly explores the agricultural supply chain in detail, identifying key stages accurately.
* The student thoroughly links 3 stages to a specific sustainable practice or technology, providing a detailed explanation of their impact on the environment or industry.
* The student’s flowchart is clear, well structured and includes comprehensive annotations that effectively communicate key sustainability concepts.
* The student demonstrates a strong understanding of the relationship between production processes and sustainability, applying this knowledge to most of the task.
 |
| C | * The student soundly identifies most key stages in the agricultural supply chain.
* The student identifies a specific sustainable practice or technology for each of the 3 key sections, with sound explanations of their impact on the environment or industry.
* The student’s flowchart is generally clear and logical, with annotations that cover the essential sustainability practices or technologies.
* The student demonstrates a sound understanding of the relationship between production processes and sustainability.
 |
| D | * The student identifies some key stages in the agricultural supply chain.
* The student outlines sustainable practices or technologies for parts of the 3 key sections, demonstrating basic knowledge and understanding.
* The flowchart is basic, with brief or unrelated annotations.
* The student demonstrates a basic understanding of production processes and sustainability, with a limited level of knowledge or comprehension.
 |
| E | * The student identifies a key stage in the agricultural supply chain.
* The student has an elementary knowledge of sustainability practices or technologies, with little or no explanation of their impact.
* The flowchart is missing or elementary, with annotations not evident.
* The student demonstrates no relationship between production processes and sustainability, with little to no explanation.
 |

# Student-facing rubric

Table 4 – rubric for assessment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria | Limited | Basic | Sound | High | Outstanding |
| Criteria 1Flow chart: comprehension of the agricultural supply chainTE4-PDP-01 | Displays limited understanding of the agricultural supply chain by naming one or more steps in the supply chain. | Exhibits limited understanding of the agricultural supply chain by identifying some of the steps in a supply chain. | Demonstrates a satisfactory understanding of the agricultural supply chain by identifying steps along the supply chain, mostly in order. | Shows a thorough understanding of the agricultural supply chain by identifying most of the steps along the supply chain in order. | Demonstrates an extensive understanding of the agricultural supply chain by identifying all steps along the chain in the correct order. |
| Criteria 2Flow chart: structure and organisation of a flowchartTE4-PDP-01 | The flowchart has limited organisation and clarity. | The flowchart is basic without clear organisation and structure. | The flowchart generally represents the supply chain, with some inconsistency in structure or clarity. | Creates a well-organised flowchart with clear structure. | Creates a clear, well-organised and visually appealing flowchart that accurately represents the agricultural supply chain. |
| Criteria 3Sustainable practices or technologies: identification and explanation of sustainable practices or technologiesTE4-SDP-01 | Attempts to identify sustainable practices or technologies in agricultural production.Explanations are incomplete or lack depth. | Identifies sustainability practices or technologies in **at least one** key stage of the supply chain.Provides an outline that demonstrates limited understanding of sustainability. | Identifies sustainability practices or technologies in **at least** **2** key stages of the supply chain.Provides a sound explanation of their impact on sustainability in agriculture or at least 2 annotations. | Identifies sustainability practices or technologies in **3** key stages of the supply chain.Provides thorough explanations, with some gaps of how these practices contribute to sustainability in agriculture. | Accurately identifies specific sustainability practices or technologies used in **3** key stages of the supply chain.Offers a comprehensive explanation of how these practices contribute to sustainability in agriculture. |

# Support and alignment

**Resource evaluation and support**: all curriculum resources are prepared through a rigorous process. Resources are periodically reviewed as part of our ongoing evaluation plan to ensure currency, relevance and effectiveness. For additional support or advice, or to provide feedback, contact the TAS Curriculum team by emailing TAS@det.nsw.edu.au.

**Differentiation:** further advice to support Aboriginal and Torres Strait Islander students, EALD students, students with a disability and/or additional needs and High Potential and gifted students can be found on the [Planning, programming and assessing 7–12](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12) webpage. This includes the [Inclusion and differentiation 7–10 advice](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12/inclusion-and-differentiation-advice-7-10) webpage.

**Assessment**: further advice to support formative assessment is available on the [Planning, programming and assessing 7–12](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12) webpage. This includes the [Classroom assessment advice 7–10](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12/classroom-assessment-advice-7-10-). For summative assessment tasks, the [Assessment task advice 7–10](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/planning-programming-and-assessing-7-12/assessment-task-advice-7-10) webpage is available.

**Explicit teaching:** further advice to support explicit teaching is available on the [Explicit teaching](https://education.nsw.gov.au/teaching-and-learning/curriculum/explicit-teaching) webpage. This includes the CESE [Explicit teaching – Driving learning and engagement](https://education.nsw.gov.au/about-us/education-data-and-research/cese/publications/research-reports/what-works-best-2020-update/explicit-teaching-driving-learning-and-engagement) webpage.

**Consulted with:** Curriculum and Reform, Inclusive Education, Multicultural Education,

Aboriginal Outcomes and Partnerships and subject matter experts.

**Alignment to system priorities and/or needs**: [School excellence](https://education.nsw.gov.au/policy-library/policies/pd-2016-0468), [Our Plan for NSW Public Education](https://education.nsw.gov.au/about-us/strategies-and-reports/plan-for-nsw-public-education)..

**Alignment to the School Excellence Framework**: this resource supports the [School excellence](https://education.nsw.gov.au/policy-library/policies/pd-2016-0468) elements of curriculum (curriculum provision) and effective classroom practice (lesson planning, explicit teaching).

**Alignment to Australian Professional Teaching Standards**: this resource supports teachers to address [Proficient Teacher Standard Descriptors](https://educationstandards.nsw.edu.au/wps/portal/nesa/teacher-accreditation/meeting-requirements/the-standards/proficient-teacher) [3.2.2, 3.3.2].

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# References

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