



Stage One Agriculture: Science as a Human Endeavour Investigation in horticulture

Students will use a horticultural context to develop the skills of analysing the science as a human endeavour (SHE) concepts (Assessment Type One Agricultural Reports).

1. Select one of the following topics

- Robotics and automation are the answer to workforce issues in horticulture
- Power, water and waste are the three biggest challenges for Australian horticulture
- Artificial intelligence will revolutionise pest, weed and disease control in horticulture
- Horticultural businesses should always collaborate when making machinery and technology investment decisions

2. Prepare a report in a format of your choice

- The report on science as a human endeavour investigation should be a maximum of 1000 words if written or a maximum of 6 minutes for an oral presentation, or the equivalent in multimodal form.
- Ensure that you clearly discuss the topic selected with reference to at least ONE of the SHE key concepts.

CHECKLIST FOR KA4

- Clear, coherent expression, correct spelling (especially of technical terms) and grammar.
- Where possible, use at least two communication formats – written word, spoken word, diagrams, graphs, calculations, photos
- If an essay – use standard essay conventions – no section titles, include paragraphs with topic sentences
- BIBLIOGRAPHY:** prepare a correctly formatted Bibliography (alphabetic order from Author's surname – see referencing document for guidelines)
- Include in text referencing in any written format

Assessment is **SUMMATIVE** and addresses the assessment design criteria Knowledge and Application (KA1, KA3 and KA4)

	A	B	C	D	E
KA1 Demonstration of knowledge and understanding of agricultural concepts and practices.	Demonstrates deep and broad knowledge and understanding of a range of agricultural concepts and practices.	Demonstrates some depth and breadth of knowledge and understanding of a range of agricultural concepts and practices	Demonstrates knowledge and understanding of a general range of agricultural concepts and practices.	Demonstrates some basic knowledge and partial understanding of agricultural concepts and practices.	Demonstrates some limited recognition and awareness of agricultural concepts and practices.
KA3 Exploration and understanding of the interaction between agricultural science and society.	Critically explores and understands in depth the interaction between agricultural science and society.	Logically explores and understands in some depth the interaction between agricultural science and society.	Explores and understands aspects of the interaction between agricultural science and society.	Partially explores and recognises aspects of the interaction between agricultural science and society.	Attempts to explore and identify an aspect of the interaction between agricultural science and society.
KA4 Communication of knowledge and understanding of agriculture, using appropriate terms, conventions, and representations	Communicates knowledge and understanding of agriculture coherently, with highly effective use of appropriate terms, conventions, and representations.	Communicates knowledge and understanding of agriculture mostly coherently, with effective use of appropriate terms, conventions, and representations.	Communicates knowledge and understanding of agriculture generally effectively, using some appropriate terms, conventions, and representations.	Communicates basic information about agriculture, using some appropriate terms, conventions, and/or representations.	Attempts to communicate information about agriculture



From the SACE Subject outline for Stage One Agriculture

The key concepts of science as a human endeavor, with elaborations that are neither comprehensive nor exclusive, in the study of Agriculture are:

Communication and Collaboration

- Agricultural science is a global enterprise that relies on clear communication, international conventions, and review and verification of results.
- Collaboration between scientists, governments, and other agencies is often required in scientific research and enterprise.

Development

- Development of complex scientific models and/or theories often requires a wide range of evidence from many sources and across disciplines.
- New technologies improve the efficiency of scientific procedures and data collection and analysis. This can reveal new evidence that may modify or replace models, theories, and processes.

Influence

- Advances in scientific understanding in one field can influence and be influenced by other areas of science, technology, engineering, and mathematics.
- The acceptance and use of scientific knowledge can be influenced by social, economic, cultural, and ethical considerations.

Application and Limitation

- Scientific knowledge, understanding, and inquiry can enable scientists to develop solutions, make discoveries, design action for sustainability, evaluate economic, social, cultural, and environmental impacts, offer valid explanations, and make reliable predictions.
- The use of scientific knowledge may have beneficial or unexpected consequences; this requires monitoring, assessment and evaluation of risk, and provides opportunities for innovation.
- Science informs public debate and is in turn influenced by public debate; at times, there may be complex, unanticipated variables or insufficient data that may limit possible conclusions.



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