Stage 2 Agricultural Systems

Assessment Type 3: Experimental Investigation

Students individually undertake one experimental investigation. They develop their investigation in negotiation with the teacher and conduct it based on a specific aspect of animal or plant production systems. Students design a proposal. They develop their own hypothesis, then design and undertake the investigation, and analyse, evaluate, and report on their findings.

The investigation planning occurs early in the year. Students collect primary and secondary data and may work collaboratively to gather data.

One draft of the proposal should be submitted for teacher feedback and approval. Students may modify their plan in response to teacher feedback before they undertake their investigation.

Proposal

The proposal must include:

* a hypothesis
* independent and dependent variables
* materials/apparatus
* method/procedure
* an outline of, and rationale for, the design procedure
* the type of data that will be collected
* identification of, and a management plan for, safety and/or ethical risks.

Report

Students produce an individual investigation report that uses clearly expressed ideas and appropriate agricultural terminology, and includes:

* an introduction to identify the purpose and relevant background
* appropriate presentation of data, e.g. summary tables, graphs, photographs, or other illustrations
* analysis of the findings
* evaluation of the design, including recommendations for improvements
* a conclusion, which includes the relevance of findings to ethical, economic, environmental, and/or political impacts on agricultural systems
* references.

Students submit their modified proposal with their report for assessment during Term 3. The combined word count for the proposal and the report should be a maximum of 2000 words, if written, or the equivalent in multimodal form.

**Performance Standards for Stage 2 Agricultural Systems**

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|  | | **A** | **B** | **C** | **D** | **E** |
| **Investigation, Analysis and Evaluation** | **1**  **2**  **3**  **4** | Critically deconstructs a problem and designs a logical and coherent agricultural investigation with detailed justification.  Obtains, records, and represents data, using appropriate conventions and formats accurately and highly effectively.  Systematically analyses and interprets data and evidence to formulate logical conclusions with detailed justification.  Critically and logically evaluates procedures and their effect on data. | Logically deconstructs a problem and designs a well-considered and clear agricultural investigation with reasonable justification.  Obtains, records, and represents data, using appropriate conventions and formats mostly accurately and effectively.  Logically analyses and interprets data and evidence to formulate suitable conclusions with reasonable justification.  Logically evaluates procedures and their effect on data. | Deconstructs a problem and designs a considered and generally clear agricultural investigation with some justification.  Obtains, records, and represents data, using generally appropriate conventions and formats, with some errors but generally accurately and effectively.  Undertakes some analysis and interpretation of data and evidence to formulate generally appropriate conclusions with some justification.  Evaluates procedures and some of their effect on data. | Prepares a basic deconstruction of a problem and an outline of an agricultural investigation.  Obtains, records, and represents data, using conventions and formats inconsistently with occasional accuracy and effectiveness.  Describes data and undertakes some basic interpretation to formulate a basic conclusion.  Attempts to evaluate procedures or suggest an effect on data. | Attempts a simple deconstruction of a problem and a procedure for an agricultural investigation.  Attempts to record and represent some data with limited accuracy or effectiveness.  Attempts to describe results and/or interpret data to formulate a basic conclusion.  Acknowledges that procedures affect data. |
| **Knowledge and Application** | **1**  **2**  **3**  **4** | Demonstrates deep and broad knowledge and understanding of a range of agricultural concepts.  Applies agricultural concepts highly effectively in new and familiar contexts.  Critically explores and understands in depth the interaction between agricultural science and society.  Communicates knowledge and understanding of agriculture coherently with highly effective use of appropriate terms, conventions and representations. | Demonstrates some depth and breadth of knowledge and understanding of a range of agricultural concepts.  Applies agricultural concepts mostly effectively in new and familiar contexts.  Logically explores and understands in some depth the interaction between agricultural science and society.  Communicates knowledge and understanding of agriculture mostly coherently with effective use of appropriate terms, conventions, and representations. | Demonstrates knowledge and understanding of a general range of agricultural concepts.  Applies agricultural concepts generally effectively in new or familiar contexts.  Explores and understands aspects of the interaction between agricultural science and society.  Communicates knowledge and understanding of agriculture generally effectively using some appropriate terms, conventions, and representations. | Demonstrates some basic knowledge and partial understanding of agricultural concepts.  Applies some agricultural concepts in familiar contexts.  Partially explores and recognises aspects of the interaction between agricultural science and society.  Communicates basic information about agriculture, using some appropriate terms, conventions, and/or representations. | Demonstrates some limited recognition and awareness of agricultural concepts.  Attempts to apply agricultural concepts in familiar contexts.  Attempts to explore and identify an aspect of the interaction between agricultural science and society.  Attempts to communicate information about agriculture. |