TEACHER NOTES

# Insect survey investigation

**Science Inquiry**
**Content description: South Australian Scope and sequence**

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|---|---|
| YEAR 6 | **Questioning and predicting**<br>• Pose investigable questions to identify patterns and test relationships and make reasoned predictions.<br>**Planning and conducting**<br>• Plan and conduct repeatable investigations to answer questions, including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place.<br>• Use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate<br>**Processing, modelling and analysing**<br>• Construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships.<br>**Evaluating**<br>• Compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation, and select evidence to draw reasoned conclusions.<br>**Communicating**<br>• Write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate. |

## TASK DESCRIPTION

The class will collaborate to design a scientific investigation into insect biodiversity in different habitats. Individual groups will set up and monitor traps at different sites then combine recorded data for analysis.

Identify different habitats on and near to the school site such as kitchen gardens, lawns, ornamental gardens and natural vegetation.

Support students to develop a secondary focus for the insect surveys; for example predator/prey relationships, beneficial and pest species.

Students will practise using the scientific report format, following the checklist as a guide. This can be done individually or collaboratively. They will also be assessed on their practical skills while working together.

## INVERTEBRATE IDENTIFICATION RESOURCE:

**ento.csiro.au/education/key/couplet_01.html**

Sticky traps can be purchased online, or alternatively, pitfall traps can be utilized.

Schools must ensure a risk assessment is completed which addresses risk of anaphylaxis for bees and other stingers, and ensures appropriate PPE is provided.

STUDENT GUIDE

# Insect survey investigation

Farmers regularly check their crops for insects and need to understand which ones are beneficial and which ones are pests. This is important for both broadacre crops like wheat and barley as well as horticultural crops like oranges and almonds. They use scientific methods to record data and use it for decision making on their farm.

Researchers also use scientific methods to understand insects so that they can provide useful advice to farmers. They also need to use scientific methods to check that their recommendations are reliable.

## CHECKLIST FOR SCIENTIFIC REPORT WRITING

### Report style (Communication)

- [ ] formal style, no personal pronouns
- [ ] technical language used
- [ ] headings used, organised structure
- [ ] accurate spelling

### Introduction

- [ ] aim stated “to investigate……”
- [ ] hypothesis stated clearly “if….. then….. because……”
- [ ] independent variable
- [ ] dependent variable
- [ ] controlled variables identified (what makes it a fair test?)
- [ ] materials list
- [ ] safety guidelines
- [ ] procedure – past tense, numbered steps

### Results

- [ ] invertebrate frequency data in a labelled table
- [ ] invertebrates identified clearly
- [ ] pests & beneficials differentiated
- [ ] frequency data on an accurate graph
- [ ] graph has title, axis labels, units, accurate scale
- [ ] summary statement of results (no explanation)

### Analysis

- [ ] data is used to provide a scientific explanation
- [ ] differences between sites compared and discussed
- [ ] hypothesis supported or not

### Evaluation

- [ ] identifies strengths of investigation
- [ ] identifies weaknesses
- [ ] identifies sources of uncertainty
- [ ] suggest improvements

### Conclusion

- [ ] conclusion that summarises findings
- [ ] link to practical use of insect data eg farmers managing pests & beneficials

### Practical Skills

- [ ] attempts all tasks required
- [ ] reliable
- [ ] works safely with others
- [ ] cleans up thoroughly
- [ ] shows initiative