

Writing Scientific Descriptions: Insects

YEAR 7
BIOLOGICAL SCIENCES



QGC

FUTUREMAKERS



**QUEENSLAND
MUSEUM NETWORK**



**Queensland
Government**

Future Makers

Future Makers is an innovative partnership between Queensland Museum Network and Shell's QGC business aiming to increase awareness and understanding of the value of science, technology, engineering and maths (STEM) education and skills in Queensland.

This partnership aims to engage and inspire people with the wonder of science, and increase the participation and performance of students in STEM-related subjects and careers — creating a highly capable workforce for the future.

Copyright © 2019 Queensland Museum and University of Queensland School of Education.



The images included in this teaching resource may be used for non-commercial, educational and private study purposes. They may not be reproduced for any other purpose, in any other form, without the permission of the Queensland Museum.

This teacher resource is produced by Future Makers, a partnership between Queensland Museum Network and Shell's QGC business, with support from the Australian Research Council and other parties to ARC Linkage Project LP160101374: The University of Queensland, Australian Catholic University Limited and Queensland Department of Education.

EXPLORE - EXPLAIN

Writing Scientific Descriptions: Insects

Teacher Resource

The classification of living things involves systematically grouping and sorting organisms based on common or shared features, and providing organisms with a unique scientific name. The classification process also involves the writing of scientific descriptions; all organisms require a written scientific description to assist in the accurate identification of their species.

Within this activity, students explore what makes a well-written scientific description. They then use their learning to write a scientific description for an insect. There are a number of ways for students to complete this task:

- Students collect insects from their local community.
- Students observe insect specimens contained within a [Queensland Museum Loans Kit](#). You can search 'insect' in the catalogue search to view and book kits that contain insects.
- Students visit the [Discovery Centre](#) on Level 4 of Queensland Museum in Brisbane and write a scientific description of insects on display.
- Students observe images of insect specimens from the collection via [Queensland Museum's Google Arts and Culture](#) website. or on the [Queensland Museum Network Learning Resources website](#)

Detailed step-by-step instructions for this activity can be seen below. It is recommended that you use these instructions to guide your students through the activity.

1. Ask students to close their eyes and visualise the following description of an animal as it is read out loud.

Oval in shape. The head section is smaller than the back section. Two large eyes positioned on either side of the head. Six legs. Lots of spiky hair coming out in middle part of insect, just behind the head. Cream shell. Two brown blobs on the hard part that covers the wings.

2. Provide students with one minute to draw what they visualised. Students can then stand and move around the room to see how their peers responded to the description. Ask students: What do you notice about the drawings? Why are we noticing these patterns?

NB: Missing, vague, imprecise information in the description will result in noticeable variation between students' drawings.

3. Show students the following insect images:

- [Dung Beetle, *Onthophagus toopi*](#)
- [Stag Beetle, family *Lamprima*](#)
- [Tiger Beetle, *Cicindela shetterlyi lutamatrix*](#)
- [Leichhardt's Grasshopper, *Petaside ephippigera*](#)

Ask students: do any of these insects look like the animal that you drew? Inform students that the description read out loud belongs to one of these four insects. Ask students: Which insect could this description belong to?

*NB: The description belongs to the Tiger Beetle, *Cicindela shetterlyi lutamatrix*.*

4. Provide students with an opportunity to look at the image of the Tiger Beetle and the description. Ask students: how effective is this description in communicating information about this insect? Why? What is needed to improve this description?

5. Co-write a new and improved scientific description of the insect. This description should include the use of specific scientific terminology, as shown on the worksheet, *A Selection of Insect Terms*.

6. Students work independently or in pair to write their own scientific description of an insect. Before writing the description, ask students to spend one minute silently observing the insect. Students could use a magnifying glass during this time. Ask students to consider:

- What do you notice about the insect's appearance?
- Does the insect have any striking or defining features? What are these?
- How would you describe this insect to your partner/a classmate?

Provide students with time to share their observations with their partner or a classmate.

7. Provide students with time to write their scientific descriptions. After writing, students could swap insects and descriptions with a classmate, then analyse and evaluate the descriptions based on previously devised success criteria.

Curriculum Links

Science

YEAR 7

Science Understanding

Classification helps organise the diverse group of organisms (ACSSU111)

Science Inquiry Skills

Communicate ideas, findings and evidence based solutions to problems using scientific language, and representations, using digital technologies as appropriate (ACSIS133)

General Capabilities

Literacy

Comprehending texts through listening, reading and viewing

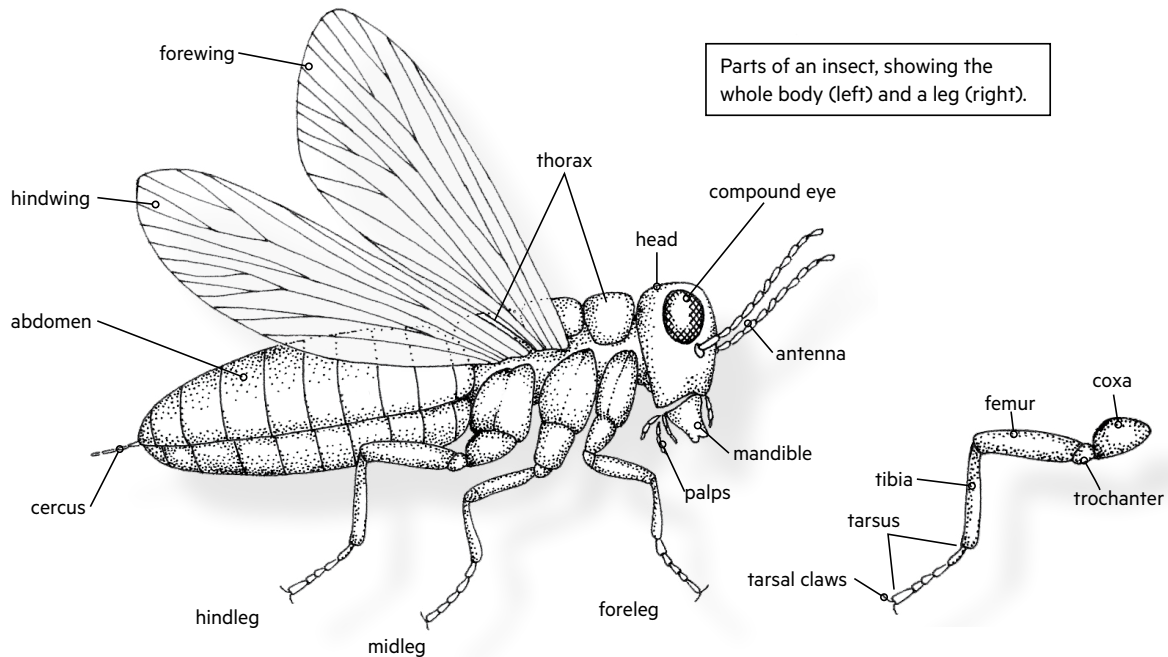
Composing texts through speaking, writing and creating

Word knowledge

Writing Scientific Descriptions: Insects

Student Activity

A Selection of Insect Terms



ANATOMY TERMS

Cells: the spaces enclosed by veins on the wing

Cercus: a paired appendage on the posterior end of the abdomen; cerci may function as sensory or reproductive organs, or be used for defence

Compound eye: an eye consisting of many separate visual components

Exoskeleton: the external skeleton that protects the insect body

Mandibles: first pair of jaws in the mouth

Mesothorax: the second part of the thorax, bears the midlegs (second pair of legs) and the forewings in adults

Metathorax: the third part of the thorax, bears the hindlegs (third pair of legs) and the hindwings in adults (reduced to halteres in flies)

Ocelli: small eyes often grouped in three on a triangular mound between the compound eyes

Palps: elongated appendages or feelers near the mouth

Prothorax: the first part of the thorax, bears the forelegs (first pair of legs)

Scutum: the plate on the dorsal (upper) surface of the thorax

Spiracles: holes found along the body that open into tubes that carry air to the cells

Sternites: the plates on the ventral (lower) surface of the abdomen

Tarsus: the insect foot

Tergites: the plates on the dorsal (upper) surface of the abdomen

Veins: the lines on the wing

LOCATION TERMS

Anterior: close to the head/front of body

Posterior: close to the hind end/back of body

Proximal: close to the centre of the body

Distal: away from the centre of the body

Dorsal: upper surface

Ventral: lower surface

FUN ADJECTIVES!

Claviform: club-shaped

Fusiform: spindle-shaped (thicker in the middle and tapering on both ends)

Hirsute: hairy

Hyaline: clear like a window

Penniform: feather-like

Unguiform: claw-shaped