

Hillarys School Excursion: Classifying Creatures

Phase of learning

Senior Secondary (Years 11-12)

WA Curriculum

SS Biology – ATAR, SS Biology – General, SS Marine and Maritime Studies – ATAR, SS Marine and Maritime Studies – General

Region

West Coast

Summary

Why are sea sponges classified as animals? Why is seaweed not a true plant? How is a mussel related to a cuttlefish? In this activity students will learn the importance of scientific classification and classify local marine organisms using a dichotomous key.



Duration: 1 hour

The Department of Primary Industries and Regional Development (DPIRD) works to protect the sustainability of natural resources and ecosystems of Western Australia for present and future generations. To achieve this goal, DPIRD's scientists must understand the species that inhabit Western Australia's ecosystems using a range of tools, such as classification. Each of these species must be classified scientifically to understand that species' biology. Classification also allows scientists to understand the diversity of species present in an ecosystem and the interactions between these species and their environment.

In this activity, students will listen to a presentation which outlines what classification is, why it is important, and how organisms are classified. The distinguishing characteristics of marine phyla are described to students across Kingdom Plantae, Kingdom Protista and Kingdom Animalia. Students will also be shown practical applications of classification by DPIRD research scientists.

Students will then apply this information to identify various animal, algae, and plant specimens. They will work through a dichotomous key, with an accompanying glossary, that uses the unique features of each organism to guide students to its correct identification. The specimens used in this activity are all species found in Western Australia.

Through the completion of this activity, students will:

- Use a dichotomous key to:
 - Identify local marine animals found in the Chordata, Annelida, Arthropoda, Bryozoa, Cnidaria, Echinodermata, Mollusca, and Porifera phyla.
 - Identify local seagrasses from the Angiosperm phyla.
 - Identify local marine algae from the Chlorophyta, Heterokontophyta and Rhodophyta phyla.
- Use terms applied by scientists to describe the characteristics of species, such as:
 - Bilateral and radial symmetry,
 - Morphological terms used to describe plants, algae, and invertebrates and vertebrate organisms,
 - Sessile and motile,
 - Autotrophic and heterotrophic, and
 - Endoskeleton and exoskeleton.

Cost \$5.00 per student

Pre-excursion and post-excursion resources:

You may wish to introduce classification to students prior to your excursion. You can find the

key principles of classification that are explored in this excursion in [Fact Sheet: Classification](#).

We recommend that students are familiar with how to use a dichotomous key to identify an organism when attending this excursion. You can use [Lesson: What's This Fish?](#) and its related resources, to introduce this concept to students prior to your excursion.

Related resources

[Fact Sheet: Classification](#)

[Poster: Marine Classification - Animals \(Primary\)](#)

[Poster: Marine Classification \(Senior\)](#)

[Lesson: Lolly bags](#)

[Video: Lolly bags](#)

[Lesson: What's this fish?](#)

[Poster: Bony Fish - External Anatomy \(including information\)](#)

Linked External Resources

[Beachcombers Education Kit](#)