



Australian Government

Great Barrier Reef
Marine Park Authority



SEE THE
LOVE THE
PROTECT THE **REEF**

Ecosystems and Reef relationships

Virtual Learning Experiences

Program overview:

The Great Barrier Reef Marine Park is more than just coral reefs. Join us to discover a variety of ecosystems that are found there. Develop an understanding of the inter-relationships between the organisms that can be found in different ecosystems including predator-prey interactions, and symbiotic relationships. Investigate how changes in biotic and abiotic factors arising from human activities can affect feeding relationships in these ecosystems, including how poor water quality increases algal growth, and population outbreaks of coral eating Crown-of-thorns starfish.

Please note: this program can be tailored to suit students' learning needs and curriculum requirements.

Program duration: 60 minutes

Program cost: AUD \$155.00 (Inc. GST)

Australian Curriculum Links:

Year	Subject	Code
7	Science	ACSSU112
9	Science	ACSSU176

Cross-curricular priorities:



Sustainability





Australian Government

Great Barrier Reef
Marine Park Authority



Ecosystems and Reef relationships program outline:

Runtime: 60 minutes *Timings are indicative only.

	Time Allocation (minutes)	Outline	Teacher Notes
Pre-presentation set up	5 minutes prior to session start time	Audio Visual Check	Camera – teacher to set up the camera so presenters can see students. Microphone – check that microphone is connected and working. If one class is connecting , leave the microphone unmuted so that presenter can ask questions throughout the session. If multiple classes are connecting , please mute your microphones and host will advise teacher to unmute during question time.
Welcome and Introduction to the Great Barrier Reef	0-5 min (5 min)	Meet the Reef Education host. Acknowledgement of Country. Explain format of the session. Introduction to the Great Barrier Reef Marine Park and its biological and ecosystem diversity.	Acknowledgement of Country – if known teacher/student could acknowledge the First Nation people’s country where they are situated.
Ecosystems of the Great Barrier Reef	5-15 min (10 min)	What is an ecosystem? Overview of ecosystems found in the Great Barrier Reef Marine Park. Connectivity between ecosystems.	Teacher to help facilitate questions throughout the session by selecting students to ask/answer questions and by unmuting and muting microphone, as necessary.
Animal roles and feeding relationships within ecosystems	15-30 min (15 min)	Examination of the roles and feeding relationships of organisms in a variety of ecosystems. For each ecosystem we will discuss: <ul style="list-style-type: none"> • Producers, consumers, decomposers • Trophic levels • Food webs and food chains • Predator - prey interactions • Symbiotic relationships 	
Human activities can affect feeding relationships	30-40 min (10 min)	Interactive activity on how changes in biotic and abiotic factors affect feeding relationships.	This activity will be led by the Reef Education host.
Case study – how changes in abiotic factors can impact ecosystems	40-55 min (15 min)	Land-use run-off carrying sediments, nutrients and pollutants can cause changes to ecosystems such as inshore coral reefs, seagrass meadows and outer reefs. Case study: poor water quality increasing algal growth and population outbreaks of Crown of thorns starfish.	





Australian Government

Great Barrier Reef
Marine Park Authority



SEE THE
LOVE THE
PROTECT THE **REEF**

Final messages	55-60 min (5 min)	The presenter will close with a summary.	
----------------	----------------------	--	--

Links to further information and extension activities:

Teaching resources

- [GBRMPA Teaching Unit - Year 7 science - Wetlands](#)
- [GBRMPA Teaching Unit - Year 9 Science - Ecosystems](#)
- [Reef Beat 2020 - junior outlook](#)
- [Reef Beat 2016 - threats to the Great Barrier Reef](#)
- [Reef Beat 2012 - the inshore Great Barrier Reef, bursting with biodiversity](#)
- [Reef Beat 2009 - climate change and the Reef](#)
- [Reef Beat 2006 - wetlands](#)
- [Reef Beat 2005 - river to reef](#)
- [Reef Beat 2004 - catchments to coast](#)

Useful additional information (website links)

- [Coastal Ecosystems](#)
- [Threats to the Reef](#)
- [Land-based run-off](#)
- [Climate Change](#)
- [Reef Health](#)

To explore other Reef related teaching and learning resources check out our [Reefed resources page](#).

