Marine Food Web

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.

Cover Image: A mixed school of fish from the genus Caesio. QM, Gary Cranitch.

EXPLORE - EXPLAIN

Marine Food Web

Teacher Resource

In this activity, students model the interactions between organisms living in the marine ecosystem. Pairs of students may select an image of an organism and stand in a circle with the whole class group. A ball of string is provided to one pair of students who start the activity. These students identify how their organism is connected to another in the circle (i.e. if their organism eats or is eaten by another organism), before passing the ball of string to the pair of students representing that specimen. The ball of string is secured in some way to that specimen (for example, the string could be tied to a chair in front of the students) and the process is repeated until all organisms are connected to each other.

Following this, the food web can be recreated on a chart or wall. Language associated with food chains and webs can be introduced during this whole group activity. Labels have been provided to classify organisms according to their position in the food web; however you may ask students to identify more interrelationships such as predator/prey, competitors and decomposers.

Students could also start to consider how living things and/or human activity can influence the health and population of other living things.

Curriculum Links

Science

YEAR 7

Science Understanding

Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)

Science Inquiry Skills

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

YEAR 9

Science Understanding

Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)

Science Inquiry Skills

Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (ACSIS174)

Snapshot of Marine Ecosystem

Dissolved organic material
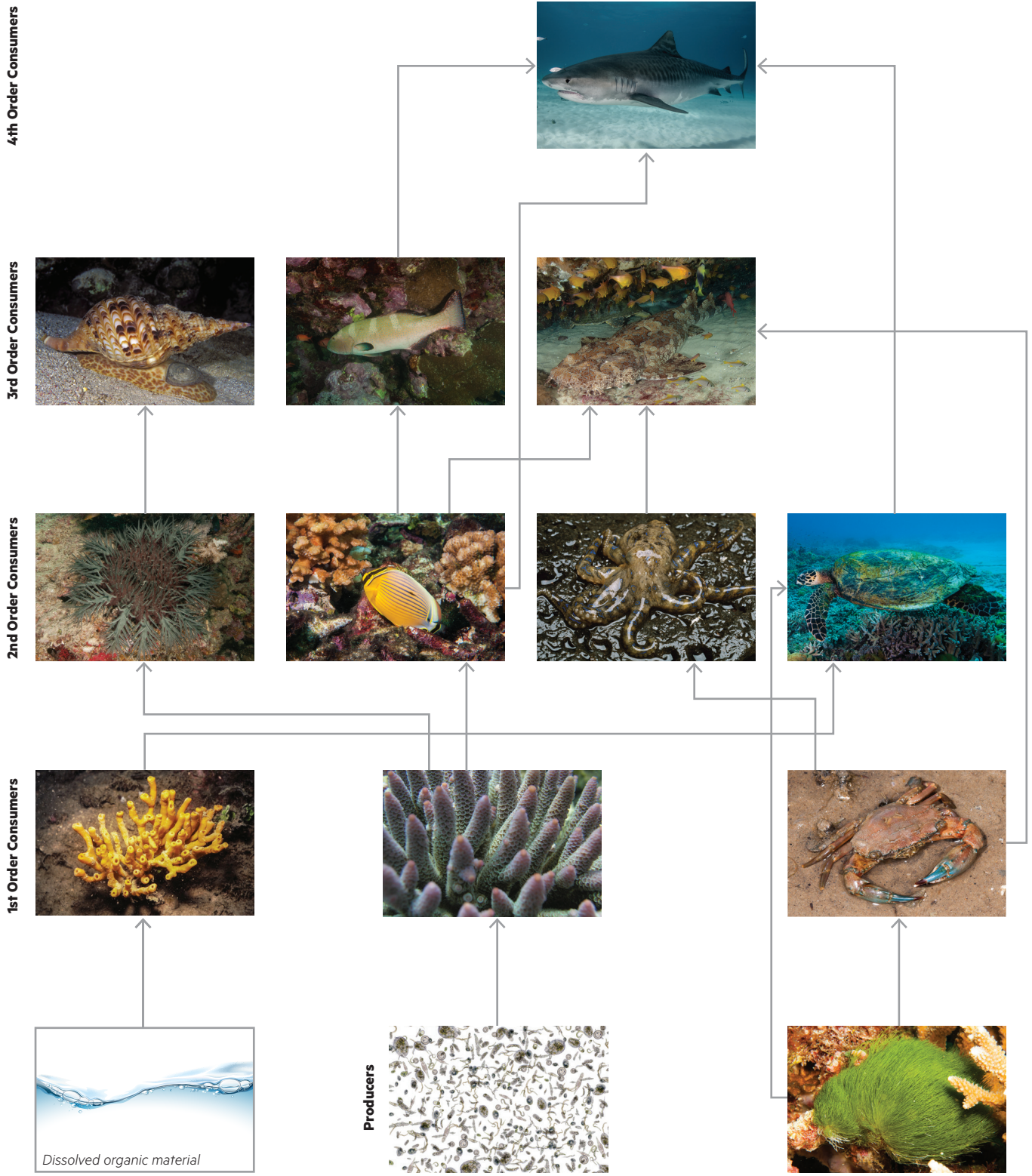
Producers

Marine Food Web

Student Activity

Use images of the marine ecosystem and the food web labels to create your own food web, and show the interactions between organisms in a marine ecosystem.
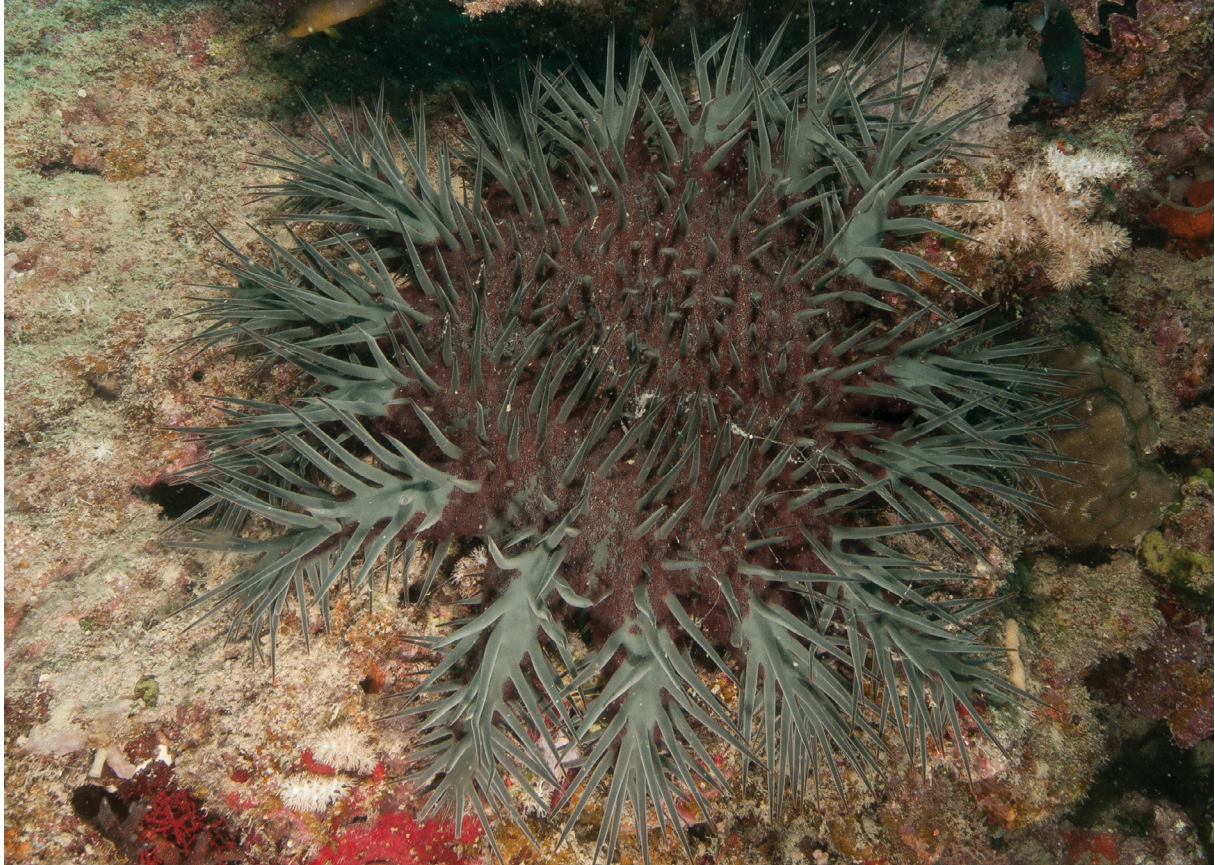
Labels for the Marine Food Web

Producers
1st Order Consumers
2nd Order Consumers
3rd Order Consumers
3rd Order Consumers
4th Order Consumers

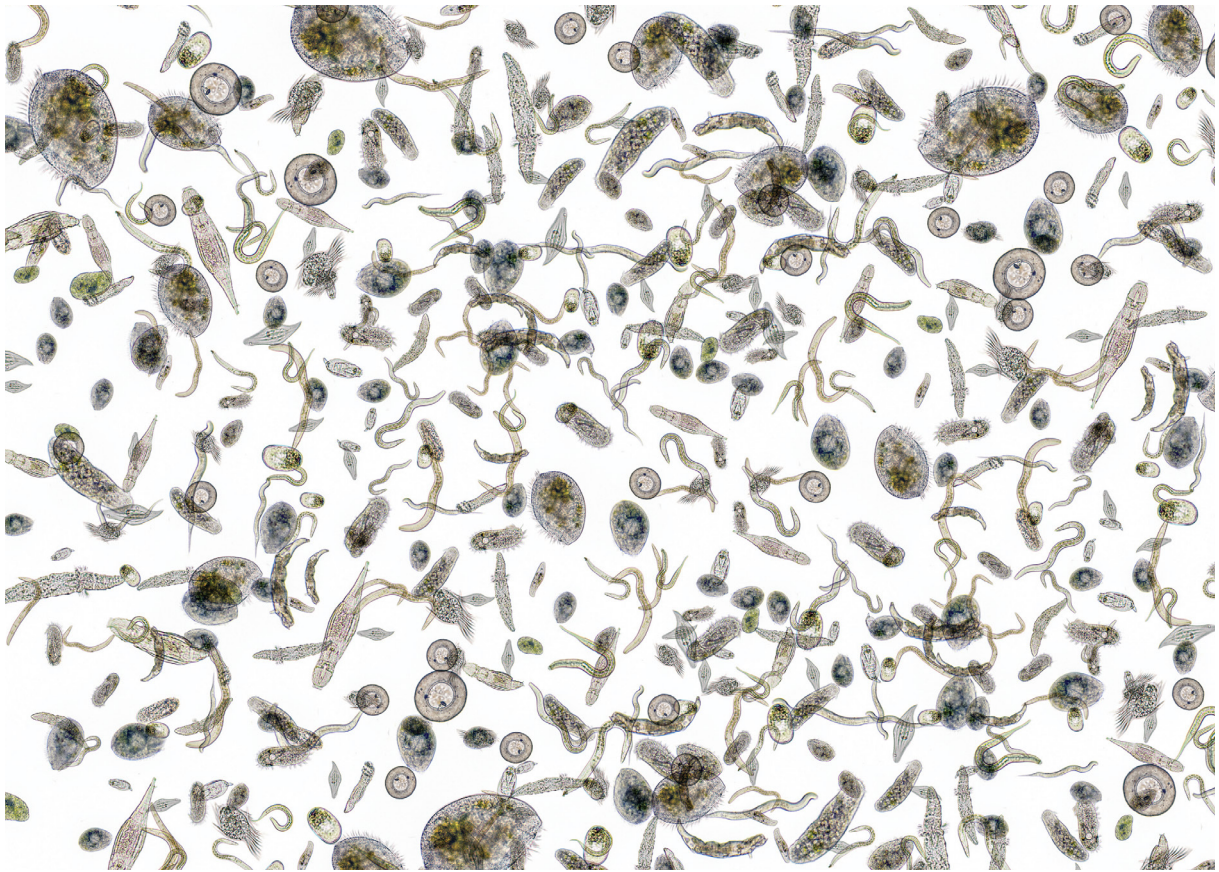*Pinstripe Butterflyfish, Chaetodon lunalatus. QM, Gary Cranitch*

Bluespotted Coral Trout, Plectropomus laevis. QM, Gary Cranitch

Crown-of-thorns Sea Star, <u>Acanthaster planci</u>. QM, Gary Cranitch

Hawksbill Turtle, <u>Eretmochelys imbricata</u>. QM, Gary Cranitch

Phytoplankton.

Blue-lined Octopus, <u>Hapalochlaena fasciata</u>. QM, Gary Cranitch

Bob Marley Sponge, <u>Pipestela candelabra</u>. QM, John Hooper

Crenate Swimmer Crab, <u>Thalamita crenata</u>. QM, Gary Cranitch

Tiger Shark, Galeocerdo cuvier.

Turtle Weed, Chlorodesmis major. QM, Gary Cranitch

Spotted Wobbegong, <u>Orectolobus maculatus</u>. QM, Gary Cranitch

Giant Triton, <u>Charonia tritonis</u>.

Healthy Coral, QM.

Dissolved organic material.