

# foreshore food Webs

## Getting Started



### What Can Be Learned?

All plants and animals rely on their environment in order to get energy and materials to survive; no living thing can exist in isolation.

Within any ecosystem - which can be a foreshore, forest, river, or even your backyard - there is an intricate web of relationships between living things.

This activity will help students understand:

- How energy passes through an ecosystem.
- The feeding relationships between organisms; called the food web.
- How individual animals and plants rely on each other .
- How the disappearance of one part of the food web can affect, and upset the balance of, an ecosystem.

### Materials Required

The 'feeding tables' the students' created from the 'Who Eats Who' activity.

Whiteboard or other large writing surface.

A3 sheets of paper.

### The Activity

**Building Food Webs** - From the students' lists and tables of foreshore organisms (see the Unit Overview page - 'Who Eats Who' activity), group all the:

- Producers (algae/seaweeds)
- Herbivores (eat algae/seaweed)
- Carnivores (eat other animals)

Draw an example of a simple food chain, and have the students come up with more. Eg.

seaweed ---> limpet ---> oystercatcher

Most organisms have more than one source of food. Food webs illustrate these more complicated feeding relationships. Look at some examples of food webs (see the More Information page).

On an A3 page, ask the students to lay out (draw or write the names of) the foreshore organisms. You may wish to give them a basic landscape on which to arrange their food web, or have the students design one.

Draw arrows from each plant or animal of the ecosystem pointing to the thing that eats it or gets energy from it.

Describe a scenario that kills one of the organisms in the food web - what would be the overall effect of this?

### Food Web Chase

This game is a fun way of illustrating some of the relationships in a foreshore food web. It has been modified from an activity in *Coasting*, published by the Gould League of Victoria.

The game suits a space the size of a gym or tennis court - preferably with a defined boundary. This boundary represents the rim of a rockpool.

You will need:

- Hoops
- Some coloured bibs or ribbons
- 5 small (2cm) squares of coloured card

How to play:

The students will take on the roles of various foreshore animals - the aim is to survive.

The students will be divided into:

Gulls, anemones, octopuses, fish and crabs.

Lay three hoops on the ground, relatively far apart. These represent rock ledges under which the small fish and crabs can hide. But – they can't hide here forever, they must eventually leave this safe place to feed, so they may only spend 15 seconds here (standing in the hoop) at a time, and no more than two creatures can hide here at one time.

Choose four students to be anemones. Anemones can only stay in the one spot, but catch their prey by stunning it with their tentacles. The students who are anemones must sit in one spot and try to touch prey with their arms. If someone is stung by an anemone they become one too, and must try to catch prey.

Lay out three hoops for octopuses. The octopuses must stand in their hoops and may take one step out (other foot in the hoop) in order to catch prey. If someone is caught by an octopus, they become one too.

Choose five students to be the larger predators – eg. gulls. Give them a ribbon or sports bib so they can be identified. The gulls prey upon the crabs and fish, when they catch some prey (touch a crab or fish) the prey becomes part of the gull – they must join hands with the gull and continue with the hunt.

Divide the remaining class members into fish and crabs. They must survive in the rockpool for as long as they can.

An additional element can be added to the game which illustrates the affect of pollutants on an ecosystem. Hand out five pieces of coloured card to four fish - the other players should not know who has one of these. This represents mercury, a heavy metal which builds up in marine organisms. If the gulls eat too many fish with high levels of mercury (two of the ones with the coloured card) they die and are out of the game (OR are eaten by crabs and become crabs, which helps illustrate the cycle of energy within ecosystems).

The winner - At the end of a set period of time is whatever animal group is greatest in number.

