

Fact Sheet: Algae - Green, Red and Brown

Phase of learning

Years 7 - 8, Years 9 - 10, Senior Secondary (Years 11-12)

Region

North Coast, Gascoyne Coast, West Coast, South Coast, Indian Ocean Territories

Summary

Algae are a diverse group of photosynthetic organisms that are the foundation of almost all marine food chains. This fact sheet briefly outlines the three main groups of algae (green, red, and brown algae) and describes how algae differs from plants. Check out the related resources below for further information.

Though widely considered simple marine plants, seaweeds are actually plant-like organisms called algae. They do not have true stems, leaves, flowers or fruits. Instead of nutrient absorbing roots they anchor themselves to rocks by root-like holdfasts. They form the basis of the food chain in the marine environment, using energy from sunlight to make food. Although seaweeds are divided into three colour groups (green, brown and red), they are not always true to the group, as classification is based on their life history and type of reproduction, rather than colour.

Phylum: Chlorophyta

Green algae are characteristically green, although colour can range from yellowy-green to almost black. They exist as both large attached algae and free-floating microscopic (planktonic) algae, in both freshwater and marine environments. Marine attached green algae are commonly found on shallow rocky shorelines where sunlight penetrates the water easily. It is thought that all terrestrial plants evolved from green algae, mainly due to the presence of chlorophylls a and b, which give them the green colouration.



Phylum: Heterokontophyta

Class: Phaeophyceae

Brown algae contain most of the large conspicuous algae seen on rocky shorelines and in shallow waters. Brown algae are the heaviest and largest seaweeds, and also the fastest growing of all the algae. Almost wholly restricted to the marine environment, they are generally shades of brown, except for some species that can appear blue underwater. Nearly all species of brown algae remain fastened on rock or other firm substrates by a holdfast, although some species are free-floating.



Phylum: Rhodophyta

Red algae are the most numerous of the three seaweed groups but are relatively small and not easily seen, so are not noticed as often as green and brown algae. Red algae are generally the most abundant algae in deep water as red light is the range of the visible light spectrum that penetrates the furthest through the water column. Red algae come in a variety of forms and their texture may vary from fine and delicate to hard and crusty.



E/064/22

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