

Fact Sheet: Plankton

Region

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

Summary

Plankton are small or microscopic organisms, both plant and animal, that drift on the ocean currents.

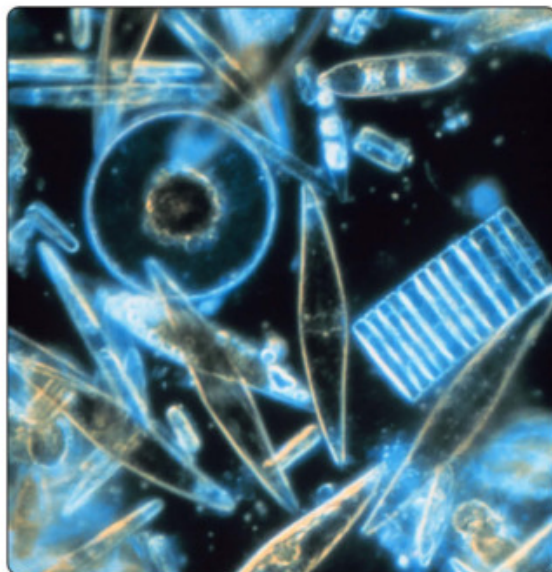
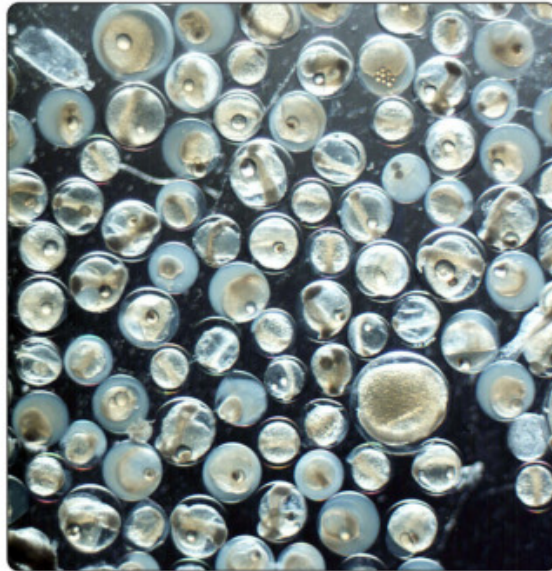
The word plankton originates from the Greek word planktos, which means wandering or drifting.

Plankton must spend at least part of their life in surface waters where sunlight penetrates, referred to as the photic zone. This enables phytoplankton to capture sunlight to manufacture their own food via photosynthesis. Zooplankton graze on phytoplankton so need to be present where their food source is located.

Plankton exhibit a variety of adaptations to remain close to the surface or slow their rate of sinking, such as:

- greater surface area.
- long projections to increase friction.
- exclusion of heavy ions such as magnesium or sulphate in favour of ammonium and chloride.

Rising sub-surface waters called upwellings, can also help to keep plankton at the surface. Upwellings are associated with high nutrients, which are of benefit to plankton.



Various plankton samples viewed through a microscope. (Images: Jan Richards)

References:

Day, T. 2008, Oceans: Revised Edition, Facts on File, New York.

Levington, J.S. 2001, Marine biology: function, biodiversity, function, 2nd edn, Oxford University Press, New York.

Suthers, I.M. and Russik, D. (eds) 2009, Plankton: a guide to their ecology and monitoring for water quality, CSIRO Publishing, Victoria.

Related Resources:

NASA – Earth Observatory, What are phytoplankton?

<https://earthobservatory.nasa.gov/features/Phytoplankton> [15 April 2020]

University of California, Plankton Lesson Plans,

<http://www.cosee.net/cosee-west/oceanglobe/pdf/PlanktonPDFs/PlanktonEntirePackage.pdf>
[15 April 2020]

National Oceanic and Atmospheric Administration, Ocean Exploration and Research, Ocean Drifters

<https://oceanexplorer.noaa.gov/explorations/07philippines/background/edu/media/drifter.pdf>
[15 April 2020]

Vocabulary

Buoyancy

An upward force on an object immersed in a fluid.

Neutral buoyancy

The state where an object neither sinks nor floats but maintains the same position.

Photic zone

The surface layers of the seas and oceans penetrated by light and inhabited by photosynthetic

organisms.

Photosynthesis

The process by which green plants convert carbon dioxide to carbohydrates and oxygen using sunlight for energy.

Phytoplankton

Microscopic plants that drift in open water.

Plankton

Tiny, free-floating aquatic plants and other photosynthetic organisms.

Surface area

The total external surface or total area of an object exposed to the outside environment.

Upwelling

The movement of colder, nutrient-rich, sub-surface waters toward the surface of the ocean.

Zooplankton

Small free-floating or weak-swimming animals.

Related resources

[Lesson: The Plankton Challenge](#)

[Student Worksheet: The plankton challenge](#)

[Teacher Guide: A Plethora of Plankton](#)