



Microbe plants and animals

Algae are tiny plant-like creatures with a green colouring. They are not harmful and are an important source of food for water-living animals.

There are two groups of microbes that behave more like plants and animals. The plant-like microbes are called algae and the animal-like microbes are called protozoa.

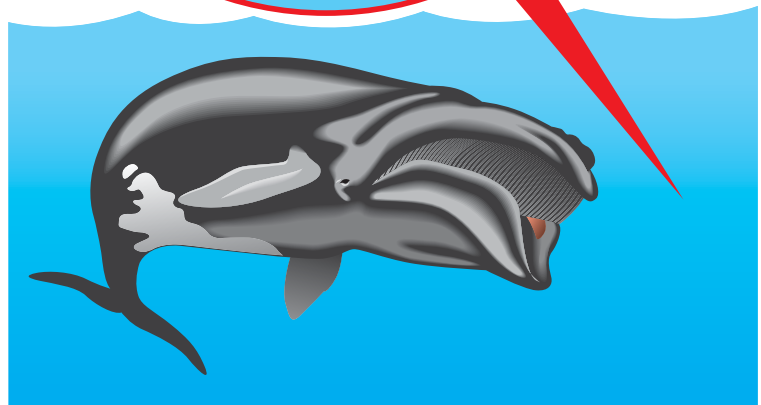
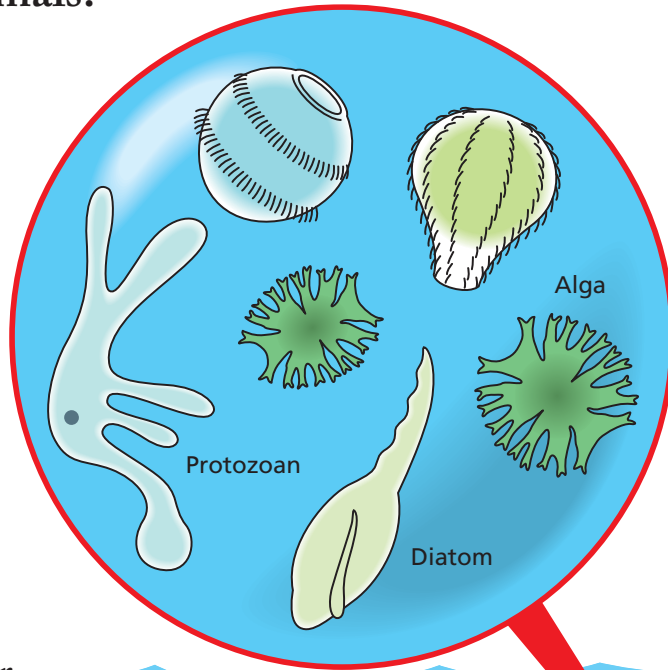
Algae: food and air for the world

Most algae are small green creatures made of a single cell. These algae are bigger than bacteria but even so they cannot be seen without a microscope. They live in fresh and salt water, whether it is hot or cold, and they live in the soil and other damp places (Picture 1).

Sometimes huge numbers of algae grow in one place, and then they turn the water green. Green stains on rocks are also a sign of billions of algae concentrated in one place (Picture 2).

All algae use their coloured matter to make food. They use sunlight in just the same way as plants. During this process, algae release oxygen. It is believed that half of the world's oxygen supply is made by algae in the oceans.

Some algae have a hard shell. These are called diatoms. You can find them in the slimy rocks by the shore or a rocky river. About three million diatoms can be packed into a teaspoon.



▲ (Picture 1) Water may look clear but actually contains multitudes of tiny floating plants (algae) and animals (protozoa) called PLANKTON. Whales even use them as food.

Algae do us no harm and are the food for animals in the sea just as plants are food for animals on land. Whales, fish, shrimps, clams, and worms are just some of the vast number of creatures that depend upon algae for their food.



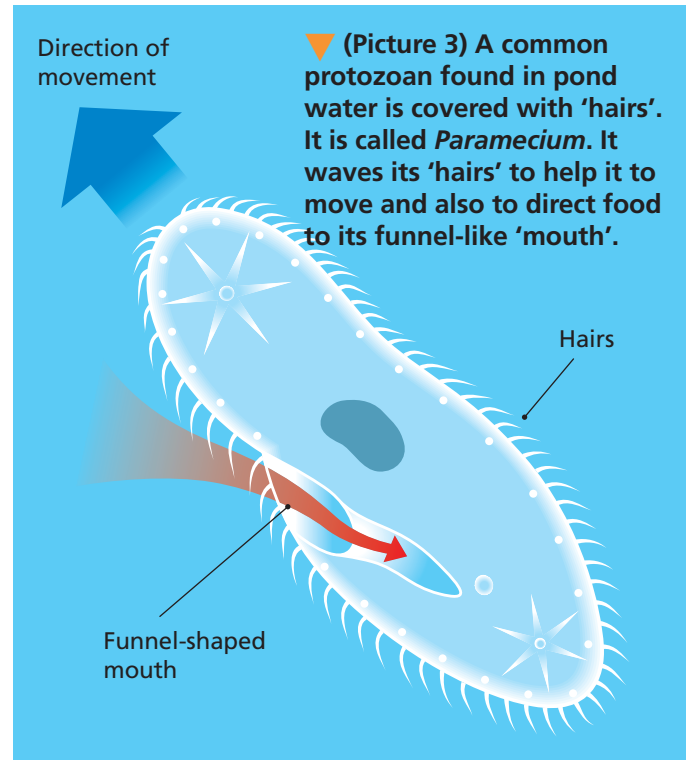
◀ (Picture 2) Sometimes the numbers of algae grow so great that they can be seen coating the surface of rocks as here in this hot spring. Although you cannot see them because they do not occur in quite such large numbers, algae are also found coating damp soil particles and most other damp surfaces on land.

About five hundred species of algae are eaten by humans, especially by people in East Asia and the Pacific. Algae is farmed in shallow bays around the coasts of Japan.

Protozoa: good and bad

Protozoa (which means ‘first animal’) are single-celled microbes that, in many ways, resemble animals (Picture 3). Most live in water but they are also found in moist soil (where there may be up to 100,000 in a gram of moist soil), and some live in plants and animals. We are home to some protozoa. About a third of protozoa are parasites.

Most protozoa feed on bacteria, algae and small animals. Protozoa are important for the fertility of soils. They ‘graze’ on old soil bacteria, leaving the soil to contain mostly young bacteria which break down dead plant matter faster than old bacteria do. Protozoa also release nitrogen and phosphorus, which are important fertilisers for plants.



Protozoa are used in waste treatment plants to help break down sewage. The protozoa eat the harmful bacteria in the sewage. Indeed, it is impossible to produce good, clean water without protozoa.

The parasite kinds of protozoa are, however, harmful. They are responsible, for example, for African sleeping sickness and malaria.

Summary

- Algae are tiny water-living plant-like creatures.
- Algae produce most of the world’s food and oxygen.
- Protozoa are animal-like creatures.
- Algae and protozoa make plankton.