

簡易英語科技叢書

海洋生物



中外出版社

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出版說明

《簡易英語科技叢書》是爲初學英語的中國青年學生提供一套閱讀英語科技書籍資料的參考讀物。

本叢書包括十六個科學課題，分爲十六冊出版。每一課題構成一個完整的知識讀物。這十六個課題把目前國外學校教學中的基礎科學內容都包括進去了。

爲提高讀者科學知識和閱讀興趣，每一分冊均附有生動的彩色插圖，英語文字力求淺顯，使一般初學英語的中國青年學生都能接受。

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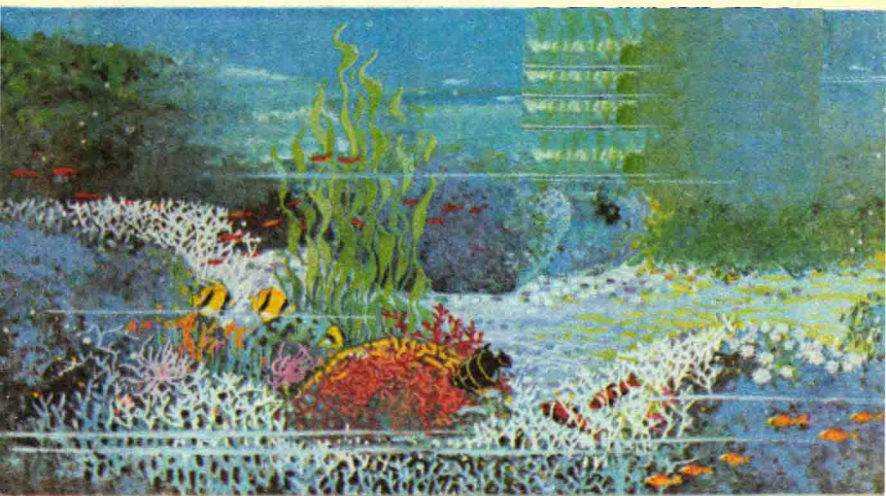
INTRODUCTION

The sea occupies a greater area of the Earth's surface than the land. It is the home of millions of living things. Animals and plants of various shapes, colours and sizes live in the sea. Do you know that there is more life in the sea than on land?

The animals and plants of the sea are very important to Man as a source of food. Sea animals like lobsters, crabs, fishes and many shellfishes can also be eaten. Some sea plants, like seaweeds, are also used as food.

If you ever go skin diving, a scene like the one below might meet your eyes.

An underwater scene



THE SEASHORE

The seashore is the place where the land meets the sea. At certain times of the day the level of sea water rises. When this happens we say that it is **high tide**. When the level of sea water goes down, it is **low tide**. The area of the seashore between the high tide mark and the low tide mark is called the **intertidal region**. Many kinds of unusual plants and animals live in this region.

The level of sea water rises and falls with the tide.



Various types of seaweeds



PLANTS OF THE SEASHORE

The plant life of the shore consists mainly of different types of **algae**. Two forms of algae exist — the drifting algae and the fixed algae. The drifting algae are very small. Many of them consist only of one cell. However they can still grow like any ordinary plant by taking in water, minerals and carbon dioxide. The fixed algae or **seaweeds** are big algae. They have different colours — green, greenish-blue, red, brown or yellow. Algae grow best on sunlit shores.

Algae have been considered to be the most important of all plants because they provide food for millions of sea animals. They can also be eaten by Man.

ANIMALS OF THE SEASHORE

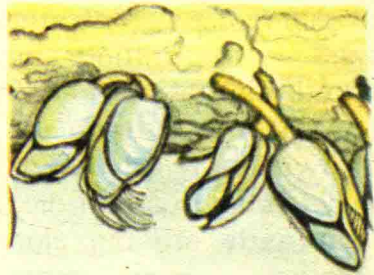
If you walk along a rocky seashore at low tide, you will find tiny crabs scuttling away to hide under stones, rocks or seaweeds. Look carefully at the rocks and you will find many tiny animals firmly attached to them. These little animals are called **barnacles**. They have white-coloured shells that are shaped like tiny tents with openings at the top. Barnacles spend their adult lives fastened to one spot. Not all barnacles are attached to rocks. **Gooseneck barnacles** fasten themselves onto driftwood or the bottom of ships.

Each barnacle has several short feathery arms which jerk in and out, swirling the water and bringing food into its mouth.

Rock barnacles



Gooseneck barnacles



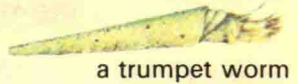
Mussels are another kind of sea animal which attach themselves to rocks. They have two, dark-coloured shells that fit together. They are known as bivalves. Mussels get their food from



These shellfishes are found on rocky shores.

sea water which they filter by means of special tubes. Crawling about among the mussels are many **dog whelks** and **limpets**. They look like snails and feed mainly on barnacles. The dog whelks have spiral shells. In the larval stage the limpets have spiral shells but these soon become flattened into conical-shaped shells when the limpets grow into adults. Most of them have a hole at the top of their shells.

Another type of sea snail which you can often see on rocky seashores are the **periwinkles**. They normally grow to about 2.5 cm in length but their tongue has almost 4,000 teeth on it. Although the periwinkle has so many teeth, it eats only plants, especially seaweeds.



These worm-like animals live on sandy shores.

The animals of the sandy and muddy shores are slightly different from those found on rocky shores. On many sandy shores we can find various types of **worm-like animals**. Some of them, for example the **parchment worms**, live in U-shaped burrows. Others, such as the **trumpet worms**, build a complete tube around their bodies from grains of sand and broken shells. Crabs also live on sandy shores. They hide themselves by burrowing into the sand.

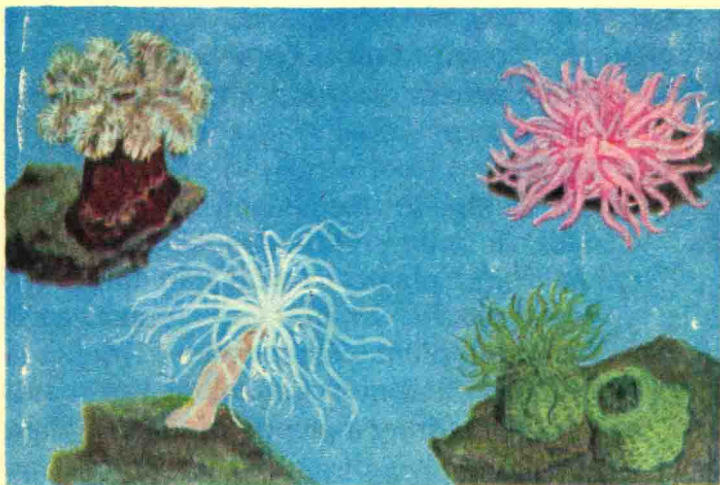
Cockles are found in large numbers on sandy shores. The places where they live together are called cockle beds. Like the mussels, cockles are also bivalves and feed by filtering sea water by means of special tubes. **Clams** are another type of bivalve. They make their homes by burrowing into the sandy shore.



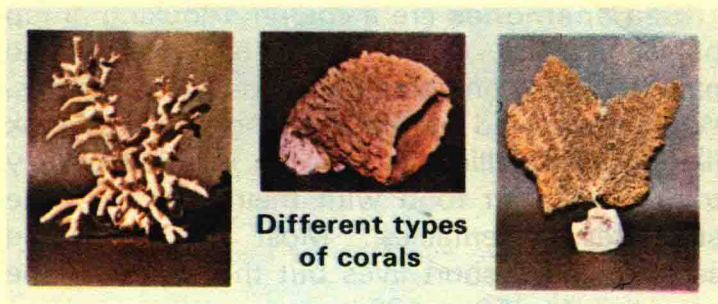
Cockles are bivalves.

Sea anemones are a colourful-looking group of sea animals. Certain types of sea anemone may be found on some sandy or muddy shores. When uncovered by the receding tide they look like coloured jellies growing on the shore. They trap animals for food with their many arm-like structures or tentacles. Most animals of the seashore have short lives but the sea anemone may live for 50 or 60 years.

Sea anemones are a colourful group of sea animals.



Corals are related to sea anemones. The corals we know are actually the skeletons of very tiny animals which live together. These animals are called **polyps**. Each polyp has a stem-like body and a number of tentacles at the top. The polyps live inside the skeleton. Each



polyp often puts out its tentacles to catch its food. All corals are fixed to the sea-bed or rocks. They may be white, red, purple, yellow or green in colour. Some corals are soft and rubbery while others are hard and stony.

Things to Do

Make a trip to the beach at low tide. Collect as many different kinds of sea animals and plants as you can find.

Write down where you found each animal and plant. Take one of your sea plants and describe its colour, size and shape. Then draw a picture of the sea plant which you have described. Do the same for the other different types of plants in your collection.

Sort the animals into three groups:

- (a) animals without shells,
- (b) animals with one shell and
- (c) animals with two shells.

Talk about the animals in each group.

LIFE ON THE SURFACE OF THE SEA — THE PLANKTON

Many tiny animals and plants float about on or near the surface of the water. These are the **plankton** and they represent the largest and the most varied group of life present in the sea. Most of them can only be seen with the help of a microscope.

PLANT PLANKTON

These are sometimes referred to as the "grass of the sea". They form the starting point for the life in the sea. It is these plants, that the very tiny animals in the sea feed on.

Many groups of plants make up the plant plankton. The **diatoms** form the biggest group. They are single-celled plants, enclosed in external skeletons which look like glass boxes. Diatoms have many types of shapes and colours. They all reproduce by simply dividing into two cells.

The **flagellates** are another large group which make up the plant plankton. They all have whip-like structures or flagellae which help them to swim.

Some examples of plant plankton

diatoms



flagellates

