

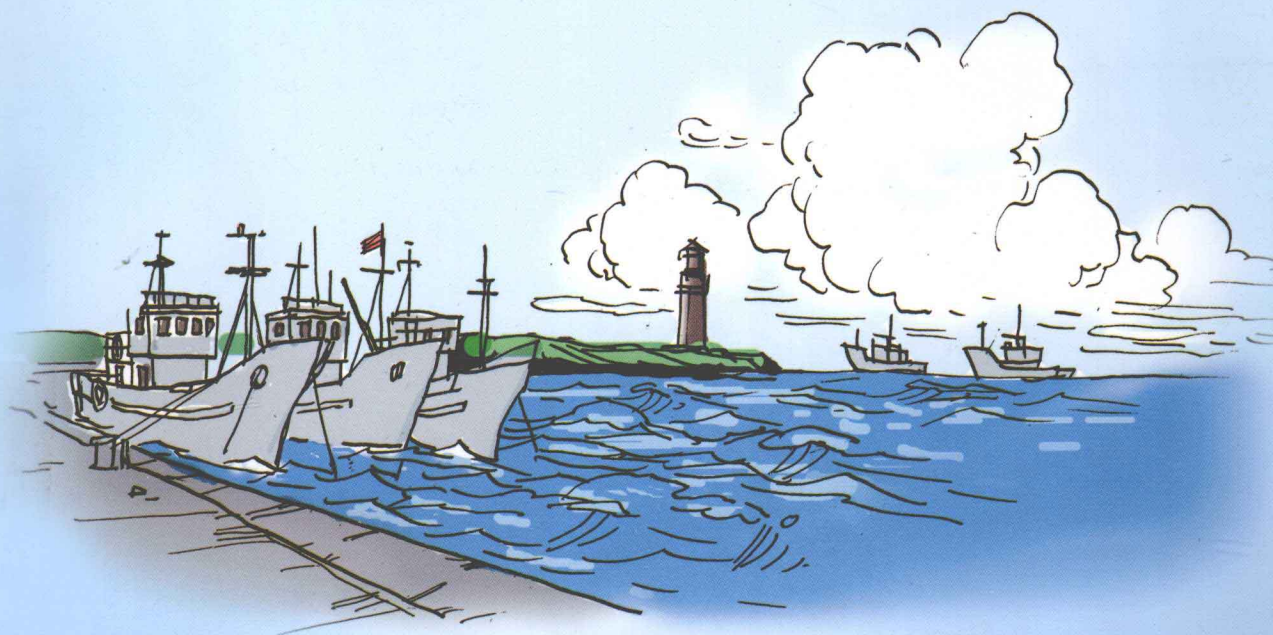



全国高等农林院校“十二五”规划教材

Marine English Reading

# 海洋英语 阅读教程

周永模 主编



 中国农业出版社

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# 前 言

21 世纪是海洋的世纪。海洋是人类共同的财富，是人类未来可持续发展的重要基地。海洋在为人类提供食物、能源、矿物、水源、化工原料、旅游资源、空间资源的同时，也为人类带来包括风暴潮、赤潮和海啸在内的诸多海洋自然灾害，影响着海上、海岸带乃至陆地上广大纵深地区城乡经济发展和人民生命财产安全。此外，各种陆源、海洋污染又使海洋生态系统变得脆弱、生态环境恶化加剧。

自进入 21 世纪以来，作为海洋大国的中国开始以前所未有的姿态关注海洋、认识海洋、善待海洋、可持续开发与利用海洋。这就要求我国年青一代大学生，尤其是有志于海洋学科以及海洋相关学科的大学生，进一步强化海洋意识，普及海洋知识，深掘海洋文化，参与海洋经济技术的国际交流与合作。在此背景下，我们组织具有海洋专业知识背景的专业人员和具有大学英语教学经验的语言教师共同编写了这本国内第一部涉及海洋学科领域的大学英语专业阅读教材——《海洋英语阅读教程》。

本教材是针对海洋以及与海洋相关学科和专业大学生为达到《大学英语课程教学要求》（修订版）提出的“较高要求”和“更高要求”而设计的专业阅读教材，较为全面地介绍了海洋研究中一些热点问题，内容涉及海洋史、海洋资源、海洋环境、海洋经济和海洋管理等 5 大类。旨在通过提供这些学术性兼普及性“海洋英语知识版块”，让学生拓宽海洋科普视野和思路，直接获取海洋知识信息，扩大海洋英语词汇量，提高海洋英语阅读能力和水平，尤其是提高学生综合应用海洋英语的能力，以满足日益增长的我国社会发展和国际海洋科技交流与合作的需要。本书编写力求体现如下特色：

1. 选材广泛、语言规范地道 本书 90% 以上的课文材料均选自或选编于近年来英语国家出版的海洋专业教科书、海洋科普知识网站和国内英语期刊上选载的海洋英语读物，文章内容全面，用词严谨，语言规范，适合于海洋及相关专业学生了解海洋英语的语言特点，掌握地道的海洋英语表达。

2. 着眼海洋、侧重阅读理解 全书 5 章 12 个单元 24 篇课文都是着眼于海洋，围绕其发展史、生物与非生物资源、旅游经济、环境污染与灾难以及海洋管理等，反映了本世纪以来包括海洋基因资源利用在内的最新海洋领域研究成果。围绕“阅读”而编写的正文 Workshop 中的难词注解，可帮助学生正确理解课文，获取信息；围绕“理解”而设计的形式多样的课后习题，可检测学生从宏观的篇章理解到微观的词汇认知等情况。

3. 插图丰富，舒缓学习压力 全书每个 Chapter 和每篇 Text 前都配有插图。精美丰富的插图既揭示了文章主旨、体现了文章大意，又帮助学生在通过插图获得对教材直观而形象的感性认识基础之上，导入新课，初步预测和了解课文内容，从而舒缓学生的阅读压力。

4. 遵循《要求》，体现“人本思想” 作为专业英语阅读教材，本书在课文编写上力图全面贯彻《大学英语课程教学要求》的精神，较为全面地覆盖了《要求》中“较高要求”和“更高要求”所规定的专业文献阅读理解、翻译以及推荐词汇量和其他教学要求。在练习设

计上,强调以学生学习为中心,注重全面培养学生参与社会交往和国际交流所必须具备的读、译、说的语言综合运用能力。

本书共分5个篇目12个单元,每个篇目分属一个大主题,每一主题又下辖不同的单元主题,分别为海洋史:海洋发展史(1);海洋资源:生物资源(2)、非生物资源(3)、基因资源(4);海洋环境:海洋污染(5)、海洋灾难(6)、海洋环境保护(7);海洋经济:海滨旅游(8)、航海运输(9)、海洋开发与利用(10)和海洋管理:中国与海洋(11)、联合国与海洋(12)。每个单元围绕其主题分别由A、B两篇文章组成,同时以“目标和焦点”部分为导读,提示本单元课文学习的若干个要点或达到的目标,概括性地介绍了全文内容,以便于安排课文学习前的热身活动。课文B主要供学生课外自学。课文A均由“正文”、“词汇与注释”和“同步练习”3大部分组成:

- 第一部分 正文:所选文章原汁原味、新颖有趣、体裁多样、题材广泛,学术性与知识性兼备,时代性与经典性兼顾,可读性与欣赏性兼得;

- 第二部分 词汇与注释:每篇课文后附有生词表,并给出该词出现在课文中的词性与释义,同时提供专有名词或术语注释,对有关人名、地名、术语或概念进行加注以帮助理解;

- 第三部分 同步练习:每篇课文后配有4个“任务型”练习,题型丰富,内容涉及“回答问题”、“正误判断”、“释义界定”、“选词(短语)填充”、“句子翻译”、“课文摘要性填空”以及“开放式讨论”,用来考查学生对课文知识的理解程度和应用能力。

此外,教材最后的附录部分包括:

- (1) 按单词在课文出现的先后顺序收录了难词表(Glossary),并标示其所在的单元和课文;

- (2) 提供所有单元的部分练习答案,供学生参考和检查;

- (3) 注明所编选文献的出处,方便学生核对原文,并让有余力且有兴趣的学生进行延伸阅读。

本书总设计为周永模、涂艳蓉、唐建业,主编:周永模,副主编:涂艳蓉、唐建业。全书由胡平主审。参与本书编写和审校的还有上海海洋大学和上海工程技术大学的袁慧、赵玲、陈晓莉、胡寅等英语教师。我校美籍英语教师J. Wallace先生以及美国Grang Valley State University的写作教师Craig Hulst博士也参与完成了部分校稿工作。在本书编辑出版过程中,中国农业出版社的有关领导和编辑给予了大力支持,为完善和规范本书,他们提出了许多宝贵而中肯的修改意见,在此一并致谢。

编 者

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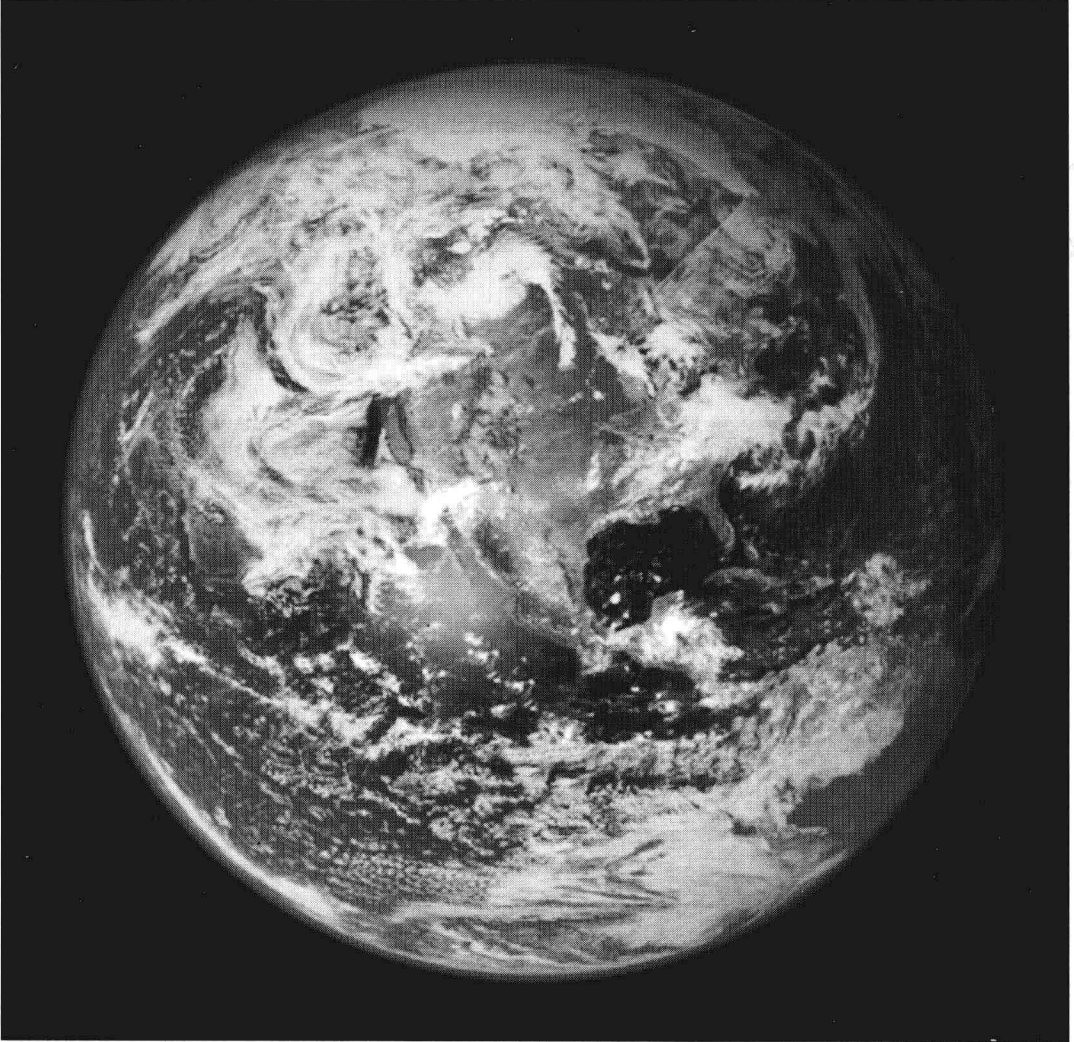
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# Chapter One A History of Oceans



*"How inappropriate to call this planet Earth, when clearly it is Ocean." (Arthur C. Clark)*

## Unit 1 History of the Ocean

## Unit 1 History of the Ocean

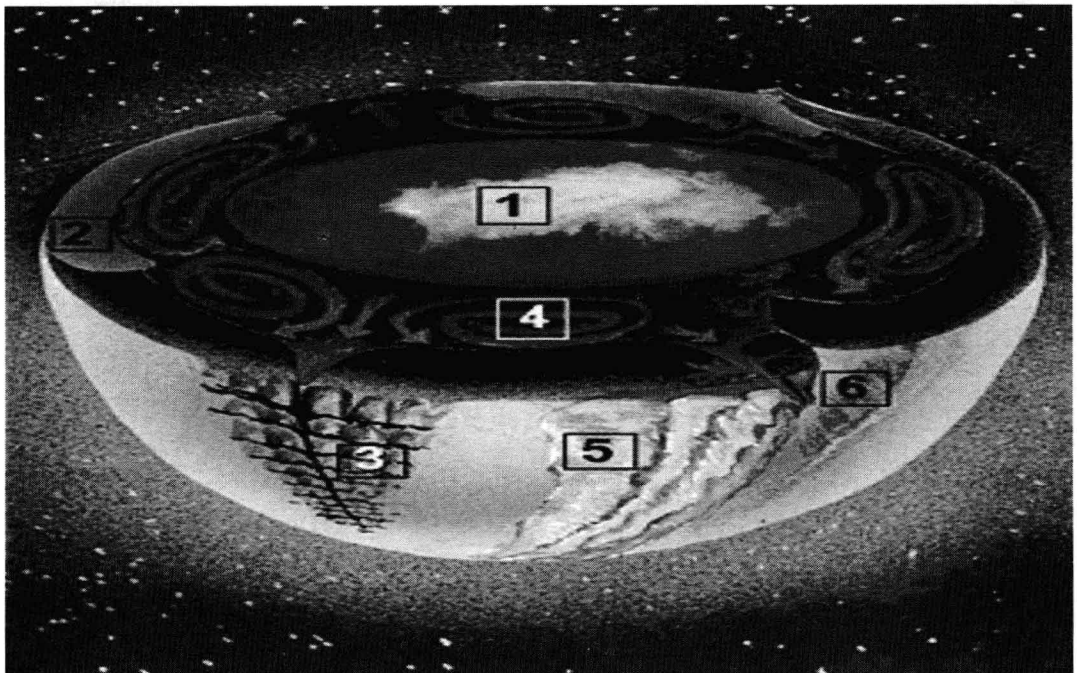
**Objectives:** In this unit you will learn

- the formation of the ocean;
- the four ocean basins;
- the dramatic alterations of the ocean basins.

**Focus:** History of the Ocean

### Text A

#### History of the Ocean



**1** The ocean is not just where the land happens to be covered by water. The sea floor is geologically distinct from the continents. It is locked in a *perpetual* cycle of birth and destruction that shapes the ocean and controls much of the geology and geological history of the continents. Geological processes that occur beneath the waters of the sea affect not only marine life, but dry land as well.

#### Word Workshop

perpetual adj. 永久的

The processes that mold ocean basins occur slowly, over tens and hundreds of millions of years. On this *timescale*, where a human lifetime is but the blink of an eye, solid rocks flow like liquid, entire continents move across the face of the earth and mountains grow from flat plains. To understand the sea floor, we must learn to adopt the unfamiliar point of view of geological time. Geology is very important to marine biology. Habitats or the places where organisms live, are directly shaped by geological processes. The form of coastlines; the depth of the water; whether the bottom is muddy, sandy or rocky; and many other features of a marine *habitat* are determined by this geology.

timescale n. 时间尺度

habitat n. 自然环境, 栖息地

2 The presence of large amounts of liquid water makes our planet unique. The ocean covers most of the globe and plays a crucial role in *regulating* our climate and atmosphere. Without water, life itself would be impossible. Our ocean covers 72% of the earth's surface. About two-thirds of the earth's land area is found in the Northern Hemisphere, which is only 61% ocean. About 80% of the Southern Hemisphere is ocean.

regulate v. 调控

3 The ocean is traditionally classified into four large basins. The Pacific is the deepest and largest, almost as large as all the others combined. The Atlantic "Ocean" is a little larger than the Indian "Ocean", but the two are similar in average depth. The Arctic is the smallest and shallowest. Connected or *marginal* to the main ocean basins are various shallow seas, such as the Mediterranean Sea, the Gulf of Mexico and the South China Sea.

marginal adj. 边缘的

4 Though we usually treat the oceans as four separate *entities*, they are actually interconnected. This can be seen most easily by looking at a map of the world as seen from the South Pole. From this view it is clear that the Pacific, the Atlantic and Indian oceans are large branches of one vast ocean system. The connections among the major basins allow seawater, materials, and some organisms to move from one "ocean" to another.

entity n. 实体

5 The earth is composed of three main layers: the iron-rich core, the semiplastic *mantle* and the thin outer crust. The crust is the most familiar layer of earth. Compared to the deeper layers it is extremely thin, like a rigid skin floating on top of the mantle. The composition and characteristics of the crust differ greatly between the oceans and the continents.

mantle n. 地幔

6 The geological distinction between the oceans and the

continents is caused by the physical and chemical differences in the rocks themselves, rather than whether or not the rocks happen to be covered with water. The part of earth covered with water, the ocean, is covered because of the nature of the underlying rock.

7 Oceanic crustal rocks, which make up the sea floor, consist of minerals collectively called *basalt* that have a dark color. Most continental rocks are of general type called *granite*, which has a different mineral composition than basalt and is generally lighter in color. Ocean crust is denser than continental crust, though both are less dense than the underlying mantle. The continents can be thought of as thick blocks of crust floating on the mantle much as icebergs float in the water. Oceanic crust floats on the mantle too, but because it is denser it doesn't float as high. This is why the continents lie high and dry above sea level and oceanic crust lies below sea level and is covered by water. Oceanic crust and continental crust also differ in geological age. The oldest oceanic rocks are less than 200 million years old, quite young by geological standards. Continental rocks, on the other hand, can be very old, as old as 3.8 billion years!

basalt n. 玄武岩  
granite n. 花岗岩

8 In the years after World War II, *sonar* allowed the first detailed surveys of large areas of the sea floor. These surveys resulted in the discovery of the mid-oceanic ridge system, a 40,000 mile continuous chain of volcanic submarine mountains and valleys that encircles the globe like the *seams* of a baseball. The mid-oceanic ridge system is the largest geological feature on the planet. At regular intervals the mid-ocean ridge is displaced to one side or the other by cracks in the earth's crust known as transform faults. Occasionally the submarine mountains of the ridge rise so high that they break the surface to form islands, such as Iceland and the Azores<sup>[1]</sup>.

sonar n. 声呐装置, 声呐系统

seam n. 缝合线

9 The portion of the mid-ocean ridge in the Atlantic, known as the Mid-Atlantic Ridge, runs right down the center of the Atlantic Ocean, closely following the curves of the opposing coastlines. The ridge forms an inverted Y in the Indian Ocean and runs up the eastern side of the Pacific. The main section of ridge in the eastern Pacific is called the East Pacific Rise. Surveys also revealed the existence of a system of deep depressions in the sea floor called *trenches*. Trenches are especially common in the Pacific.

trench n. 海沟, 海槽

10 When the mid-ocean ridge system and trenches were

discovered, geologists wanted to know how they were formed and began studying them intensively. They found that there is a great deal of geological activity around these features. Earthquakes are *clustered* at the ridges, for example, and volcanoes are especially common near trenches. The characteristics of sea floor rocks are also related to the mid-oceanic ridges. Beginning in 1968, a deep-sea drilling ship, the Glomar Challenger<sup>[2]</sup>, obtained samples of the actual sea floor rock. It was found that the farther rocks are from the ridge *crest* the older they are. One of the most important findings came from the study of the *magnetism* of rocks on the sea floor. Bands of rock alternating between normal and reversed magnetism parallel the ridge.

cluster v. 集中

crest n. 顶

magnetism n. 磁性

**11** We now realize that the earth's surface has undergone dramatic alterations. The continents have been carried long distances by the moving sea floor, and the ocean basins have changed in size and shape. In fact, new oceans have been born. (1066 words)

### Notes

[1] **the Azores** 亚述尔群岛(位于北大西洋,属于葡萄牙)

[2] **the Glomar Challenger** 格洛马尔挑战者(深海钻探船)

### Word Bank

perpetual	adj.	永久的
timescale	n.	时间尺度
habitat	n.	自然环境, 栖息地
regulate	v.	调控
marginal	adj.	边缘的
entity	n.	实体
crust	n.	地壳
basalt	n.	玄武岩
granite	n.	花岗岩
sonar	n.	声呐装置; 声呐系统
seam	n.	缝合线
trench	n.	海沟, 海槽
cluster	v.	集中
crest	n.	顶
magnetism	n.	磁性

## Task I Checking Your Comprehension

### 1. Answer the following questions with the information contained in Text A.

- (1) What do geological processes that occur beneath the waters of the sea affect?
- (2) What do we have to do in order to understand the sea floor?
- (3) How are the oceans as four separate entities connected with each other?
- (4) What are the three main layers which the earth is composed of?
- (5) Why do the continents lie high and dry above sea level and oceanic crust lie below sea level?
- (6) What is called the East Pacific Rise?
- (7) When did geologists begin studying the mid-ocean ridge system and trenches intensively?
- (8) According to the geologists' study, where are the earthquakes and volcanoes common?
- (9) What did the Glomar Challenger obtain beginning in 1968?
- (10) What has the earth's surface undergone according to the author?

### 2. True or false

- ( ) (1) According to the text geology has nothing to do with marine biology.
- ( ) (2) The ocean covers most of the globe and plays an important role in controlling our climate and atmosphere.
- ( ) (3) About 61% of the earth is ocean.
- ( ) (4) The Mediterranean Sea, the Gulf of Mexico and the South China Sea are shallow seas.

- ( ) (5) The Atlantic “Ocean” is a little larger and deeper than the Indian “Ocean”.
- ( ) (6) The physical and chemical differences in the rocks themselves lead to the geological distinction between ocean and continents.
- ( ) (7) Oceanic crust has the same geological age as continental crust.
- ( ) (8) People can think of the continents as thick blocks of crust floating on the mantle.
- ( ) (9) The first detailed surveys of large areas of the sea floor were obtained in the years after World War II.
- ( ) (10) The characteristics of sea floor rocks have nothing to do with the mid-oceanic ridges.

## Task II Checking Your Vocabulary

### 1. Read through the new words and then write down the equivalent in Chinese.

perpetual	timescale
habitat	regulate
marginal	entity
crust	basalt
granite	sonar
seam	trench
cluster	crest
magnetism	

### 2. In the boxes below are some of the words you have learned in this unit. Complete the following sentences with them. Change the form where necessary.

dramatic	dense	habitat
reveal	interconnect	blink
invert	alternate	regulate
cluster	perpetual	occasionally

- (1) I think these two theories are somehow \_\_\_\_\_.
- (2) Trees develop numerous medium-sized branches and eventually become \_\_\_\_\_ unless removal of some of these limbs is done.
- (3) Although it applies to all users, it is particularly pertinent to \_\_\_\_\_ intermediates.
- (4) How long can you stare without \_\_\_\_\_ your eyes?
- (5) Can you \_\_\_\_\_ this watch so that it keeps time accurately?
- (6) If you \_\_\_\_\_ “I will”, you have “will I”.
- (7) Reporters were \_\_\_\_\_ round the Prime Minister.
- (8) The surveys \_\_\_\_\_ that the house was damp.
- (9) Their work \_\_\_\_\_ between Shanghai and Wuhan.
- (10) There is a \_\_\_\_\_ change from town to country life.

### 3. In the boxes below are some of the expressions you have learned in this unit. Complete the

*following sentences with them. Change the form where necessary.*

be distinct from	consist of
result in	whether or not
at regular intervals	be related to
treat ... as	be classified into
make up	play a crucial role in

- (1) It is necessary to be more specific about the minerals that \_\_\_\_\_ a meteorite(陨星).
- (2) In some cases, the infections process may \_\_\_\_\_ severe or fatal illness.
- (3) Jupiter and the other giant planets \_\_\_\_\_ the terrestrial planets.
- (4) He comes back to see us \_\_\_\_\_.
- (5) Medical institutions should \_\_\_\_\_ profitable and unprofitable ones.
- (6) Many of the fossils \_\_\_\_\_ the organic remains of the organism.
- (7) \_\_\_\_\_ it rains \_\_\_\_\_, we are playing football on Saturday.
- (8) I decided to \_\_\_\_\_ his remark \_\_\_\_\_ a joke instead of being offended by it.
- (9) The teacher \_\_\_\_\_ the learning process.
- (10) Dinosaurs \_\_\_\_\_ actually more closely \_\_\_\_\_ the birds than to any other existing creature.

### Task III Translation

*Translate the following sentences into Chinese.*

1. On this timescale, where a human lifetime is but the blink of an eye, solid rocks flow like liquid, entire continents move across the face of the earth and mountains grow from flat plains.
2. The form of coastlines; the depth of the water; whether the bottom is muddy, sandy or rocky; and many other features of a marine habitat are determined by this geology.
3. Connected or marginal to the main ocean basins are various shallow seas, such as the Mediterranean Sea, the Gulf of Mexico and the South China Sea.
4. At regular intervals the mid-ocean ridge is displaced to one side or the other by cracks in the earth's crust known as transform faults.

5. The continents have been carried long distances by the moving sea floor, and the ocean basins have changed in size and shape.

### Task IV Summary

**1. Complete the following statements with words and expressions from the box. Use their proper forms.**

be composed of	combine	change	geological standards
differ between	combine	be carried by	less than
outer crust	cover	come from	collectively
move	unique	intensively	rather than
allow	be covered by	existence	be caused by
entity	geologically	be known as	be similar in

- (1) The ocean is not just where the land happens to \_\_\_\_\_ water. The sea floor is \_\_\_\_\_ distinct from the continents. It is locked in a perpetual cycle of birth and destruction that shapes the ocean and controls much of the geology and geological history of the continents.
- (2) The presence of large amounts of liquid water makes our planet \_\_\_\_\_. Without water, life itself would be impossible. Our ocean \_\_\_\_\_ 72% of the earth's surface.
- (3) The ocean is traditionally classified into four large basins. The Pacific is the deepest and largest, almost as large as all the others \_\_\_\_\_. The Atlantic "Ocean" is a little larger than the Indian "Ocean", but the two \_\_\_\_\_ average depth.
- (4) Though we usually treat the oceans as four separate \_\_\_\_\_, they are actually interconnected. The connections among the major basins \_\_\_\_\_ seawater, materials, and some organisms to \_\_\_\_\_ from one "ocean" to another.
- (5) The earth \_\_\_\_\_ three main layers: the iron-rich core, the semiplastic mantle and the thin \_\_\_\_\_. The composition and characteristics of the crust \_\_\_\_\_ greatly \_\_\_\_\_ the oceans and the continents.
- (6) The geological distinction between the oceans and the continents \_\_\_\_\_ the physical and chemical differences in the rocks themselves, \_\_\_\_\_ whether or not the rocks happen to be covered with water.
- (7) Oceanic crustal rocks, which make up the sea floor, consist of minerals \_\_\_\_\_ called basalt that have a dark color. The oldest oceanic rocks are \_\_\_\_\_ 200 million