

高等学校试用教材

英 语

第 三 册

(地质类)

成都地质学院(主编)

长春地质学院 河北地质学院

人 民 教 育 出 版 社

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本书系根据 1977 年高等学校工科外语教材编写会议的要求编写的《英语》第三册(地质类)。全书共十七课,每课包括课文、注释、词汇学习、练习、阅读材料,内容以地质科普常识为主。

本册可接续大连海运学院、上海交通大学、天津大学分别主编的三种《英语》教材(一、二两册)中的任何一种,供地质院系各专业学生使用。

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编者说明

本书是根据 1977 年高等学校工科基础课教材座谈会及高等学校工科外语教材编写会议的精神编写的,可衔接大连海运学院、上海交通大学、天津大学分别主编的三种《英语》教材(一、二两册)中的任何一种,供地质院系学生使用。

本书共分十七课,每课内容包括课文、注释、词汇学习、练习、阅读材料。总计生词量约 900(课文约 600,阅读材料约 300)。书后有三个附录,即补充读物(五篇)、英汉翻译简介、总词汇表。课文、阅读材料、补充读物全部取材于英美原著(绝大部分为六十、七十年代出版物),除少数几篇有自然段落的删节之外,一般未作文字改动。选材范围以地质科普常识为主,基本上没有涉及较深的专业内容。

课文注释,在帮助学生解决理解上的难点的同时,介绍一些必要的语法知识。

词汇学习,以常用动词的用法为主,其次是常用介词及表示数量的词组的用法,释例以浅显的科技句子为主。

练习的编写方式参考了国外近年来出版的科技英语教材,编排了复习题、构词练习及结构练习等项目。复习题涉及课文的主要内容,旨在促使学生熟悉课文。构词练习旨在使学生获得一些构词法的感性知识,并为学生提供一些扩大词汇量的途径。结构练习比重较大,旨在使学生熟悉并掌握常见的科技英语的语言结构,在安排上结合课文,突出重点,由浅入深。英汉短文翻译在内容上配合课文,份量逐渐加大,以便促进学生阅读和翻译能力的培养和提高。

附录中的五篇补充读物,供学生课外阅读,以培养独立阅读科

技文献的能力。同时，为了培养和提高理工科学生英汉笔译的能力，附录中编入“英汉翻译简介”一项。

参加本书编写工作的有：成都地质学院鲍亦健、李五全、潘林法、李永宜，长春地质学院石家碧、刘建新，河北地质学院郭凡民。此外，武汉地质学院外语教研室参加了本教材编写大纲(初稿)的制定工作。

本书承中南矿冶学院(主审)、同济大学、西南交通大学、昆明工学院、贵州工学院、西南石油学院和抚州地质学院等单位审阅，同志们提出了很多宝贵意见，在此深表谢意。

本书在编写过程中还得到有关同志的大力支持和帮助，在此一并鸣谢。

编者

1979年3月

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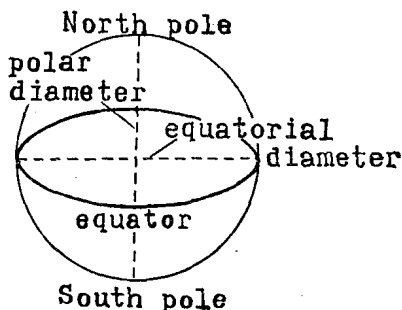
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Lesson One

Text

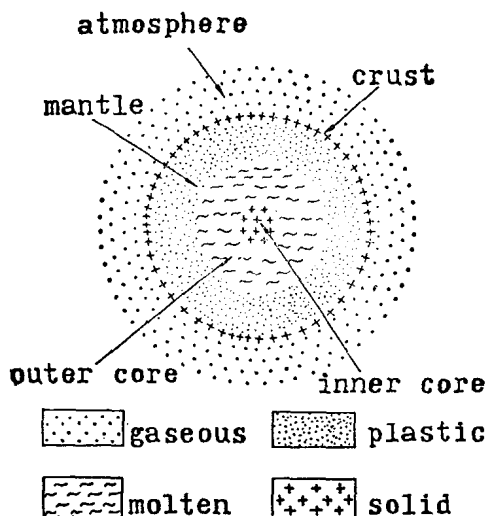
The Earth

The earth is a huge mass of rock, water, and gases. The general shape of the earth is that of a flattened sphere. It is not perfectly round but slightly flattened at the poles. Artificial satellites have confirmed that the earth is 7,927 miles in diameter at the equator and about 28 miles less in diameter at the poles. This is a small difference amounting to only one-third of one percent when compared to the earth's size.



The solid part of the earth is called the *lithosphere*. Actually, we know more about the water and gases covering the earth than we know about the solid earth itself. We can see the surface of the earth, and mines and deep wells tell us a little of what is under the surface. However, the deepest wells extend only about five miles below the surface. Thus, compared to the almost 8,000-mile

diameter of the earth, this is only a scratch on its surface. What is below this five-mile depth? No one knows for sure, but scientists believe the earth is made up of several layers.



The outermost layer, the part we see on the surface of the earth, is the *crust*. This is believed to be about 7 to 30 miles thick in land areas and thinner under the oceans. Geologists have found that the crust is about 4 to 10 miles thick under most of the oceans. The rocks of the crust actually form a thin shell which covers the surface of the globe.

The *mantle*, which is about 1,800 miles thick, lies underneath the crust. It is thought to be composed of heavier rock than the material making up the crust.

Because of the great pressure and heat in this layer, the mantle is not quite a solid and not quite a liquid. In other words, the material making up the mantle is thought to be in a plastic state. The land masses making up the crust are thought to “float” on this plastic layer.

The next layer is the *outer core*, nearly 1,400 miles thick. It is believed to be composed mostly of iron and nickel in a molten state at a very high temperature. Evidence indicates that the outer core is about twice as dense as the material in the mantle.

The innermost layer, the *inner core*, extends about 800 miles to the earth's center. It also is probably composed of iron and nickel. Because the pressure is nearly 60,000,000 pounds per square inch, the inner core is more like a true solid. The material making up the inner core is thought to be about three or four times as dense as the material making up the mantle. You might think of the earth as being constructed much like a baseball with a two-layered core, a thick layer around the core (mantle), and a thin skin on the surface (crust).

(From *Modern Science: Our Earth in Space*, pp3—5)

New Words and Expressions

- | | |
|---|--|
| 1. huge [hju:dʒ] <i>a.</i> 巨大的 | 4. artificial [ˌɑːtiˈfiʃəl] <i>a.</i>
人造的 |
| 2. general [ˈdʒenərəl] <i>a.</i>
大体的; 一般的 | 5. confirm [kənˈfɜ:m] <i>vt.</i>
进一步证实 |
| 3. flatten [ˈflætən] <i>vt. & vi.</i>
把…弄平; 变平 | 6. equator [iˈkweɪtə] <i>n.</i> 赤道 |

- | | |
|--|--|
| 7. pole [pəʊl] <i>n.</i> 极(点); 磁极 | lying ['laɪɪŋ]) |
| 8. lithosphere ['liθəsfiə] <i>n.</i>
岩石圈 | 23. underneath [ˌʌndə'ni:θ]
<i>prep.</i> 在...下面 <i>ad.</i> 向下 |
| 9. actually ['æktʃuəli] <i>ad.</i>
事实上 | 24. be composed of
由...构成 |
| 10. mine [maɪn] <i>n.</i>
矿藏; 矿山; 矿井 | 25. make up 组成 |
| 11. well [wel] <i>n.</i> 井 | 26. plastic ['plæstɪk] <i>a.</i>
可塑的, 塑性的 |
| 12. below [bi'ləʊ] <i>prep.</i>
在...下面 <i>ad.</i> 在下面; 向下 | 27. float [fləʊt] <i>vt. & vi.</i>
(使)漂浮 |
| 13. scratch [skrætʃ] <i>n.</i>
抓痕; 擦伤 | 28. outer ['aʊtə] <i>a.</i>
外部的; 外面的 |
| 14. depth [depθ] <i>n.</i> 深度 | 29. nickel ['nɪkl] <i>n.</i> 镍 |
| 15. sure [ʃʊə] <i>a.</i> 确信的
for sure 确实; 毫无疑问地 | 30. molten ['məʊltən] <i>a.</i> 熔融的 |
| 16. layer ['leɪə] <i>n.</i> 层; 岩层; 地层
two-layered 两层的 | 31. evidence ['eɪdɪns] <i>n.</i>
迹象; 证据, 依据 |
| 17. outermost ['aʊtəməʊst] <i>a.</i>
最外面的 | 32. indicate ['ɪndɪkeɪt] <i>vt.</i>
指示; 表明 |
| 18. crust [krʌst] <i>n.</i> 壳; 地壳 | 33. dense [dens] <i>a.</i> 稠密的 |
| 19. geologist [dʒɪ'ɒlədʒɪst] <i>n.</i>
地质工作者, 地质学家 | 34. innermost ['ɪnəməʊst] <i>a.</i>
最里面的; 最深处的 |
| 20. globe [gləʊb] <i>n.</i>
地球; 地球仪 | 35. inner ['ɪnə] <i>a.</i> 内部的; 里面的 |
| 21. mantle ['mæntl] <i>n.</i> 地幔 | 36. construct [kən'strʌkt] <i>vt.</i>
建造; 构筑 |
| 22. lie [laɪ] <i>vi.</i> 躺; 位于
(lay [leɪ], lain [leɪn], | 37. baseball ['beɪsbɔ:l] <i>n.</i> 棒球 |
| | 38. skin [skɪn] <i>n.</i> 皮 |

Notes to the Text

1. ... the earth is 7,929 miles in diameter at the equator

and about 28 miles less in diameter at the poles.

…地球的赤道直径是 7,927 英里，两极之间的直径比赤道直径少 28 英里。

注意 less 的用法，试比较下列句子：

Five more candidates ([ˈkændideit] *n.* 报考者) entered this year than last but three less passed.

今年投考者比去年多五人，但合格者少三人。

The desk is four feet in length and one and a half feet less in width.

这张桌子长四英尺，宽比长少一英尺半。

2. ... what is under the surface 是名词性从句，作介词 of 的宾语。
3. You might think of the earth as being constructed much like a baseball ...

你可以想象地球的结构很象棒球…

1) might 在本句中不表示过去，而是指现在的事，语气上较为委婉客气些。

2) as being constructed 是宾语补足语，修饰 earth。

英语中有些动词(或成语动词)如 take, regard, consider, describe, refer to, think of 等，可用 as 引导宾语补足语，as 后面可跟名词、形容词、分词短语等，例如：

Geologists refer to the solid part of the earth as the lithosphere. (名词)

地质学家把地球的固态部分称为岩石圈。

We regard gases as compressible, liquids as incompressible. (形容词)

我们把气体看作可压缩的，把液体看作不可压缩的。

Scientists think of the earth as being made up of