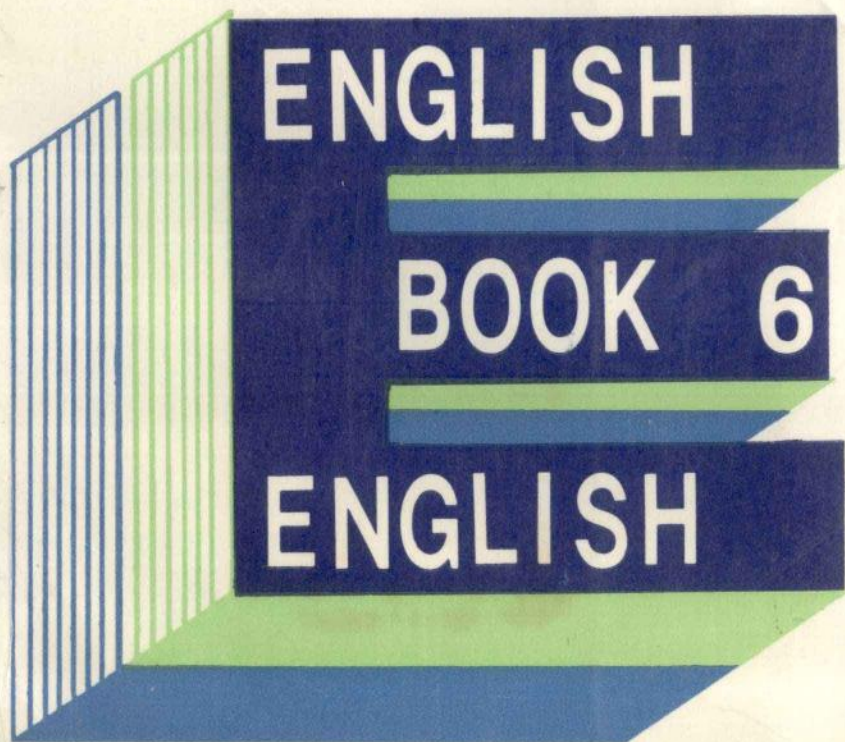


高等学校成人教育用书

英语系列教程

第六册

时正印 栾述文 温恒民 编



机械工业出版社

高等学校成人教育用书

英语系列教程

第六册

时正印 栾述文 温恒民 编



机械工业出版社

前 言

《英语系列教程》是各类高等学校成人教育和自学英语者用书。全书共分六册，包括精读课文六十八篇、课外阅读材料一百一十八篇、单词和词组三千左右、全部语音基础知识、基本语法内容、阅读和翻译指导。学完六册后，读者可具备阅读一般英语书刊的能力。本系列教程的特点是：

一、适应性强：目前成人高校的学生入学水平不齐，学习年限不一，为适应各种水平学习者的要求，本套教程从字母开始，由浅入深地编写，既立足于现在又考虑到长远，使用者可根据学生的实际水平和学习年限有选择地使用。

二、针对性强：本教程是为成年人学英语而编写的。全书编排均考虑到便于自学，便于理解，通过模仿、实践加强记忆。语法系统完整，重点突出。词汇侧重语言“共核”（基本词汇）教学，并且词汇复现率较高，便于记忆和掌握。

三、趣味性强：本系列教程题材广泛，体裁多样，内容生动活泼，有日常生活、科技小品、寓言故事、谜语笑话以及诗歌等。掌握这些内容对打好语言的基础很有帮助。

四、适当运用汉英对比的方法：借助母语学习英语，易学易懂。了解两种语言现象的同异，加深印象和理解，便于运用和记忆。

五、便于自学：根据成年人的实际情况，在编写过程中，始终考虑到循序渐进、坡度自然的原则。对重点和难点均有较详细的讲解和注释。本书还配有录音磁带，为学生充分利用业余时间学好英语创造了方便条件。书后附有词汇表、部分练习和参考译文。

本套教程编六册的目的之一在于给学习者提供一份深入、系统掌握英语的教学材料。使用本教材者可根据各自的实际情况安排时间。初学者可以从第一册开始，每学期学一册，六学期学完。对起点较高的院校学生，第一、二册可作为复习用书，从第三册开始正式学习。

《英语系列教程》编委会成员如下：主任郭清太；副主任雷德威、李爱梅；委员王汉明、郑先达、时正印。

本系列教程在编写过程中曾得到参编院校和机械工业出版社的大力支持和帮助，在此表示衷心的感谢。

由于水平有限，书中不当之处在所难免，敬请同行们和使用者批评指正。

编委会

1988年8月

第六册 说明

本册是高等学校成人教育用书《英语系列教程》的最后一册。本册共十课，包括课文十篇，阅读材料二十篇。每课包括课文、注释、生词和常用词组、词汇学习、基本阅读技巧、基本翻译技巧、练习、阅读材料及检查练习。附有补充阅读材料六篇。书后附有练习答案、课文和阅读材料的参考译文以及本册中出现的词汇总表供自学者复习、查阅。

在英语系列教程前五册的基础上，本册以扩大阅读为主要目标。与前几册相比，内容多侧重理工方面的科普知识，分量略有增加，难度也有提高。

本册的选材原则是：第一，理工方面科普知识，特别是能源、高科技、污染、科技发展动态方面的知识；第二，以英美等国的新资料为主，按需要做适当删改；第三，阅读材料中适当增加非科技的内容；第四，力求保持原文的风格和特点，语言规范，知识性、科学性与趣味性相结合。

编写过程中，凡能在国内书刊上找到注释或译文的都尽量参考。在此我们向有关的同志表示衷心的感谢。石油高等函授教育总部的领导给予关心和支持，石油大学函授部的李怀平、王景芬同志，石油大学外语系资料室的刘淑玲同志及数学物理系的郭振山同志等协助我们做了大量工作，在此一并表示感谢。

由于选材广泛，有些科技新内容我们也不甚了解，加上水平有限、时间仓促、缺乏经验，缺点和错误在所难免，殷切希望得

到读者的批评和指正。

本册由石油大学（华东）时正印（主编）、栾述文、温恒民编。参加审阅的有：郑先达（主审）、郭清太、雷德威、李爱梅、王汉明、李光生。

CONTENTS 目 录

Lesson One

Text: Motion.....	1
Word study: apply, assume, respect	5
Basic Reading Skills (1): Determining the Main Idea	6
Reading Materials: I . Potential and Kinetic Energy	10
Reading Materials: II . Weight on and off the Earth	12

Lesson Two

Text: Electrical energy	14
Word Study: acquaint, lead, evolve	17
Basic Reading Skills(2): Recognizing Important Details	19
Reading Materials: I . Energy Sense Makes Future Sense (1)	24
Reading Materials: II . Energy Sense Makes Future Sense (2)	27

Lesson Three

Text: Water resources	30
Word Study: overcome, create, regard.....	34
Basic Reading Skills(3): Finding Implications and Making Inferences	36
Reading Materials: I . Why Pollute Our Planet	41
Reading Materials: II . The Value of Education	43

Lesson Four

Text: How Does a Scientist Look at Tomorrow.....	46
Word Study: tap, found, equip, mold (mould)	49
Basic Reading Skills(4): Drawing Logical Conclusion	51
Reading Materials: I . Frontiers for Tomorrow	56
Reading Materials: II . New Scientific Breakthroughs	58

Lesson Five

Text: Albert Einstein	61
-----------------------------	----

Word Study: comment, achieve, grasp, accept	65
Basic Reading Skills(5): Making Sound Judgements	66
Reading Materials: I . Of Mighty Falls and the Fallen Mighty	70
Reading Materials: II . The Development of Civilization.....	73

Lesson Six

Text: What the Computer Can Do	75
Word Study: render, attain, confront, expand	78
Basic Translating Skills(1)	80
Reading Materials: I . Computers in the Year 2000.....	85
Reading Materials: II . Electron Eyes.....	87

Lesson Seven

Text: High-performance Plastics	91
Word Study: overtake, conduct, spoil, boost	94
Basic Translating Skills(2)	96
Reading Materials: I . The Age of Superstuff.....	100
Reading Materials: II . Elasticity	103

Lesson Eight

Text: Juice in the Fridge	106
Word Study: recover, reserve, exploit, induce, investigate	109
Basic Translating Skills(3)	112
Reading Materials: I . The Greenhouse Impact on Energy (1)	116
Reading Materials: II . The Greenhouse Impact on Energy (2)	119

Lesson Nine

Text: The Challenge of High technology	122
Word Study: refine, mix, threaten, extend.....	126
Basic Translating Skills(4)	128
Reading Materials: I . The World Enters a New Age of Progress(1)	132
Reading Materials: II . The World Enters a New Age of Progress(2)	135

Lesson Ten

Text: How Did Life Begin	138
Word Study: construct, reproduce, survive, exclusive	141
Basic Translating Skills(5)	143
Reading Materials: I . Photosynthesis.....	149
Reading Materials: II . Freedom	151
Supplementary Reading	

Unit One

Material 1: Colour Affects Your Moods and Health	154
Material 2: Perception	157
Material 3: The Best Age to Be	158

Unit Two

Material 1: The Awesome Force That Shaped Our Planet	160
Material 2: Balance of Nature	163
Material 3: Public Spirit	166
Appendix I: 部分练习参考答案及译文	168
Appendix II: 总词汇表	204

Lesson One

Text: Motion

Word Study: apply, assume, respect

Basic Reading Skills (1): Determining the Main Idea

Reading Materials: I . Potential and Kinetic Energy

Reading Materials: II . Weight on and off the Earth

Text Motion

Everywhere you go, you will see bodies in motion: airplanes flying in the sky, trains travelling rapidly along the rails, automobiles rushing on the road, ships sailing on the sea, and so on. ¹All things in the universe are in constant motion. Even when you are writing, the words show up before your eyes, to be sure, as a natural result of the movement of your pen on the paper.

Since motion plays so important a part in our daily life, it is of practical importance to calculate various forms of motions. ²If you examine your familiar everyday experiences and observations, and apply scientific principles to them, you may easily learn to compute motions which it might be hard to measure directly. ³

Motion may be defined as a continuous change in place or position of an object that we assume as being at rest. We say "assume as being at rest" because no object is really quite motionless. If houses are at rest relative to the earth's surface, the earth itself is not motionless. It revolves about its axis around the sun; and the sun, in its turn, moves relative to the stars which, too, are in a state of motion. A man sitting in a tram may seem motionless to his fellow-passengers; in reality all are moving rapidly with respect to any

man in the street.

The same may be said of a man riding in an express train. He is in motion with respect to people standing on the station platform, but he is at rest with respect to other passengers riding in the same express train. The motion of his train is relative to that of a local train which is going more slowly in the same direction.

Wherever movement occurs at a constant speed, it is simply because the forces tending to cause it are exactly balanced by other forces that tend to stop it.⁴ If the forces causing motion are greater than those opposing it, an increase in speed known as acceleration takes place. The reverse effect called deceleration occurs if the forces opposing the motion are the stronger.

The unit of speed in the English system of units is one foot per second (ft / sec.). The corresponding unit in MKS system is one metre per second (m / sec.). As we know, there are many other units, such as the mile per hour, being in common use.

New Words and Expressions

1. motion	['məʊʃən]	n.	(物体的) 运动
motionless	['məʊʃənlis]	a.	不动的, 静止的
2. rapidly	['ræpidli]	ad.	快地, 迅速地
3. rail	[reil]	n.	铁轨; (复数)铁路
4. sail	[seil]	vi.	航行, 启航
5. universe	['ju:nivə:s]	n.	宇宙
6. practical	['præktikəl]	a.	实际的
7. importance	[im'pɔ:təns]	n.	重要性
8. calculate	['kælkjuleit]	vt.	计算
calculation	['kælkju'leiʃən]	n.	计算
9. familiar	[fə'miljə]	a.	熟悉的
10. experience	[iks'piəriəns]	n.	经验, 经历
11. observation	[əbzə'veiʃən]	n.	观察
observe	[əb'zə:v]	vt.	观察
12. apply	[ə'plai]	vt.	应用
13. scientific	['saɪəntifik]	a.	科学(上)的

14. principle	['prinsəpl]	<i>n.</i>	原则, 原理
15. compute	[kəm'pi:ʊt]	<i>vt.</i>	计算
16. measure	['meʒə]	<i>vt. n.</i>	测量, 计量
measurement	['meʒəmənt]	<i>n</i>	测量
17. define	[di'fain]	<i>vt.</i>	给...下定义
18. continuous	[kən'tinjuəs]	<i>a.</i>	继续不断的
continuously	[kən'tinjuəsli]	<i>ad.</i>	继续不断地
19. position	[pə'ziʃən]	<i>n.</i>	位置, 地位
20. object	['ɒbdʒikt]	<i>n.</i>	物体
21. assume	[ə'sju:m]	<i>vt.</i>	假定
assumption	[ə'sʌmpʃən]	<i>n.</i>	假定, 设想
22. earth	[ə:θ]	<i>n.</i>	地球, 地面
23. revolve	[ri'vɒlv]	<i>vi.</i>	旋转, 运转
24. axis	['æksis]	<i>n.</i>	轴线, 轴心线
(pl. axes)	['æksi:z]		
25. reality	[ri'æliti]	<i>n.</i>	真实, 现实
26. platform	['plætfɔ:m]	<i>n.</i>	台, 站台
27. wherever	[(h)wɛə'revə]	<i>ad.</i>	无论在哪里, 无论到哪里
28. direction	[di'rekʃən]	<i>n.</i>	方向, 方位
29. occur	[ə'kɔ:]	<i>vi.</i>	发生
30. tend	[tend]	<i>vi.</i>	趋向, 倾向
31. balance	['bæləns]	<i>n. v.</i>	平衡
32. oppose	[ə'pəuz]	<i>vt.</i>	反对, 反抗
opposition	[,ɒpə'ziʃən]	<i>n.</i>	反对, 反抗
33. acceleration	[æk'selə'reiʃən]	<i>n.</i>	加速度
deceleration	[di:selə'reiʃən]	<i>n.</i>	减速度
34. reverse	[ri'vɔ:s]	<i>vt. vi.</i>	颠倒, 反转
		<i>a.</i>	相反的
35. unit	['ju:nit]	<i>n.</i>	单位
36. per	[强 pə:弱 pə]	<i>perp.</i>	每
37. correspond	[kɔris'pɒnd]	<i>vi.</i>	(与 to 连用)符合, 一致, 相当
corresponding	[kɔris'pɒndɪŋ]	<i>a.</i>	相应的, 对应的

- | | |
|---------------------|-----------------------|
| 1) in motion | 在运动中 |
| 2) to be sure | 肯定(在句中作插入语) |
| 3) be defined as | 被定义为..., 被说成是... |
| 4) with respect to | 相对于..., 关于... |
| 5) in its turn | 也, 又 |
| 6) relative to | 关于..., 和...有关, 相对于... |
| 7) in reality | 实际上, 其实 |
| 8) express train | 特别快车 |
| 9) station platform | (火车站)车站月台 |
| 10) MKS | 米·千克·秒(制) |

Notes

1. 第一段第一句中 you will see bodies in motion: airplanes flying in the sky, ... 中 bodies 是宾语, in motion 是补足语, 后边 airplanes flying... 等是 bodies in motion 这一概念的具体例证, 因此都是宾语加补足语的结构。

2. 第二段第一句 Since motion..., it is of practical importance to calculate various forms of motions. 中 it 是先行词作形式主语, 真正主语是动词不定式短语 to calculate various forms of motions. 另外还有 be+of+n 这种结构很常用, 要记住; 但要分清: 1) be+of+抽象名词, 如 importance, value, influence, etc. 这时是“具有...”的意义和 2) be+of+具体的物体名称, 主要是物质名词如 iron, steel, wood, plastics, etc. 这时是“由...制造, 构成”的意义。试比较下列句子:

In fact, until recently sea water has been of very little value to man. But now it is very valuable indeed. 实际上, 就在不久前海水对于人类还是没有多大价值的。但是现在海水的确是十分宝贵的。

This house is (built) of wood. 这房子是木造的。

Even today most of our engineering products are (made) of iron and steel. 即使在今天, 多数工程产品仍是用钢铁做的。

3. 第二段最后一句...you may easily learn to compute motions which it might be hard to measure directly 的定语从句中 it 是形式主语 to measure directly 是真正主语, which 是宾语。

4. 第五段第一句..., it is simply because the forces tending to cause it

...that tend to stop it 中后两个 it 都是指 movement.

Word Study

apply

1. vt.施加, 应用, 运用于... (常与介词to连用)

1) We must learn to apply scientific principles to our experiments and everyday observations.我们必须学会把科学原理应用于我们的试验和日常观察。

2) If you want an object at rest to move, you apply a force to it.如果你想使一静止物体运动, 你要对它施加一个力。

2. vi.适用; 提出申请或要求(常与介词to或for连用)

1) These laws apply all the time in our country.这些法律在我国始终是有有效的。

2) She often applies to them for help.她常常请他们帮助。

3) For particulars, apply to the information desk.详情请向问事处了解。

3. application n.应用, 运用

applicable a.能应用的, 适用于...的

applied a.应用的, 实用的

find (wide) applications in 在...获得(广泛)应用

assume

1. vt.假设, 设想

1) Let's assume the object that is motionless.让我们假设一个静止不动的物体。

2) Assume that he knows about the matter.假设他对这件事有所了解。

2. vt.担任, 承担, 接受

1) He assumes a leading position.他担任领导职务。

2) Either he or you should assume the responsibility. 或者是他或者是你应该承担责任。

3. vt.采取, 呈现(某种形式, 面貌等)

The motion of matter always assumes certain forms.物质的运动总是表现为一定的形式。

4. vt.假设, 认为(后加 to v or as...作补足语)

- 1) Let us assume his statement to be correct.让我们设想他的说法是正确的。
- 2) We assume some objects as being at rest, but no object is really quite motionless.我们假定某些物体是静止的, 但是没有物体是真正静止不动的。

5. assuming that, supposing that 假设...(引出从句)

respect

1. n & vt.尊敬, 敬重; 重视, 关心, 有关系

- 1) The students show respect for their teacher.学生们尊敬他们的老师。
- 2) They pay respect to (or have respect for) the needs of the people. 他们关心人民的需要。

2. 能构成若干复合介词, 常用的有:

with respect to, in respect to, in respect of 有关, 相对于(与with regard to, in regard to, in relation to, relative to 关于, 对于等用法与意义相同); without respect to, without respect of 不考虑, 与...无关

阅读总是有一定目的的。对于不同的目的应采用不同的方法和技能。从本课开始, 针对成人自学的需要, 着重介绍一些最基本的阅读技能, 以利于深入理解原文。

Basic Reading Skills (1) 基本阅读技能(1)

Determining the Main Idea 确定主题思想

1. 略读全文, 了解大意。
2. 细读全文, 划出主题句或关键词。
3. 经过思考, 确定主题思想(有时主题句与主题思想是一致的。)例

如:

If you are planning to buy a television set, the following advertisement

would certainly attract your attention, "Color TV, only \$ 79. Two days sales. Hurry!" However, when you go to the store ready to buy, you may discover that the advertised sets are sold out. But the seller is quick to make you sure that he has another type, a more reliable set which is "just right for you." It costs \$ 359. This sales method is called "bait and switch." Buyers are baited with a sales offer, and then they are switched to another more expensive item. Buying items on sale requires careful consideration of the goods and the reason for the sale. (bait [beit] n.vt. 诱饵; 引诱 switch [switʃ] n.vt. 开关; 转换)

阅读短文后再按下列问题进行检查

Questions

- Which of the following best expresses the main idea:
 - The buyer must be on his guard when buying items on sale.
 - Colour television sets which sell for \$ 79 are sold out quickly.
 - Many stores use the "bait and switch" method to attract buyers.
 - Anyone planning to buy a television set should look for a sale.
- Underline the sentence which supports your answer for question 1.
- This paragraph could be entitled (entitle 给...题名):
 - Buying a TV set
 - Buyer Beware
 - Cheap Sale
 - Sales Method

Answers and Explanations

解答与说明

Question 1 A是正确答案。本句准确地表达了文章的主题思想。B和D两句显然是错误的。C是举例说明作者本人的观点，不是文章的主题思想。

Question 2 文章的最后一句回答了question 1. 这句实际上也是文章的主题句。

Question 3 B是正确的答案。这个标题可以帮助我们找出作者所阐述的文章主题。

1. Everywhere you go, you will see bodies in motion.

B. moving

D. changing

- A. relative to

B. except for

D. by means of

- ### A. various

B. in shape

D. with no speed

- A. In actual fact

B. To be sure

D. At present

- A. an increase in speed

B. a decrease in speed

D. a constant speed

1. Which of the following statements is not true?

A. When you are writing something, your pen is in motion.

B. All the things in the world are moving constantly.

C. It is easy to examine our everyday experiences and observations but hard to apply scientific principles to them.

D. It is very important to calculate different forms of motion.

2. If a man is riding in a train, he is at rest with respect to

A. other people in the same train.