

# 新时代科技英语

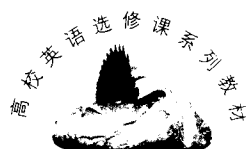
New Era English for  
Science and Technology

拓展  
练习册

陆颖  
主编



清华大学出版社



# 新时代科技英语

## 拓展练习册

陆 颖



陈 红



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清华大学出版社  
北京

## 内 容 简 介

《新时代科技英语拓展练习册》根据我国教育部颁布的最新《大学英语课程教学要求》编写,是《新时代科技英语学生用书》的配套练习册。练习册在编写过程中力求做到寓知识性、趣味性、前瞻性、思想性于阅读、写作、翻译、词汇等实践中,是《新时代科技英语学生用书》的有益补充。通过学习《新时代科技英语拓展练习册》,可以使学生提高自身的科技英语水平,并培养其阅读科技资料的能力以及科技英语的翻译和写作能力。

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# 前言

## 一、总论

《新时代科技英语》是一套有关科技英语阅读理解、写作与翻译的教程。它融时文阅读与基础写作、翻译为一体,汇集了国外报纸、期刊、杂志中的科技文章,是了解当代科技发展的前沿读本。

本教程根据教育部最新《大学英语课程教学要求》编写,力求做到寓知识性、趣味性、前瞻性、思想性于阅读、写作与翻译的实践中。教程中所有的材料都经反复筛选,择优采用,全面做到内容广博、题材广泛、专业面宽,语言规范、循序渐进。可供业已完成了大学基础英语学习的高年级学生使用,旨在使其巩固已有的英语知识、进一步增强对英语的爱好、提高英语水平、了解当代科技发展并培养其阅读相关技术资料的能力与科技英语的写作、翻译能力;亦可适用于所有英语爱好者和学习者,以拓宽其专业视野。

## 二、总体框架

本教程由以下三部分组成:学生用书(由八个单元组成),拓展练习册(由八个单元组成)及教师用书。

## 三、编写特点

1. 本教程的主干——《学生用书》的每一单元设置一个主题,每一单元由三部分构成:

- A. 内容导向:用简洁生动的中文介绍单元主旨,以吸引读者领会作者对单元主题的观点和态度。
- B. 阅读:由一个正课文(Text A)和两个副课文(Text B & C)构成,每篇课文后都附有生词表和中文注释。每篇

课文选材时尚,集知识与娱乐于一体。

C. 基于课文的练习:由两大部分六组练习构成,帮助读者进一步理解 Text A 及其生词。

2. 本教程的特色——《拓展练习册》的每一单元由“我练写作”、“我练翻译”、“我练词汇”、“我练理解”四节练习组成,力求通过“我练……”为读者提供以人为本的练习。

3. 本教程的《教师用书》正在筹划当中,关于《教师用书》的具体情况读者可与编者联系。电话:(029)88166361;传真:(029)88166366;E-mail:saloon\_yuan@yahoo.com。

#### 四、编者

本教程的编者均为长期从事大学英语教学的一线教师,教学经验丰富。在编写过程中,编者充分考虑到了目前高等院校英语教学课程安排及学生在进行两年基础英语的学习后,尚不能完全独立地进行专业英语的学习的特点,旨在弥补广大学生在专业英语学习方面的不足,使其能够为进一步学习专业英语奠定一定的基础。

《科技英语》杂志主编,上海交通大学英语系博士生导师毛荣贵教授在百忙之中对本书进行了修改工作,我们在此表示衷心的感谢。

由于我们水平有限,加之时间仓促,在本书的编写过程中难免会出现错误,还请广大读者和英语界的同仁指正。

编者

2005年6月

# 使用说明

本书是《新时代科技英语学生用书》的配套练习册,供读者了解科技英语写作与翻译的方法及特点,并通过练习巩固所学知识。本拓展练习册共八个单元,每一单元由“我练写作”、“我练翻译”、“我练词汇”、“我练理解”四个版块组成。

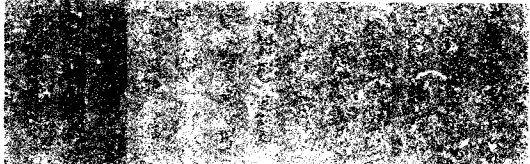
“我练写作”与“我练翻译”均由“Learn with me 我来教”和“Do-it-yourself 你来做”两个环节构成。“我练写作”在八个单元中的内容分别为:“段落的基本要素”、“因果关系”、“分类”、“比较不同”、“使用过渡词”、“举例”、“简历”、“摘要”。“我练翻译”在八个单元中的内容分别为:“科技英语的主要特点”、“词义的选择”、“词的增译法”、“词的省译法”、“词性的转换”、“被动语态的译法”、“科技英语中词汇的主要特点”。

“我练词汇”包括三个练习:1. Match the terms in column A with the definitions in Column B. 2. Fill in the blanks with the words in Exercise 1. Change the form where necessary. (Some words may be used more than once.) 3. Choose the right answer to the statements below by using your basic knowledge of physics (math, E-business, etc.).

Match the terms in column A with the definitions in Column B. 此部分要求学生把词汇和其英语释义连线搭配,以加深学生对词汇的理解。

Fill in the blanks with the words in Exercise 1. Change the form where necessary. (Some words may be used more than once.) 此部分要求学生用所给词汇填空,以达到对词汇的熟练运用。

Choose the right answer to the statements below by using your

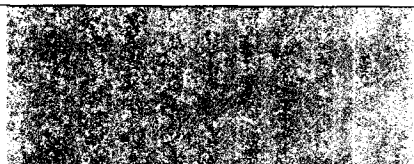


basic knowledge of physics (math, E-business, etc. ). 此部分要求学生运用自身掌握的科学知识回答问题,使学生在学英语的同时还能增长科技知识,培养其进一步学习的兴趣。

“我练理解”包括三篇 400 字左右的短文,短文后的练习分别由一个完型填空和两个阅读理解选择题组成。短文的内容与《学生用书》的课文内容相关,以帮助读者加深和巩固已学内容。

《新时代科技英语拓展练习册》由八个单元构成,因此根据每学期平均教学周数十六周计算,建议每两周(8 课时)完成一个单元,即《学生用书》和《拓展练习册》各一个单元。用 4 课时教授《学生用书》的一个单元,另外 4 课时教授《拓展练习册》的一个单元。课时处理可根据学生的具体情况灵活掌握。

编者  
2005 年 6 月



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# Unit

## Brave New World

### 勇敢的科学新世界



我练写作

## Writing in Science

我来教

Learn With Me

### Basic Points About Paragraphs 段落的基本要素

Here are three points about paragraphs.

**Point 1** An English paragraph is a group of related sentences on one subject. Sentences are related to each other so that the paragraph contains clear thoughts about one subject and only one subject. For example, if you are writing about solar power, all your sentences would relate to the sun as a source of energy.

**Point 2** The most important or main idea is expressed in the topic sentence. In other words, the topic sentence contains the most significant or broadest concept, question or statement so that it unifies and covers all the other ideas in the paragraph. If your main idea is that solar energy is a good way to power cars, then your topic sentence might introduce the topic by asking a question: "Why do solar-powered cars make sense?" Or it might introduce the topic with a statement: "There are several reasons why solar-powered cars make sense." All the other sentences in the paragraph will support this

main idea, explaining why solar-powered cars are beneficial.

Point 3 Most often the topic sentence will be at the beginning to introduce the main idea; or sometimes it can be at the end to summarize the main idea. (Less often, the topic sentence comes as the second sentence, and sometimes it can come in the middle of the paragraph with other sentences leading up to it.)

*Read the following.*

(1) The chemical components of acid rain are changing the natural environment. (2) Acid rain is the result of increased emissions of sulfur dioxide from burning coal and nitrogen oxide from car exhaust. (3) Although sulfur and nitrogen are sources of food for trees, grasses and other vegetation, when sulfur and nitrogen combine in the form of acid rain, these elements damage green leaf cells and impair the growth of plant life.

The general subject of this paragraph is acid rain. The topic sentence in this paragraph is the first sentence. It expresses the idea that the elements that make up acid rain hurt the environment. The second and third sentences directly support this idea. Based on the information in the first sentence, we expect the rest of the paragraph to discuss the chemistry of acid rain and the way it damages the environment. Therefore, the second sentence gives us information about the elements found in acid rain. The third sentence tells us how these elements affect plants.

**你来做**

**Do-it-yourself**

*Exercise 1 Read the following paragraphs. What is the general subject? Which is the topic sentence? Do all the other sentences relate to the topic?*

### **Paragraph A**

(1) Of the many types of energy, one major category is kinetic energy or the energy of motion. (2) An example of energy in motion is when a bat hits a baseball. (3) The bat exerts a kinetic force that causes the ball to fly in the air. (4) Mechanical energy is a type of kinetic energy applied to objects. (5) Thermal energy is the energy of molecules in motion. (6) More and more students are doing

research on energy these days.

What is the general subject? \_\_\_\_\_

Which number is the topic sentence? \_\_\_\_\_

Do all sentences relate to the topic? Yes \_\_\_\_\_ No \_\_\_\_\_ If no, which number(s)? \_\_\_\_\_

### Paragraph B

(1) Medical scientists are finding a significant difference in how men and women develop heart problems. (2) Statistics show that women on average develop heart disease later in life than men. (3) One theory is that younger women who give birth to children develop wider coronary arteries, and this helps women to avoid heart attacks as they get older. (4) Most men do not believe this, however.

What is the subject? \_\_\_\_\_

Which number is the topic sentence? \_\_\_\_\_

Do all sentences relate to the topic? Yes \_\_\_\_\_ No \_\_\_\_\_ If no, which number(s)? \_\_\_\_\_

*Exercise 2 The following paragraph about solar-powered cars is incomplete. Read the paragraph and consider what might be a good topic sentence to unify all the ideas.*

Solar-powered cars are very expensive because of the high development cost of solar batteries. In addition, the cells of the solar batteries can store only limited amounts of energy. So solar cars are not practical for driving on long trips. The biggest problem is the constant need to recharge the cells. This is especially difficult when one drives on cloudy days and at nighttime.

Choose one of the following as the topic sentence.

\_\_\_\_\_ (1) Solar-powered cars are expensive.

\_\_\_\_\_ (2) There are many advantages and disadvantages to solar energy.

\_\_\_\_\_ (3) The future practicality of solar cars depends on overcoming problems with solar batteries.

\_\_\_\_\_ (4) Solar batteries are the key to understanding how solar energy can be used to drive cars.

*Exercise 3 Read the following paragraph about the solar system and think about a topic sentence that would connect all the ideas.*

Mercury is the hottest planet in the solar system because it is nearest the sun. Mercury's surface is totally dry and it is so hot that there is no atmosphere. Venus is the second closest planet to the sun. The hot atmosphere of Venus is similar to that of Earth, but because Venus is so near the sun, there are no bodies of water on its surface. Earth, the third closest planet to the sun, has a cooler atmosphere that sustains animals, plants and several bodies of water on its surface.

*Choose one of the following as the topic sentence.*

- \_\_\_\_\_ (1) The three planets closest to the sun are Mercury, Venus and Earth.  
 \_\_\_\_\_ (2) Surface and atmospheric conditions vary widely among the three planets nearest the sun.  
 \_\_\_\_\_ (3) The closer a planet is to the sun, the hotter it is.  
 \_\_\_\_\_ (4) The surface and atmosphere of Earth are different from those of Mars and Venus.

*Exercise 4 Read the following paragraphs and write your own topic sentence. Make sure that your sentence covers the ideas in the paragraph and relates only to the ideas in the paragraph.*

*A. Write a topic sentence that introduces the idea of birds and feathers.*

Feathers provide good insulation for birds. They can be hard or soft depending on weather conditions and water temperature. For example, some ducks have a thick layer of soft feathers called "down" that protects these birds from extremely cold air and icy water.

*B. Write a topic sentence summarizing this paragraph about tropical rain forests.*

Tropical rain forests are found in 70 different countries worldwide, including Brazil in South America, Indonesia in the South Pacific and Zaire in Africa. Plants that grow in these forests provide us with chocolate, fruit, coffee, rubber and wood. Recently, medical products have been developed from rain forest plants; these include medicines for high blood pressure and cancer.

### Exercise 5 Writing Exercise

Choose one of the following topic sentences and write a paragraph that develops the main idea.

- A. The sky changes.
- B. Solar-powered cars are a promising new technology.
- C. Pond supports a community of living things.

我练翻译

## T ranslating in Science

我来教

Learn With Me

科技英语的主要特点

### 一、被动语态多

由于科技英语的主要目的是表述科技发展、科学事实、实验报告等，如果第一、二人称使用过多，会造成主观臆断的错觉，故多使用被动语态。如：

It is indicated that Einstein's Relativity has been put out nearly a hundred years ago.

### 二、名词多

科技英语使用名词多主要体现在以下两个方面：①名词作前置定语多；②动作性名词多。这些名词大多是由动词加词缀构成。如：

room-temperature superconductor

quantum-physics mechanism

quark plasma

Archimedes first discovered the principle of displacement of water by solid bodies. (试比较：Archimedes first discovered the principle that water is displaced by solid bodies.)



### 三、非谓语动词

科技英语为了叙事简洁明了,大量使用非谓语动词。如:

The quarks, traveling in opposite directions, quickly transform into two back-to-back jets of ordinary particles.

To turn on the switch means to close the circuit.

### 四、后置定语

在科技英语中,名词后常常有介词短语、形容词短语、分词短语和副词短语等作后置定语。如:

the difference of load in the day and the night

the forces due to friction

### 五、长句

科技英语的长句从下可见一斑:

This chapter shall attempt to look at some aspects of controllers synthesis for the multivariable servomechanism problem when the plant to be controlled is subject to nucertainty—in this case, a controller is to be found so that satisfactory regulation occurs in spite of the fact that the parameters of the plant may be allowed to vary, subject only to the condition that the resultant perturbed system remains stable.

该句结构复杂,层次繁生,是一个典型的长句。

### 六、祈使句、以it引导的句型多

Let A be equal to B.

Consider a high pressure chamber.

It is very interesting to compare benzene with the cyclic compounds which differ from it by only one or two pairs of hydrogen atoms.

It is this molecular motion that we call heat.

你来做

**Do-it-yourself**

*Exercise Translate the following sentences into Chinese and pay special attention to the italicized words.*