

魏力行 海伦·瑞德 张家秀 编

AN ADVANCED
ENGINEERING READER
FOR SCIENCE AND
TECHNOLOGY

高级科技英语读物

华南工学院出版社

2642

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责任编辑: 林 下

封面设计: 吴俊卿

高校理工科专业英语参考书

高级科技英语读物

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华南工学院出版社出版发行

(广州 五山)

全国新华书店经销

广东第二新华印刷厂印刷

787×1092 1/32 9.5印张 216千字

1988年1月第一版 1988年1月第一次印刷

印数: 1—5000 (电脑排版)

ISBN 7 — 5623 — 0018 — 6/H · 001

定价: 1.60元

编辑说明

本书选取近年美、英报刊上的科技时文五十余篇，内容包括科普知识、科技人物、电子计算机、通讯、能源、环境、宇航、建筑、生物技术、机械、物理、化学等各个方面。共分二十六个单元，每个单元配正副课文各一，后附注解(英语或汉语)，并配置理解及语言两组练习题。

本书可作科技英语自学读物或英语教材，适合广大科技工作者和理工科院校专业教师及高年级学生使用，也可供其他人员业余进修和自学。

本书具有下列特点：

一、内容较新。内容绝大部分选自1982—1985年度的国外科技书报文章或广播，能反映一般教科书中少见的最新科技动态和信息。

二、文体多样化。所选文章包括信息报道、综合论述、人物轶事、科普小品、演说摘要、设计介绍、事件记叙等，使读者通过阅读能熟悉英文报刊上各种有关科技方面的文章。

三、注释较详尽。全书对一些较专门或不常用的词汇及用语，均在课文后加以注释，共约四百条。除部分用汉语外，尽可能多用英语注解，以培养读者逐步直接使用英语解释的辞典的能力。

四、习题切合实用。本书习题均配合每单元课文，共分两种。理解习题采取回答问题、是非选择、多项选择等形式，旨在测试阅读理解能力，巩固所学词汇与语句，并使读者对该课涉及的内容有更深入的了解。语言习题就该课出现的词、

句实例，就科技英语中常见的语法现象、构词方法及词义引伸、词的搭配用法等进行练习。词汇适用性较广，重复率较高，目的在使读者进一步巩固已有语言基础，提高熟练程度。

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UNIT 1

TEXT

Something about Zinc

Zinc is one of about 20 elements necessary for good health. It is present in the body in a very small amount but it makes it possible for some enzymes to carry out important chemical actions in cells. Scientists are just beginning to discover how zinc and other trace elements¹ work.

Researchers first studied zinc as a way to speed healing. Dr. Walter Powys, formerly with the United States Air Force, noted that the laboratory animals healed faster when some substances were added to their food. One of these substances was zinc. Dr. Powys later tested the zinc treatment on an American airman recovering from medical operations. The airman who received zinc sulphate recovered in one half the usual time. Other doctors studied persons who did not appear to be sick, but had a number of strange disorders. For example, some did not have a normal sense of taste or smell, others failed to grow normally, and still others did not develop sexually. The doctors learned that all of these problems were caused by a lack of zinc in the body. They treated

these disorders successfully by giving the patients zinc sulphate. American doctors also learned that white marks on the finger nails or toenails can be a sign of a lack of zinc. The white marks disappeared when treated with zinc and pyridoxine, also called vitamin B₆. More recent research has shown that zinc can prevent prostate gland problems in man and growth problems in children. Several years ago, doctors at the University of Colorado Medical Center discovered a group of children who had less than one half the normal amount of zinc for their age. Fifty percent of the children could not taste normally. Seventy percent did not feel like eating. Eighty percent had growth problems. The doctors gave these children a small amount of zinc. The zinc restored their sense of taste.

The amount of zinc in the body can be found by examining the blood and hair. A lack of this important trace element is not uncommon among people in both industrialized and developing countries. Zinc is found in most high protein foods, such as meat, milk, fish and eggs. It is also found in whole grains. But many people do not eat enough of these foods. Food makers put some extra vitamins into some of their products. But they usually do not add trace elements. Some health experts say it would be dangerous to put trace elements in foods prepared in laboratories. They say scientists do not know enough about these substances to use them

safely. Others, however, say food makers should add trace elements for that more people could get needed amount of these important substances.

Notes

1. trace elements: elements in very small amount 微量元素
2. pyridoxine (piri'doksin): 维生素B₆; 吡哆素
3. prostate gland: 前列腺带
4. for that: for the purpose that

Comprehension Exercises

I. Answer the following questions:

1. How many elements are necessary for good health?
2. Zinc is not present in the body in large amount, is it?
3. What does zinc enable some enzymes to do?
4. Do animals operated on in the laboratory heal faster when zinc is added to their food?
5. Name some examples of disorder of the body.
6. According to some American doctors, what do white marks on the finger nails show?
7. How can the amount of zinc in the body be found?
8. In what kinds of food can we find zinc?
9. Why do health experts think it dangerous to put trace elements into foods prepared in laboratories?
10. Why do other experts suggest trace elements be added to foods?

II. In the space provided, mark whether the sentences are true(T) or false(F):

1. Scientists have already known very well how zinc works in the body. ()
2. Zinc can carry out important chemical actions in cells. ()
3. To speed healing is one of the purposes in applying zinc in medical treatment. ()
4. Subjects were tested to see if they could recover as quickly as usual when they received zinc sulphate. ()
5. Failure of normal tasting and smelling is caused by a shortage of zinc. ()
6. Vitamin B₆ can remove the white marks on one's toenails. ()
7. Zinc has an influence on children's growth problems. ()
8. Zinc is not wanting among people in industrialized countries as it is in developing countries. ()
9. Food makers usually put extra trace elements into some of their products. ()
10. So far, scientists have not yet agreed that such substances as zinc should be added to foods. ()

Language Exercises

I. Fill each space with one of the words in the list in its right form:

extra; fail; growth; medical; recover; restore; speed; strange;
substance; treatment

1. She is majoring in _____ science.
2. The country has _____ order from chaos.
3. The very means taken to hinder the _____ of the movement hastened its spread.
4. The disease requires a more careful _____.
5. The patient _____ his perfect health.
6. He _____ on his way in breathless haste.
7. They often have lots of _____ work to do on holidays.
8. Some people often _____ to understand their own obligation.
9. The pond is covered up with green _____.
10. This may sound _____ to you

II. Change the voice (active/passive) of the following:

1. Researchers first studied zinc as a way to speed healing.
2. The doctors treated these disorders successfully by giving the patients zinc sulphate.
3. More recent research has shown that zinc can prevent growth problems in children.
4. The scientists learned that all of these problems were caused by a lack of zinc in the body.

III. Give another word that you can find in the text for each word in italics below:

1. He never *neglects* to write to his parents every week.

2. What is the *usual* temperature of the human body?
3. The zoologist is *repairing* the fossil of an extinct animal.
4. The building could not be finished for *need* of funds.
5. If you *join* 40 to 50, you get 90.

IV. *disorder*; *disappear*:

dis is a common negative prefix.

Give five more words with the prefix *dis*.

V. Form nouns from the following:

chemical	important
medical	dangerous
normal	sick
successful	safely

READING MATERIAL

Fluoride Saves Teeth

Worldwide experience has proved that fluoride is very important substance for human beings. The ingestion of small amounts of fluoride assures the development of sound teeth, resistant to decay. On the other hand, excessive quantities of fluoride produce mottling of the tooth enamel. Many areas in the world have sufficient quantities of fluoride in the environment, but there are regions where the high prevalence of dental caries can be connected with a deficiency of fluoride in

soil, food and drinking water.

Dental caries has been known since prehistoric times. One Neanderthaloid skull¹ found in Southern Africa was found to have cavities in 11 out of 13 teeth: one assumption that has been made was that this individual was inordinately fond of honey, but perhaps he was lacking fluoride? The ancient Egyptians attributed caries to a worm. Had they known about fluoride, they might have concluded that fluoride kills the worm.

The close relationship between a high prevalence of dental decay and a low concentration of fluoride in drinking water has been known for approximately 40 Years. In 1945, two cities in the United States and one in Canada began to add fluoride to their water supplies in order to attain optimal levels. The results of the first observations were very encouraging. Dental caries among young people who consumed artificially fluoridated water² decreased by more than a half. Since then, many cities and countries have treated their supplies. In fact, at present about 200 million people in more than 40 countries are receiving artificially fluoridated water.

Fluoride is effective within a rather narrow range of concentrations. At drinking-water concentrations above approximately 1.5 mg/litre, fluoride may give rise to³ dental fluorosis in some children. At concentrations below approximately 0.5 mg/litre, the incidence of dental caries is likely to be high.