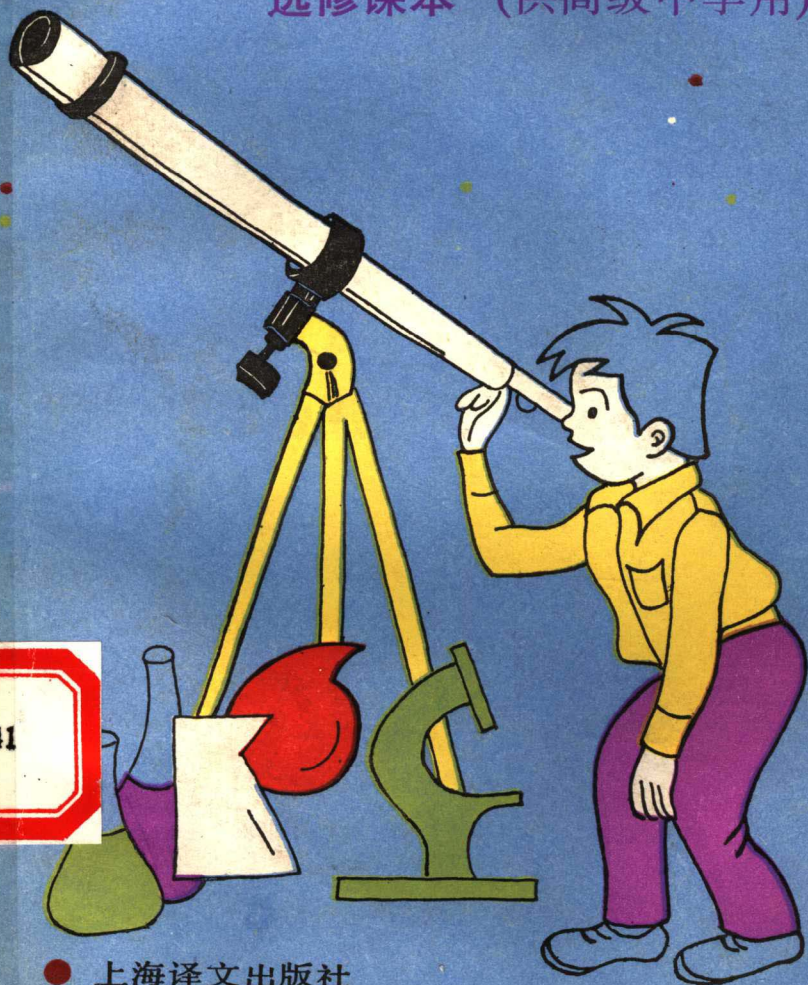




科技英语

选修课本 (供高级中学用)



● 上海译文出版社

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上海中小学课程教材改革委员会编

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说 明

本教材根据上海中小学课程教材改革委员会制订的《选修课程标准》(草案)编写,供高级中学一年级或二年级选用,教学时间需34课时。

本教材是试用本,由吴运同志编写。由于时间仓促,定有不足之处,希望试用本教材的各校师生提出宝贵意见,使之进一步完善。

前 言

学习英语的最终目的是为了使用英语这门工具，为经济建设服务。学生在中学阶段，除需要学习英语基础知识和接受基本能力培养外，多接触一些英语科普读物，无疑是大有好处的。

本书选材广泛，天文地理、气象环保、理化生物等等，可谓包罗万象，有些还是世界科技的最新成果。同时还收入了国外中学数学教材的有关章节，内容为青年学生喜闻乐见。这样，一方面有助于学生更好掌握英语，另一方面拓宽学生的知识面，激发他们发明创造的热情，充分发展他们的个性特长。

每篇文章后面均附有适量练习，以便检验学生的理解程度，帮助他们掌握一些基本英语科技词汇和在科技文体中常用的英语句式。教师可根据学生的实际水平选择使用。本书练习附有参考答案，以供广大读者自学参考。

本书编写过程中，上海学生英文报(S S P)编辑部，上海市少年科技指导站郑元和老师提供了一些很好的素材，特此表示谢意。由于时间仓促，水平有限，难免有疏漏之处，希望广大读者在使用过程中指正。

编 者

1992年8月

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LESSON ONE

What Gives Your Skin Its Color?

There is no such thing as anyone having skin as white as snow, as black as night, or as yellow as a canary. All skin, no matter what color it is, has an outer layer called the epidermis. The epidermis contains pigments, or coloring matter, which are responsible for the color of your skin. The amount of brown or yellow pigment, called melanin, in your skin determines how light or dark your skin will be.

Large amounts of brown pigment and small amounts of yellow are found in black people; large amounts of yellow pigment and small amounts of brown are found in Oriental people; and small amounts of both brown and yellow are found in white people.

These changes in skin color probably occurred early in the history of man, when skin color changed to meet the changes in climate. Dark skin protected people in hot, sunny climates, while lighter skin permitted the body to get Vitamin D



from the sun in cold climates. Skin colors were then transmitted to succeeding generations. So the amount of pigment you have in your skin depends upon the amount your parents have. Because people have such different amounts of pigment, many shades of skin color exist throughout the world.

New Words and Expressions

skin *n.* 皮, 皮肤

canary /kə'neəri/ *n.* 金丝雀

layer /'leiə/ *n.* 层

epidermis /,epi'de:mis/ *n.* 表皮

pigment /'pigmənt/ *n.* 色素

responsible /ris'pənsəbl/ *adj.* 作为原由的; 负责的

melanin /'melənin/ *n.* 黑色素

determine /di'tə:min/ *vt.* 决定

oriental /,ɔ:'ri:əntl/ *adj.* 东方的

occur /ə'kə:/ *vi.* 发生

permit /pə'mit/ *vt.* 允许

Vitamin /'vaitəmin/ *n.* 维他命, 维生素

transmit /trænz'mit/ *vt.* 传递; 遗传

succeeding generations 后代

shade *n.* 差度, 不同程度

Notes to the Text

1. All skin, no matter what color it is, has an outer layer called the epidermis. 所有的皮肤, 不管什么颜

色,都有一层表皮。

no matter how (what, when, where, whether, who) 构成让步状语从句,表示“不管怎样(什么,何时,哪里,是否,谁)”。例如:

No matter how hard I try, I can never catch up with him. 不管我怎样努力,我永远不能赶上他。

2. ... which are responsible for the color of your skin. (色素)决定你皮肤的颜色。
3. ... when skin color changed to meet the changes in climate. 其时,皮肤的颜色发生变化,以适应气候的变化。

Questions for Comprehension

1. What determines the color of your skin?
2. Oriental people don't have large amounts of brown pigment, do they?
3. When did the changes in skin color begin to occur?
4. Why do people have different skin colors?

Exercises

1. Find a word from the text to match each of the following.
 - 1) _____ (outer layer of skin)
 - 2) _____ (natural coloring matter)
 - 3) _____ (take place)
 - 4) _____ (allow)
 - 5) _____ (degree of difference)

2. Put the following into English.

- | | |
|------------|------------|
| 1) 象雪一样白 | 2) 对...负责任 |
| 3) 褐色素 | 4) 皮肤颜色的变化 |
| 5) 大量的维生素C | 6) 后代 |
| 7) 寒冷的气候 | 8) 依靠 |

3. Complete each of the following sentences, using the proper form of the given verb.

- 1) Several fires _____ (occur) last month.
- 2) It is man's social being that _____ (determine) his thinking.
- 3) Did a girl _____ (call) Wang Lin ring up for me this morning?
- 4) They were at a loss as to how _____ (meet) the situation.
- 5) Smoking _____ (not permit) in the workshops.
- 6) Messages _____ often _____ (transmit) by radio.
- 7) These electric wires _____ (protect) by a rubber covering.

LESSON TWO

Food

There are three main kinds of food. Sugar and starch are grouped together as carbohydrates: they are found in bread, potatoes and rice. These are mainly energy-giving foods which the muscles and other tissues use. Fats are also energy-giving foods but do not give it up as quickly as the sugars and starches as they have to be broken up in the liver and made into sugar before they can be burnt by the body. The other class known as proteins are the main solid part in all living cells. They are found in milk, meat and fish, and are necessary to the body to enable it to build new cells and repair old ones. For this reason growing children need more proteins than adults. As children are much more active than adults and use more energy for their size they need a lot of energy-giving foods, the carbohydrates. Children cannot get much of their energy from fat because it makes them unwell if they eat too much of it. A specially fine thing about the body is that it uses the things you like better than the things you do not like, so giving truth to the old saying 'A little of what you fancy does you good'.

In addition to these foods the body also needs small quantities of protective substances called Vitamins. They

are normally present in the diet that a sensible person would choose. Occasionally, however, prisoners of war or sailors on long voyages cannot get the right sorts of food and suffer from lack of Vitamins. Vitamins A and D are found in fat: if a child does not receive enough Vitamin D his bones do not harden so that he begins to walk late and when he does so his bones bend so that he may get bow legs. Vitamin B is found in the husks of wheat and rice. Vitamin C is found in fresh fruit and vegetables. In the days of sailing ships sailors used to go short of Vitamin C on long voyages. Normal people need very little of these Vitamins which they get easily in an ordinary diet, so there is no advantage in taking Vitamin pills. Babies, however, get very little to eat but milk which contains barely enough so that they have to be given Vitamins in orange juice and cod-liver oil.

New Words and Expressions

starch /stɑ:tʃ/ *n.* 淀粉

group *vt.* 使集合

carbohydrate /kɑ:bəu'haidreit/ *n.* 碳水化合物

muscle /'mʌsl/ *n.* 肌肉

tissue /'tisju:/ *n.* 肌肉(结缔)组织

fat *n.* 脂肪

break up 分解

liver /'live/ *n.* 肝, 肝脏

protein /'prəuti:n/ *n.* 蛋白质

enable /i'neɪbl/ vt. 使能够, 使可以

fancy /'fænsi/ vt. 喜欢

diet /'daɪət/ n. 通常吃的食物

sensible /'sensɪbl/ adj. 明智的

lack n. 缺乏, 缺少

harden /'hɑ:dn/ vt., vi. (使)坚固, (使)变硬

husk n. 外壳, 外皮

juice /dʒu:s/ n. 果汁

cod /kɒd/ n. 鳕

cod-liver oil 鱼肝油

Notes to the Text

1. Fats are also energy-giving foods but do not give it up as quickly as the sugars and starches as they have to be broken up in the liver and made into sugar before they can be burnt by the body. 脂肪也是提供热量的食物, 但是不像糖和淀粉那样容易消化, 因为脂肪必须先经肝脏内分解, 变成糖后才能被人体吸收。
2. A specially fine thing about the body is that it uses the things you like better than the things you do not like, so giving truth to the old saying 'A little of what you fancy does you good'. 人体尤为奇妙的一件事是它吸收你喜欢的东西比你喜欢的东西更容易, 因此, 证实了那句老话: “吃一点你喜欢的东西对你有好处”。
3. ... cannot get the right sorts of food and suffer from lack of Vitamins. 不能得到合适的食物, 因

缺乏维生素而患病。

right = most suitable 最合适的

suffer from 因...受苦,受损失;患病

4. barely enough 勉强够, 仅仅够

Questions for Comprehension

1. What is the main effect on the body of sugar and starch?
2. Why are proteins necessary to the body?
3. Why do children need more proteins than adults?
4. Why do children need a lot of energy-giving foods?
5. What does the writer mean by saying that a child suffering from lack of Vitamin D "begins to walk late"?
6. Normal people can't get enough Vitamins in an ordinary diet, can they?
7. Why do babies need Vitamins in their diet?

Exercises

1. Find a word from the text to match each of the following.
 - 1) _____ (matter)
 - 2) _____ (sort of food usually eaten)
 - 3) _____ (make or become hard)
 - 4) _____ (having good sense)
 - 5) _____ (make able)
 - 6) _____ (dry outer covering of seed)

2. Complete each of the following sentences by translating the Chinese expressions in brackets into English.

1) My grandfather _____ (患病) high blood pressure.

2) They had _____ (勉强够) to eat at that time.

3) The plants died for _____ (缺少) water.

4) She _____ (变得缺少) money after her father died.

5) Milk _____ your health _____ (对...有好处),

LESSON THREE

You Taste by Smelling

Your sense of smell is very closely related to your sense of taste.

To see how this works, think of a chocolate ice cream at your lips. You taste the sweetness of the chocolate with the taste buds at the tip of your tongue. But the smell of the chocolate is a job for your nose. The chocolate sends out tiny particles of vapor into the air and they reach the nerve cells inside your nose. So while your tongue is telling your brain that you're eating something sweet, the nerve cells in your nose are also reporting to your brain that it's something chocolate. Your brain puts this information together and tells you it's chocolate ice cream.

If you were blindfolded and your nose stopped up so you couldn't smell, you would have trouble identifying different foods just by taste. This has been proved with apples and potatoes, as well as with coffee and red wine, when they are both at the same temperature.

This is also why when you have a cold and mucus blocks your nasal passages, air cannot carry smells to your brain. So, it is almost impossible for you to taste food.

Although onions taste really delicious on hamburgers,



the person cutting and cooking them usually sheds a great many tears first. This happens because onions contain a strong-smelling oil. When the onion is peeled and cut, this oil escapes into the air in the form of vapor. When this vapor reaches your nose, it irritates the nerve cells. This, in turn, irritates the tear ducts in your eyes and they produce tears.

New Words and Expressions

relate /ri'leit/ vt. 有关系

bud n. 芽, 苞, 蓓蕾

taste bud 味蕾

tip n. 尖, 尖端

particle /'pa:tikl/ n. 粒子, 微粒

nerve cell 神经细胞