

中央电视台电视教育节目用书

# Follow Me to Science

## The Viewer's Book

### 跟我学——科技英语

#### 视 听 教 材

中央电视台社会教育部  
英国广播公司英语教学部 合编

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# UNIT 1 Building for the Future

## 第一课 未来的建筑

1. The Royal Botanic Gardens at Kew,<sup>1</sup> near London, is an international centre for botanical research, with an enormous collection of plants from every type of climate.<sup>2</sup> Tropical plants are kept in greenhouses, because they need heat and humidity. But some of the greenhouses at Kew are rather old and rusty. So all the tropical plants are moving to a new greenhouse—one which is designed to last a hundred years.<sup>3</sup>
2. The new greenhouse has a mild steel structure, with glass beneath it. The steel is sprayed with aluminium to prevent rust. The glass in the roof is 6mm thick;<sup>4</sup> this is safer and lasts longer. The glass roof is set below the steel structure and has the function of hiding it—only about a third of the structure is visible.
3. It's very expensive to keep all the plants at the correct temperature and humidity.<sup>5</sup> Water jets<sup>6</sup> will provide different levels of humidity in different parts of the house and will save energy, too. To give the plants the perfect environment, every detail must be right.
4. Architect Gordon Wilson describes the new greenhouse: "There are nearly 4,500 square metres of space, with ten separate climatic zones; these range from the arid zone, which is cool, at the south end of the greenhouse through the general tropical and subtropical zone in the centre to the temperate zone,<sup>7</sup> or the winter garden, at the north end. In-

ternally the structure is very much played down and the plants are beginning to dominate.”<sup>8</sup>

5. The greenhouse contains running water; around the path there's a stream, with water running down rock, and bits of fallen rock at the bottom. According to gardener Hugh Fitzgibbon, having small rocks at the back of the waterfall and very large ones right at the front increases the sense of distance.<sup>9</sup>
6. Energy conservation is of vital importance in any building and particularly in a glasshouse, says Gordon Wilson.<sup>10</sup> “We've reduced the height of the roof. We've reduced the volume. We have all the spaces under one roof, not in separate buildings, as before.<sup>11</sup> It's very much as I had hoped it would be, and I think the end result is satisfactory.”
7. On the opposite side of the world, Hong Kong is full of tall, new buildings. But the architecture of the new Hong Kong and Shanghai Bank<sup>12</sup> is dramatically different, using the latest materials and technology.
8. From the street, customers and staff enter, not through a door, but up an escalator. A curved screen made of steel and glass separates the hot plaza level from the cool, air-conditioned banking hall inside. Architect Ray Guy explains: “At plaza level you're at 33 degrees centigrade; you're moving through an improving environment right the way through to 23 degrees;<sup>13</sup> the banking hall is kept at 23 degrees centigrade.” Ray Guy has been the bank's project manager for the past five and a half years, working on first the design stage of the building and now the construction stage.
9. In the banking hall, every desk has its services provided through the floor<sup>14</sup> — the computer links, the telephone system, the power services and the air conditioning. They are all brought through the raised floor system.<sup>15</sup>

10. Staff<sup>16</sup> have been moving in<sup>17</sup> since 30th July and the general reaction has been good: "I think they enjoy the open space within the building, the newness and the uniqueness of the building. Our brief was to construct the best bank building in the world." The Hong Kong and Shanghai Bank is controversial: not everyone likes it, but it certainly stands out.<sup>18</sup>

## Notes 注释

1. The Royal Botanic Gardens 皇家植物园, 又称 Kew [kju:] Gardens 丘园, 因该园就在英国伦敦西南的丘地 (Kew).
2. "with + 名词 + 介词短语 / 分词短语等" 表示背景情况或行为方式。本篇中这种 with 共出现 3 处:  
with an enormous collection of plants from every type of climate 移植了许许多多各种气候条件下生长的植物  
with glass beneath it 钢结构下面是玻璃  
with water running down rock 水沿着石块往下淌
3. "So all the tropical plants are moving to a new greenhouse — one which is designed to last a hundred years."  
1) one 在此指代 greenhouse  
2) last 是动词, 意思是: 维持, 持续
4. 表示某个物体的高度、宽度、长度可用 "数字 + 单位 + high/wide/thick/long" 这一结构。  
例: This steel plate is 2 cm thick.  
This building is 120 metres high.
5. 在 at the correct temperature and humidity 中, temperature 和 humidity 之前用介词 at. 此外, 在 speed, rate, distance, price 等名词前也应该用 at, 如 at a speed of ... (以...的速度)。
6. water jets 喷嘴, 喷口
7. these range from the arid zone ... through the general tropical and subtropical zone ... to the temperate zone.  
这些气候区的范围有干旱地带... 热带、亚热带和温带。  
注意 range from ... through ... to ... 的用法。range 后面的介词一般是 from ... to  
例, My hobbies range from travelling to collecting stamps.

我的爱好广泛，从旅游到集邮，都喜爱。

8. Internally the structure is very much played down and the plants are beginning to dominate. 此句意思是：在内部，钢结构已不占主要地位，突出的是各种植物。
9. ...having small rocks...right at the front 为动名词短语，作主语用，谓语动词是 increases.
10. Says Gordan Wilson 是一个插入句，用来表示对全句内容的态度、评价、来源等，是一种新闻体。这类分句除位于句末外，也可位于句中。  
例：Work is done when a force moves an object through a distance, physics says. 照物理学的说法，当力使物体移动一定距离时，就叫做做功。  
A major problem with the project, the engineers reported, is how to dispose of wastes. 据工程师们报告，这项工程的一个主要问题是如何清除废物。
11. as before 是修饰 not in separate buildings 的，全句可译为：所有的空间都在一个房顶之下，而不像以往那样，分散在各个独立的建筑物中。
12. the Hong Kong and Shanghai Bank 汇丰银行，正式名称是 The Hong Kong and Shanghai Banking Corporation.
13. you're moving through an improving environment right the way through to 23 degrees. 句中的 environment 实指“气温”，全句的意思是：越往前走，气温逐渐降低，更加宜人，一直降到23度。
14. every desk has its services provided through the floor 每一张工作台都通过地板提供各种服务设施。
15. the raised floor 隆起式地板；活（动）地板
16. staff（全体）工作人员。staff 单数形式，复数含义，因此句中谓语用复数形式。
17. move in 进入（银行大厦办公）
18. stand out 引人注目，与众不同  
例：He was tall and stood out in the crowd. 他个子高，在人群中显得十分引人注目。



## Exercises 练习

### 1 WORDS 单词

1:1 Match these single words from the passage with the definitions, as in the example:

找出和下列课文中单词含义相符的定义。如例所示，划线连接：

uniqueness	—	power, e.g. electricity, used for heat, etc.
enormous		the amount of room inside a building, etc.
sprayed		becoming better
rather		be the most important or most visible
research		very big
curved		scientific investigation carried out at universities, etc.
energy		slightly, a little
volume	—	quality of being different
improving		covered in small drops of liquified matter
dominate		not flat or straight, bending

1:2 Match these single words from the passage with the definitions:

找出和下列课文中单词含义相符的定义：

botanical	the water contained in the air
arid	a set of moving stairs
escalator	of or related to plants
controversial	very dry and unproductive
humidity	causing much argument

1:3 Now match the following two- and three-word phrases with the definitions in the same way:

用相同方法找出和下列词组含义相符的定义：

range from . . . to	as was said by (someone)
tropical plants	feeling that something is a long way away

design stage	looks different from everything near it
water jets	costing a lot of money
stands out	devices which produce water in small drops
power services	including everything between these two extremes
dramatically different	flowers, trees, etc. which grow in hot, humid parts of the world
played down	electricity (and, sometimes, gas)
construction stage	made less important
sense of distance	period of building
very expensive	period of planning
according to	not the same at all

1:4 Which of the following words apply to BUILDINGS and which to WEATHER or CLIMATE? Some words may apply to both. Write them down in two columns:

下列哪些单词用于建筑方面，哪些用于天气或气候？有些词两方面都适用。把它们写成两行：

#### BUILDING

#### WEATHER/CLIMATE

rust(y), north, arid, aluminium, screen, roof, zone, humidity, height, environment, internally, winter, temperature, south, mild, tropical, steel, levels, subtropical

1:5 Which of the following words apply to a GREENHOUSE and which to a BANK BUILDING? Some words may apply to both:

下列哪些单词是和暖房有关的，哪些是和银行建筑有关的？有些两者都适用。

#### GREENHOUSE

#### BANK BUILDING

plants, plaza, stream, customers, desk, collection, visitors, rock, conservation, air conditioning, staff, hall, telephone, computer

## 2 MEANING 含义

Pick the best word or phrase to complete these sentences, as in the example:

选择最恰当的词或词组来完成下列句子，如例所示：

- A The Royal Botanic Gardens has an enormous collection of . . . . .  
a) tropical plants  
b) plants from all over the world  
c) plants which need heat and humidity
- B One new greenhouse is replacing . . . . . old greenhouse(s).  
a) one  
b) two  
c) more than two
- C Most of the structure is . . . . . from the inside of the greenhouse.  
a) visible  
b) aluminium  
c) invisible
- D Water jets . . . . energy.  
a) use a little  
b) use a lot of  
c) don't use
- E The warmest zone is . . . . of the greenhouse.  
a) in the middle  
b) at the north end  
c) at the south end
- F A low roof and reduced volume conserves . . . . :  
a) glass  
b) energy  
c) plants
- G The Hong Kong and Shanghai Bank is different because it . . . .  
a) is tall

- b) is dramatic
- c) uses new materials and technology
- H The banking hall is 10° . . . . than the plaza:
  - a) higher
  - b) lower
  - c) cooler
- I . . . . of the bank's staff like the new building.
  - a) All
  - b) Some
  - c) Most
- J The new greenhouse . . . . 4,500 square metres.
  - a) has a volume of
  - b) covers an area of

### 3 NUMBERS AND DATES 数字和日期



1 a

- 3:1 Here are three numbers from the passage; can you say them?  
33, 23, 30th.

这里有课文中的 3 个数字，你会读吗？

Now listen to them on tape: 现在听磁带：

Thirty-three and twenty-three are cardinal numbers (基数词)；

thirtieth is an ordinal number (序数词) — it gives the order of days, months, etc.



1 b

- 3:2 Here are more cardinal and ordinal numbers. Say each one after you hear it on tape:

下面是一些基数词和序数词。先听录音，然后一个一个跟着读：

1 one

1st first

2 two

2nd second

3 three

3rd third

4	four	4th	fourth
5	five	5th	fifth
6	six	6th	sixth
7	seven	7th	seventh
8	eight	8th	eighth
9	nine	9th	ninth
10	ten	10th	tenth
11	eleven	11th	eleventh
12	twelve	12th	twelfth
13	thirteen	13th	thirteenth
14	fourteen	14th	fourteenth
15	fifteen	15th	fifteenth
16	sixteen	16th	sixteenth
17	seventeen	17th	seventeenth
18	eighteen	18th	eighteenth
19	nineteen	19th	nineteenth
20	twenty	20th	twentieth
21	twenty-one	21st	twenty-first
32	thirty-two	32nd	thirty-second
43	forty-three	43rd	forty-third
54	fifty-four	54th	fifty-fourth
65	sixty-five	65th	sixty-fifth
76	seventy-six	76th	seventy-sixth
87	eighty-seven	87th	eighty-seventh
98	ninety-eight	98th	ninety-eighth
100	one/a hundred	100th	one/a hundredth
109	one/a hundred and nine	109th	one/a hundred and ninth

3:3 In the following month names, capital letters show the short, abbreviated forms:

e.g. JANuary is often written 'Jan'.

在下列月份名称中，大写字母表示短写式：如：一月常写成 'Jan'.

FEBruary   MAY   AUGust   NOVember  
MARch   JUNE   SEPTember   DECember  
APRil   JULy   OCTober

Thirty days has September,  
 April, June and November.  
 All the rest have thirty-one,  
 Except for February drear,  
 Which has twenty-eight days clear,  
 And twenty-nine in each Leap Year.\*

\* (every fourth year is a Leap Year,  
 when February has 29 days.)

- a) How many days are there in January?
- b) How many days does March have?
- c) How many in May?
- d) And what about July?



1 c

3:4 Now compare a common written form for dates with the way the same dates would be said if you were talking to someone:

比较日期的书写形式和口语表达法:

1/2/83 'the first of February, nineteen eighty-three'

2/3/86 'the second of March, nineteen eighty-six'

Now write out these dates as you would say them, then listen to the tape.

把下面这些日期的读法写出来, 然后听录音。

a) 31/12/84 d) 29/5/36 g) 15/7/67

b) 22/4/54 e) 30/6/18 h) 14/11/72

c) 13/1/45 f) 28/9/87 i) 16/8/53

NB: In some Western countries it is usual to put the month first, so that 1/2/86 would be 'the second of January, nineteen eighty-six'

注意: 在一些西方国家, 习惯把月份放在前面, 1/2/86读成 'the second of January, nineteen eighty-six'.

To avoid confusion, companies often write:

为了避免误解, 公司常这样写,

Jan 2, 1986 or 2 Jan '86

Jan 2nd '86 or 2nd Jan 1986

3:5 Here are some imaginary (假想的) notes on building the new greenhouse, followed by a few sentences from the first visitors:

下面是假想的关于修建暖房的记录，接着是第一批参观者的话：

1983 — 1984 Design Stage

1985 — 1986 Construction Stage

1/1/85—3/3/85	erect steel structure
4/3/85—4/7/85	fit glass
5/7/85	install water jets
6—20/7/85	holiday
21/7/85—14/8/85	arrange arid zone
29/7/85—14/8/85	arrange central zone
15/8/85—31/8/85	arrange temperate zone
1/9/85—14/9/85	install running water
15/9/85—15/10/85	put in stream
16/10/85—23/10/85	position rocks
24/10/85—1/1/86	put in plants
2/1/86	open to public



Gordon Wilson started designing the greenhouse in 1983.



He worked on the design until 1984.



He worked on construction **between** the first of January nineteen eighty-five **and** the first of January nineteen eighty-six.



He started erecting the steel structure **on** the first of January and finished **on** the third of March nineteen eighty-five.



He hasn't had a holiday **since** July, nineteen eighty-five.

Now answer these questions with similar sentences using **on, since, until, between, from and in**:

用介词 **on, since, until, between, from** 和 **in** 造出类似以上的句子来回答下列问题:



1) When did he fit the glass?





2) How long did it take him to arrange the arid zone?



3) When were the water jets installed?



4) Did he arrange the temperate zone before the central zone?



5) When was the running water installed?



6) How long has the new house been open to the public?