

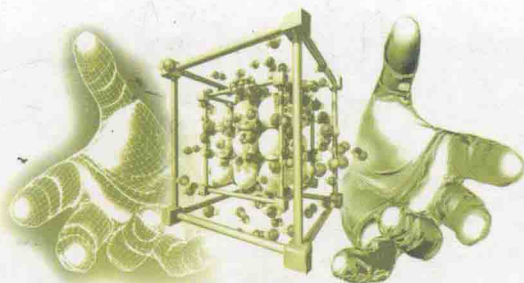
中 小 学  
双 语 师 资 培 养 系 列 教 材

总主编 刘春明

# 中 学 生 物 专业基础英语教程

A Fundamental English Course in Secondary  
School Biology

◎ 魏 健 盛彦敏 刘 钊 // 主编



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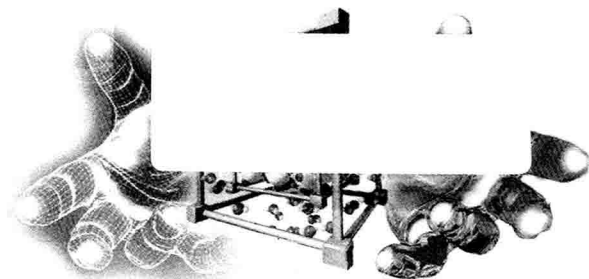
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# 中学生物 专业基础英语教程

Zhongxue Shengwu Zhuanye Jichu Yingyu Jiaocheng

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# 序

近几年来，随着经济全球化的时代背景，我国的双语教学发展迅速。但同时带来不少问题，双语教材的不丰富就为教学带来不少困扰。因此，本书编者根据多年双语教学经验编写了此书，以使更多从事双语教学的工作者受益。

本书采用初中生物教学内容，选取 40 个具有代表性的课题进行教案展示。可供初中双语教师使用，亦可供高师院校学生参考。本教材具有实践性、创新性、可操作性和应用性强的特点，有助于教育工作者的教学工作。

由于编写时间仓促，水平能力有限，书中难免有疏漏和不妥之处，敬请批评指正。

编 者

2011 年 6 月

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## Chapter 1 Invertebrate



### Teaching goals

1. To know what is invertebrate.
2. To know what are the structures and distributions of different kinds of invertebrates.
3. To grasp the identical animals of each phylum or each class.
4. To know how to classify different kinds of invertebrates.



### New words and expressions

invertebrate *adj.* 无脊椎的 *n.* 无脊椎动物

backbone *n.* 脊骨, 脊柱

phyla *n.* (生物分类学上的) 门, 语群 (比语系关系松散的一种语言) (phylum 的复数)

hydra *n.* 水螅; 难于根除的祸患

jellyfish *n.* 水母, 海蜇; 软弱无用的人; 意志薄弱的人

Cnidaria 〈拉〉刺胞动物, 腔肠动物

anemone 银莲花

tentacle 触手, 触角, 触须

carnivorous (动物) 食肉的

microscopic 显微镜的，用显微镜可看见的；微小的，细微的  
coral 珊瑚  
reef 礁，暗礁  
alga 水藻  
annelida 环节动物门，环虫类  
damp 潮湿的，不完全干燥的；潮湿，湿气  
clitellum 环带  
drag 在地上拖拉；慢吞吞地走，磨蹭  
burrow 挖掘（洞穴）；挖洞  
humus 腐殖质  
faeces 粪便  
drainage 排水，放水；排水系统，下水道；废水，污水，污物  
seaweed 海草，海藻  
shallow 浅的；肤浅的  
leech 水蛭，蚂蟥  
parasite 寄生物  
mollusca 软体动物门  
ragworm 沙蚕（沙蚕科的环节动物）  
parapodium （某些环节动物的）疣足；（软体动物的）侧足  
mussel 贻贝，蚌类  
limpet 帽贝  
filter 过滤  
suck 吸；吮  
edible 可以吃的，可食用的  
grazer 食草动物  
scraping 刮，擦  
squid 乌贼，墨鱼；鱿鱼  
octopus 章鱼  
cuttlefish 墨鱼



herbivore 食草动物  
 whelk 酒刺, 峨螺, 海螺  
 camouflage 伪装; 隐藏; 掩藏  
 arthropod [英] 节肢动物  
 sheer 完全的  
 margin 差数, 差额  
 exoskeleton 外骨骼  
 myriapoda 多足纲  
 millipede 马陆, 千足虫  
 centipede 蜈蚣  
 Arachnida 蛛形纲  
 scorpion 蝎子  
 Crustacea *n.* 甲壳纲动物 *adj.* 甲壳纲的  
 lobster *n.* 龙虾; 龙虾肉  
 crab *n.* 蟹  
 woodlouse *n.* 土鳖, 土鳖虫  
 insecta 昆虫纲  
 niche *n.* 壁龛  
 Arctic *adj.* 北极的, 北极区的  
 antarctic [英] 南极



## Warming up

We all know that humans have backbones, but there are still many other kinds of animals who don't have backbones. Here are some pictures. Do you want to know them? Today we'll take a trip to the world of invertebrates.



## Listening

Of the million or more animal species in the world, more than 98% are invertebrates. Invertebrates don't have an internal skeleton made of bone. Many invertebrates have a fluid-filled, hydrostatic skeleton, like the jellyfish or worm. Others have a hard outer shell, like insects and crustaceans. There are many types of invertebrates. The most common invertebrates include the protozoa, annelids, echinoderms, mollusks and arthropods. Arthropods include insects, crustaceans and arachnids.

1. Of the million or more animal species in the world, more than \_\_\_\_\_ are invertebrates.
2. Do invertebrates have an internal skeleton made of bone?



## Pre-reading

Read the text rapidly, and tell the identical animals of each phylum or each class.



## Reading

There are four parts in this text. Each part talks about one phylum of invertebrates. They are phylum Cnidaria, phylum Annelids, phylum Mollusca and phylum Arthropods. When it is

talking about the arthropods, we should also talk about three main classes of this phylum, they are class arachnida, class crustacea, class insecta. For every part, the teacher shows the students some pictures about this phylum. And divide the students into several groups.

First, let the students discuss the structures and analysis the distributions of them.

Second, let the students show the results of their discussion.

Then, the teacher makes a conclusion of their results, and explains the right information of each phylum.

At last, the teacher teaches the students how to classify an invertebrate when you first see it.



### **Grammar and expressions**

belong to 属于, 从属



### **Integrating skills**

1. Tell the main information of different phyla of invertebrates.
2. Show the students some pictures of invertebrates, and let the students classify them.

## Chapter 2 Food Hygiene



### Teaching goals

1. To know what kinds of bacteria can cause food poisoning.
2. To know at what temperatures bacteria reproduce fastest.
3. To know food hygiene can prevent food from being poisoned.
4. To know careful cooking and storing makes food safe to eat.



### New words and expressions

hygiene 卫生学, 保健学

moist 潮湿的, 微湿的

salmonella 沙门氏菌

campylobacter 弯曲菌

Listeria [英] 李斯特菌属

clostridium 梭菌, 梭菌属

bacterium 细菌

sizeable 相当大的, 大的

dose (一次) 剂量, 一剂, 一份

freezer (冰箱的) 冷藏室, 冷藏车, 冷藏库

oven-ready 可立即烹调的, 可立即烤制的 (食物)

slaughter 屠杀, 杀戮; 屠宰  
 lorry 运货汽车, 卡车  
 thaw (冰、雪及冷冻食物) 溶化, 溶解  
 toxin 毒素  
 pressure cooker 高压锅  
 spore (细菌、苔藓、蕨类植物) 孢子  
 enteritidis 肠炎沙门菌  
 magnify 放大; 扩大; 夸大; 夸奖; 赞美  
 retailer 零售商; 零售店  
 outbreak 爆发, 突然发生  
 diarrhoea 腹泻  
 chef 〈法〉厨师长  
 joint *adj.* 共同的, 联合的 *n.* 关节; 接头, 接合处  
 stew *vt.* & *vi.* 炖, 焖  
 snappy *adj.* 迅速的; 敏捷的; 漂亮的; 时髦的



### Warming up

1. Have you ever been food poisoning? How does it happen?
2. List some ways to avoid food poisoning.



### Listening

The following article appeared in a local newspaper in November 1989.

Hotel lamb causes outbreak of food poisoning

A chef at a local hotel has been blamed for causing stomach

upsets among lunch guests. Half of a group of people attending a function at the hotel suffered diarrhea and stomach pains, after eating rare lamb. Tests showed that they had all been infected with *Clostridium* bacteria. The chef admitted to cooking the lamb 40 hours before it was served. A joint weighing about 5lbs was cooked for 1 hour. It was then kept in a warm kitchen for an hour, before being transferred to the refrigerator.

A written warning has been sent to the hotel, stressing the need for food hygiene education for the kitchen staff.

**Question:**

Describe three things the chef did which contributed to the infection of the hotel guests.



### **Pre-reading**

1. What kinds of bacteria can cause food poisoning?
2. How can bacteria reproduce fastest?
3. How to make food safe to eat?
4. What can prevent food from poisoning?



### **Reading**

There are four parts of this text.

The first part is "Several types of bacteria can cause food poisoning". From this part we should learn what kinds of bacteria can cause food poisoning. And the teacher shows some pictures of these bacteria.

The second part is “Bacteria reproduce fastest at warm temperatures”. From this part we should know at what kind of condition the bacteria reproduce fastest. The teacher can use the pictures which given on the text to guide the students to know different temperatures have different functions.

The third part is “Careful cooking and storing makes food safe to eat”. The teacher can let the students discuss by themselves. Then they can share their opinions with others about how to make food safe to eat in our daily life.

The last part is “Food hygiene can prevent food poisoning”. This part shows how to keep food safe to eat in markets. The teacher explains the scientific ways for food retailers and producers to keep food in a good condition, and avoid food poisoning taking place.



### **Grammar and expressions**

1. Food poisoning is caused by eating food in which dangerous bacteria have been reproducing.
2. None of these bacteria are harmful to you unless you eat a lot of them.



### **Integrating skills**

Write a short and snappy list of dos and don'ts for people to follow in their kitchen to make sure that they do not suffer from food poisoning.

## Chapter 3 Seeds and Fruits



### Teaching goals

1. To grasp the process of fertilization.
2. To learn after fertilization, the ovule becomes a seed, and the ovary becomes a fruit.
3. To know the seeds dormant.



### New words and expressions

ovule	胚珠	ovary	子房	fertilization	受精
stigma	柱头	style	花柱	zygote	受精卵
embryo	胚胎	radicle	胚根	plumule	胚芽
cotyledon	子叶	testa	外种皮	dormant	休眠



### Warming up

1. How does the seed grow to a plant?
2. How does the ovary become a fruit?





## Listening

1. ① What are the components of seeds?

② What is the micropyle?

2. Investigation the structure of a seed.

① Make a labeled diagram of your seed. You should be able to see the testa, and a scar where the seed has been broken away from the fruit. You may also see a very small hole near this scar. The hole is called the micropyle. What sort of fruit do you think is contained in your seed?

② Peel away the testa. Find the two cotyledons. What is their function? Gently pull the cotyledons apart, and look for the rest of the embryo plant. Find the radicle and the plumule. Draw the whole embryo plant, and label it.



## Pre-reading

1. What do the ovule and the ovary become after fertilization?

2. What conditions do the seeds need for germination?



## Grammar and expressions

radicle 胚根

plumule 胚芽