

1 Classifying living things – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)		
kingdoms	界	_____	_____	_____
Animal	动物	_____	_____	_____
Plant	植物	_____	_____	_____
photosynthesis	光合作用	_____	_____	_____
Fungus	真菌	_____	_____	_____
mushrooms	蘑菇	_____	_____	_____
yeast	酵母	_____	_____	_____
Prokaryote	原核生物	_____	_____	_____
bacteria	细菌	_____	_____	_____
nucleus	细胞核	_____	_____	_____
Protoctist	原生生物	_____	_____	_____
algae	藻类	_____	_____	_____
Vertebrates	脊椎动物	_____	_____	_____
backbone	脊柱	_____	_____	_____
fish	鱼类	_____	_____	_____

English	中文	Write it 3 times (English)		
amphibians	两栖动物	_____	_____	_____
reptiles	爬行动物	_____	_____	_____
birds	鸟类	_____	_____	_____
mammals	哺乳动物	_____	_____	_____
Arthropods	节肢动物	_____	_____	_____
exoskeleton	外骨骼	_____	_____	_____
insects	昆虫	_____	_____	_____
arachnids	蛛形纲	_____	_____	_____
dichotomous key	二歧检索表	_____	_____	_____
Viruses	病毒	_____	_____	_____
protein coat	蛋白质外壳	_____	_____	_____
genetic material	遗传物质	_____	_____	_____
host	宿主	_____	_____	_____

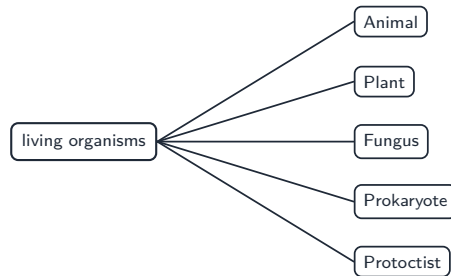
Recall

There are millions of kinds of living thing, so scientists sort them into groups. The biggest groups are the **kingdoms** 界. You decide where an organism belongs by looking at its features.

New ideas

Read these first, then do the Practice.

■ 1 The five kingdoms



Kingdom	A key feature
Animal 动物	many cells, no cell wall; feed on other organisms
Plant 植物	many cells with a cell wall; make food by photosynthesis 光合作用
Fungus 真菌	e.g. mushrooms 蘑菇 and yeast 酵母; feed on dead or living matter
Prokaryote 原核生物	e.g. bacteria 细菌; one cell, no nucleus 细胞核
Protocist 原生生物	e.g. algae 藻类; usually one cell, with a nucleus

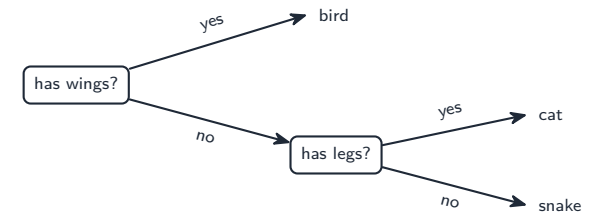
■ 2 Grouping the animals

Animals split into those with and without a backbone:

- **Vertebrates** 脊椎动物 have a **backbone** 脊柱 — the five groups are **fish** 鱼类, **amphibians** 两栖动物, **reptiles** 爬行动物, **birds** 鸟类 and **mammals** 哺乳动物.
- **Arthropods** 节肢动物 have no backbone but a hard **exoskeleton** 外骨骼 — e.g. **insects** 昆虫 and **arachnids** 蛛形纲.

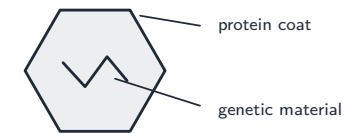
■ 3 Dichotomous keys

A **dichotomous key** 二歧检索表 helps you name an unknown organism. At each step you choose between **two** options, and that choice sends you to the next step, until you reach a name.



■ 4 Viruses

Viruses 病毒 are not in any kingdom and are not made of cells. A virus is just a **protein coat** 蛋白质外壳 around its **genetic material** 遗传物质, and can only reproduce inside a living **host** 宿主.



Watch out: a **virus** is not in any kingdom — it is not made of cells and can only reproduce inside a host. In a dichotomous key, each step offers exactly **two** choices.

Practice

Try these in order.

1.6 Name the five kingdoms that living things are sorted into. [3]

1.7 What is the difference between a vertebrate and an arthropod? [2]

1.8 Give one feature of mammals and one feature of birds. [2]

1.9 What does “dichotomous” mean, and how many choices are there at each step? [2]

1.10 Why do some scientists say a virus is not a living organism? [1]

1.11 **Challenge.** An unknown animal has a backbone, feathers and lays hard-shelled eggs. State its vertebrate group, and give the feature that rules out “mammal”. [2]