

7 Natural selection and evolution — Part 1

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)		
Evolution	进化	_____	_____	_____
natural selection	自然选择	_____	_____	_____
variation	变异	_____	_____	_____
Fitness	适合度	_____	_____	_____
adaptation	适应	_____	_____	_____
artificial selection	人工选择	_____	_____	_____

Recall

You have likely met Darwin's big idea already:

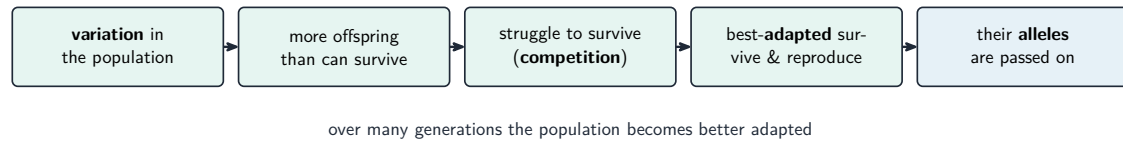
- Living things vary – no two are exactly alike.
- Those best suited to their environment tend to survive and have more offspring.
- Farmers breed animals and plants for the features they want.

This sheet lines up how evolution works. Each idea has a short worked example.

New ideas

■ 1 Natural selection

Evolution 进化 is a change in a population's inherited traits over generations. Its main cause is **natural selection** 自然选择:



- individuals show **variation** 变异,
- some variations survive and reproduce better,
- those helpful traits become more common over time.

■ 2 Fitness and adaptation

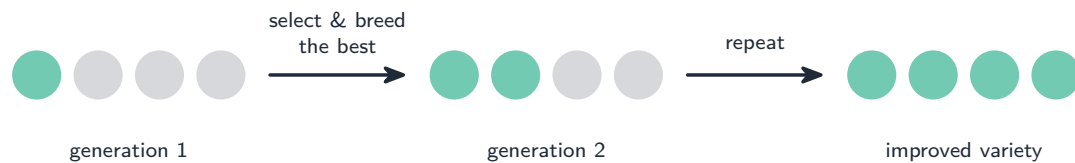
Fitness 适合度 means reproductive success – how many offspring an individual leaves, not how strong it is. A well-suited trait is an **adaptation** 适应.

■ 3 Selection changes populations

Over many generations, natural selection makes helpful traits common and harmful ones rare, reshaping the whole population.

■ 4 Artificial selection

In **artificial selection** 人工选择, humans (not nature) choose which individuals breed – for bigger crops, faster horses, or friendlier dogs.



Watch out: “fitness” in biology means **reproductive success**, not being strong or healthy. An animal that survives but leaves no offspring has zero fitness.

Practice

Try these in order. The methods are all above.

2.1 State the three key parts of natural selection. [3]

2.2 State what “fitness” means in biology. [1]

2.3 State the difference between natural selection and artificial selection. [2]

2.4 Explain why a helpful trait becomes more common in a population over time. [2]

2.5 Give one example of a trait produced by artificial selection. [1]
