

17 Variation – 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)
Variation	变异	_____
discontinuous variation	不连续变异	_____
continuous variation	连续变异	_____
environmental factors	环境因素	_____

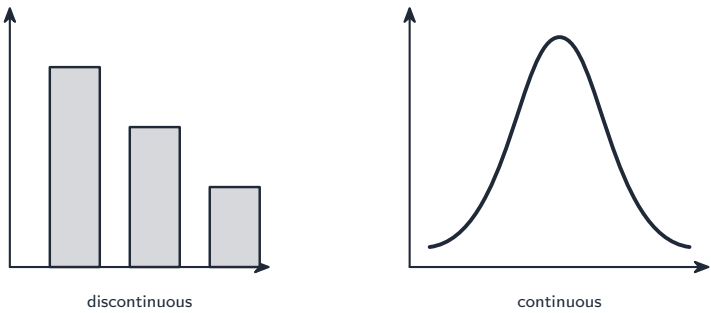
Recall

Variation 变异 means the differences between individuals. It comes in two patterns and has three possible causes.

New ideas

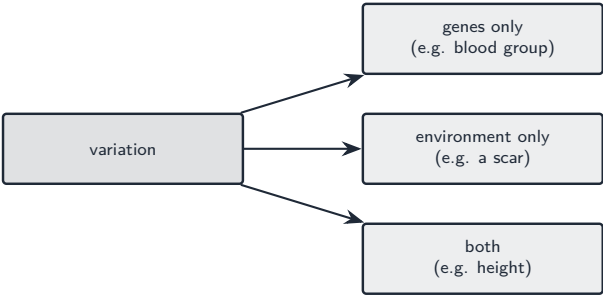
Read these first, then do the Practice.

1 Two patterns



- **discontinuous variation** 不连续变异 — clear separate groups (like blood group), set by one or a few genes;
- **continuous variation** 连续变异 — a smooth range (like height), set by many genes plus the environment.

2 Three causes



A feature can be set by genes only, by **environmental factors** 环境因素 only, or by both together (most features, like height).

Watch out: discontinuous variation = separate groups (one or a few genes, e.g. blood group); continuous variation = a smooth range (many genes *plus* the environment, e.g. height). Most features depend on *both* genes and environment.

Practice

Try these in order.

17.1 What does *variation* mean? [1]

17.2 Is blood group *discontinuous* or *continuous* variation? [1]

17.3 Is height *discontinuous* or *continuous* variation? [1]

17.4 What controls continuous variation? [1]

17.5 Give one feature set by *both* genes and environment. [1]

17.6 Challenge. Two genetically identical plants are grown, one in bright light and one in shade, and they end up different heights. Explain what this shows about height. [2]
