

14 Homeostasis – 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)		
Homeostasis	稳态	_____	_____	_____
stimulus	刺激	_____	_____	_____
receptor	受体	_____	_____	_____
nervous system	神经系统	_____	_____	_____
hormones	激素	_____	_____	_____
effector	效应器	_____	_____	_____
negative feedback	负反馈	_____	_____	_____

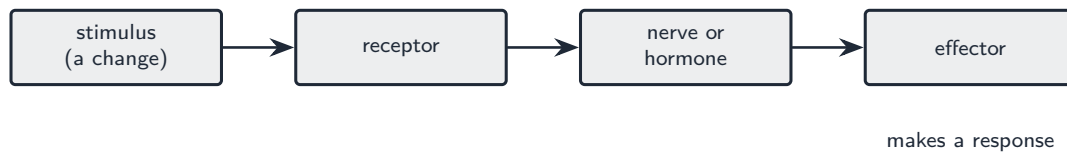
Recall

Homeostasis 稳态 means keeping the inside of the body steady, even when the outside changes. This lets cells and enzymes work properly.

New ideas

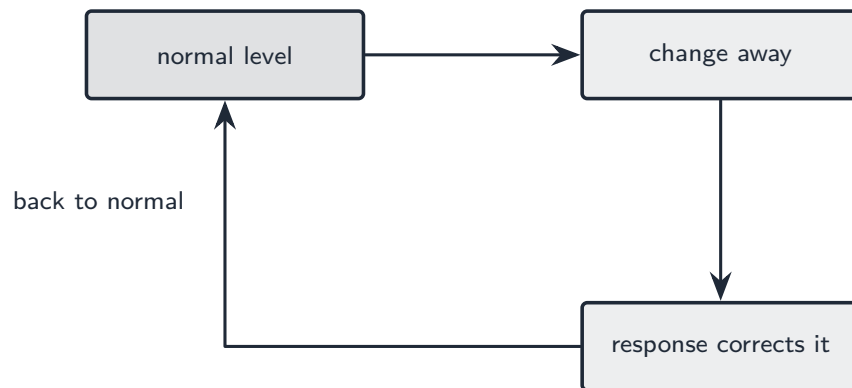
Read these first, then do the Practice.

■ 1 The homeostasis path



- a change (a **stimulus** 刺激) is detected by a **receptor** 受体;
- a message is carried — by the **nervous system** 神经系统 or by **hormones** 激素;
- an **effector** 效应器 (a muscle or gland) makes a response that corrects the change.

■ 2 Negative feedback



This works by **negative feedback** 负反馈: a change away from the normal level triggers a response that pushes it back.

Watch out: the path is stimulus → receptor → (nerve or hormone) → effector → response. Negative feedback always pushes the level *back towards normal* — it *opposes* the change.

Practice

Try these in order.

14.1 What does *homeostasis* mean? [1]

14.2 What detects a change (a *stimulus*)? [1]

14.3 Name the two systems that can carry the message. [2]

14.4 What is an *effector*? [1]

14.5 In *negative feedback*, which way does the response push the level? [1]

14.6 Challenge. When you are too hot you sweat and cool down; when too cold you shiver and warm up. Explain how both are examples of negative feedback. [2]
