

14. Homeostasis

Starter Quiz · 课前小测

A-Level Biology

Name: _____ Score: _____

1. Homeostasis is:

- ☐ keeping internal conditions steady despite changes outside
- ☐ making the body match the outside temperature
- ☐ growing new cells
- ☐ breaking down food

2. The nephron is:

- ☐ the tiny tube that is the kidney's functional unit
- ☐ the outer capsule of the kidney
- ☐ a hormone
- ☐ the tube to the bladder

3. The hormone that controls water reabsorption in the kidney is _____.

4. When blood glucose is high, insulin:

- ☐ makes liver and muscle cells take in glucose and store it as glycogen
- ☐ breaks glycogen into glucose
- ☐ raises blood glucose
- ☐ has no effect

5. Guard cells close the stomata to reduce water loss when the plant is short of water.

- ☐ True ☐ False

6. Removing the amino group from excess amino acids in the liver is called _____.

7. Ultrafiltration happens at the _____ — the knot of capillaries inside the Bowman's capsule.

8. Which part of the brain detects the water potential of the blood?

- ☐ the hypothalamus
- ☐ the collecting duct
- ☐ the glomerulus

- ☐ the ureter

9. When blood glucose is low, glucagon:

- ☐ makes liver cells break glycogen back into glucose, raising the level
- ☐ stores glucose as glycogen
- ☐ lowers blood glucose
- ☐ splits water

10. The hormone that LOWERS blood glucose, by making cells store it as glycogen, is _____.

A-Level Biology

1. **keeping internal conditions steady despite changes outside**

Homeostasis keeps internal conditions (temperature, water, glucose) steady so cells work well.

2. **the tiny tube that is the kidney's functional unit**

Each kidney has about a million nephrons; each makes urine by filtration and reabsorption.

3. **ADH**

ADH makes the collecting duct more permeable to water.

4. **makes liver and muscle cells take in glucose and store it as glycogen**

Insulin lowers blood glucose by promoting uptake and storage as glycogen.

5. **True**

Closing the stomata is how a plant conserves water — part of homeostasis in plants.

6. **deamination**

It produces ammonia, which the liver converts to urea for the kidneys to excrete.

7. **glomerulus**

High blood pressure in the glomerulus forces small molecules out into the capsule.

8. **the hypothalamus**

The hypothalamus monitors blood water potential and triggers ADH release from the pituitary.

9. **makes liver cells break glycogen back into glucose, raising the level**

Glucagon raises blood glucose by breaking down glycogen into glucose in the liver.

10. **insulin**

Insulin lowers blood glucose; its opposite, glucagon, raises it.