

AQA GCSE Biology (Higher) For the Summer 2022 Exams

Flashcard Notes - 5.2.4 Control of body temperature

Copy the questions and answers below onto flashcards and use them to test yourself.

Which part of the body monitors and controls body temperature?

The thermoregulatory centre in the brain monitors and controls body temperature.

How does the thermoregulatory centre monitor body temperature?

The thermoregulatory centre monitors body temperature in two ways:

- It contains receptors which monitor the temperature of the blood passing through it. This allows it to measure the internal temperature of the body.
- It receives nerve impulses from temperature receptors in the skin. This allows it to measure the surface temperature of the body.

What is vasoconstriction?

Vasoconstriction is when blood vessels close to the body surface constrict (narrow), reducing the amount of blood flowing through them.

What is vasodilation?

Vasodilation is when blood vessels close to the body surface dilate (widen), increasing the amount of blood flowing through them.

If the body temperature is too low, how does the thermoregulatory centre respond?

If the body temperature is too low, the thermoregulatory centre responds by causing the following changes in the body:

- Vasoconstriction. Since this reduces the amount of blood flowing close to the surface, less heat is lost from the blood to the surroundings.
- Stopping sweating. This reduces the amount of heat lost through the evaporation of sweat.
- Shivering. This is when skeletal muscles rapidly contract to generate heat.

If the body temperature is too high, how does the thermoregulatory centre respond?

If the body temperature is too high, the thermoregulatory centre responds by causing the following changes in the body:

- Vasodilation. Since this increases the amount of blood flowing close to the surface, more heat is lost to the surroundings.
- Increased sweat production. The water in sweat absorbs heat from the body and then evaporates, carrying that heat away from the body.