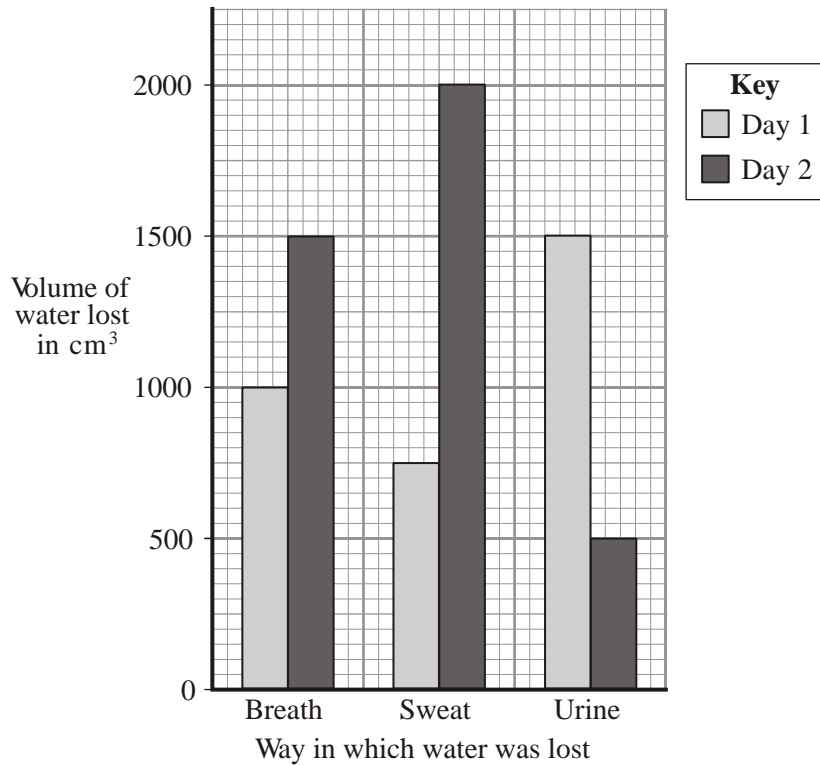


Temperature control

1. The bar chart shows the amount of water lost from the body of a student on two different days. The student ate the same amount of food and drank the same amount of liquid on the two days. The temperature of the surroundings was similar on the two days.



- (a) The total volume of water lost on day 1 was 3250 cm³.
How much water was lost on day 2? Show all your working.

.....
..... cm³

(2)

- (b) The student did much more exercise on one of the days than on the other.
On which day did he do more exercise? Day
- Give **two** reasons for your answer.

1

.....

2

.....

(2)

- (c) (i) Which **one** of these is a chemical reaction that produces water in the body?

Put a tick (✓) in the box next to your choice.

- Breathing
- Osmosis
- Respiration
- Sweating

(1)

(ii) How does sweating help the body?

.....
.....

(1)

(iii) If the body loses more water than it gains, it becomes dehydrated. The concentration of the solution surrounding the body cells increases. This causes the cells to lose water.

By which process do cells lose water?

Put a tick (✓) in the box next to your choice.

- Breathing
- Osmosis
- Respiration
- Sweating

(1)

(Total 7 marks)

2. The brain and the skin are involved in monitoring and controlling body temperature.

(a) Describe the parts played by the brain and the skin in monitoring body temperature.

(i) The brain

.....
.....
.....

(2)

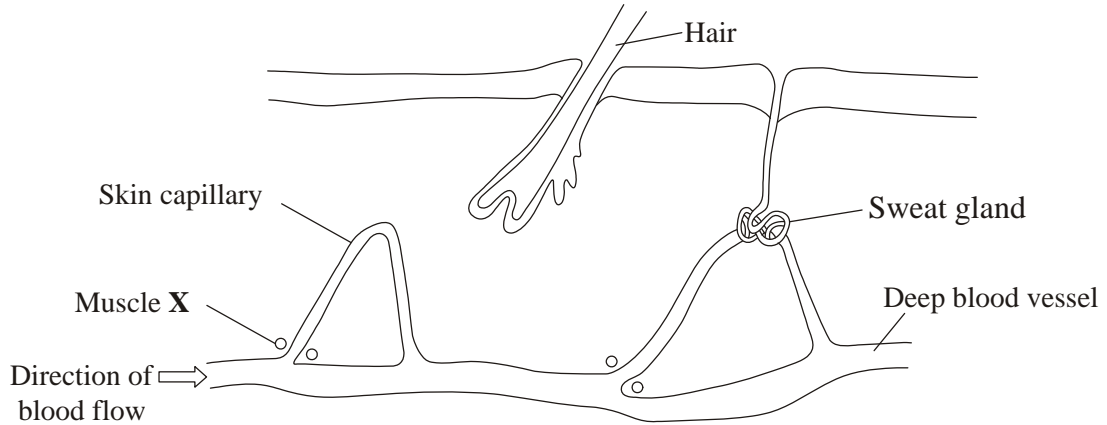
(ii) The skin

.....
.....

(1)

(b) The diagram shows a section through part of the skin.

The muscle labelled **X** controls the flow of blood into the skin capillary. When muscle **X** contracts, the flow of blood into the skin capillary is reduced.



Explain the role of muscle **X** in the control of body temperature.

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(3)
(Total 6 marks)