Thermoregulation

Our body functions most efficiently at 37°C. The blood temperature is monitored by the brain and if it varies from 37°C, various changes are brought about. The means by which our body maintains a constant temperature is called thermoregulation.

Use the words below to complete the missing gaps on the thermoregulation flow diagram.
You may use a word more than once.

Word Bank

Homeostasis
Thermoregulation
Enzymes
Hypothalamus
Impulses
Vasodilation
Vasoconstriction
Stimulus
Response
Negative feedback
Glucoregulation
Osmoregulation

• Hypothalamus • Lie flat • Decreases • More sweat • Warming mechanisms • Less sweat • Vasoconstriction • Stand up • Shivering • No shivering • Contraction • Increases • 37°C • Evaporation • Cooling mechanisms • Vasodilation

HOMEOSTASIS: Body temperature (Thermoregulation)

STIMULUS: Increased body temperature (e.g. during activity or in hot surroundings).

Thermostat in _____ (in the brain) activates _____ _____.

RESPONSES:
1) Sweat glands produce _____ _____ to increase heat loss by _____.
2) Skin blood vessels get wider (_____) to increase heat loss by radiation.
3) Hairs on the skin _____ _____ to reduce insulation and increase heat loss.
4) _____ occurs.

Body temperature _____. Cooling mechanisms are switched off by thermostat in _____.

Normal body temperature (_____).

STIMULUS: Decreased body temperature (e.g. in cold surroundings).

Thermostat in _____ (in the brain) activates _____ _____.

RESPONSES:
1) Sweat glands produce _____ _____ to reduce heat loss by _____.
2) Skin blood vessels get narrower (_____) to reduce heat loss by radiation.
3) Hairs on the skin _____ _____ to trap air between them as insulation and decrease heat loss.
4) _____ occurs and the _____ of muscles generates heat.

Body temperature _____. Warming mechanisms are switched off by thermostat in _____.

Normal body temperature (_____).

LIVEWORKSHEETS