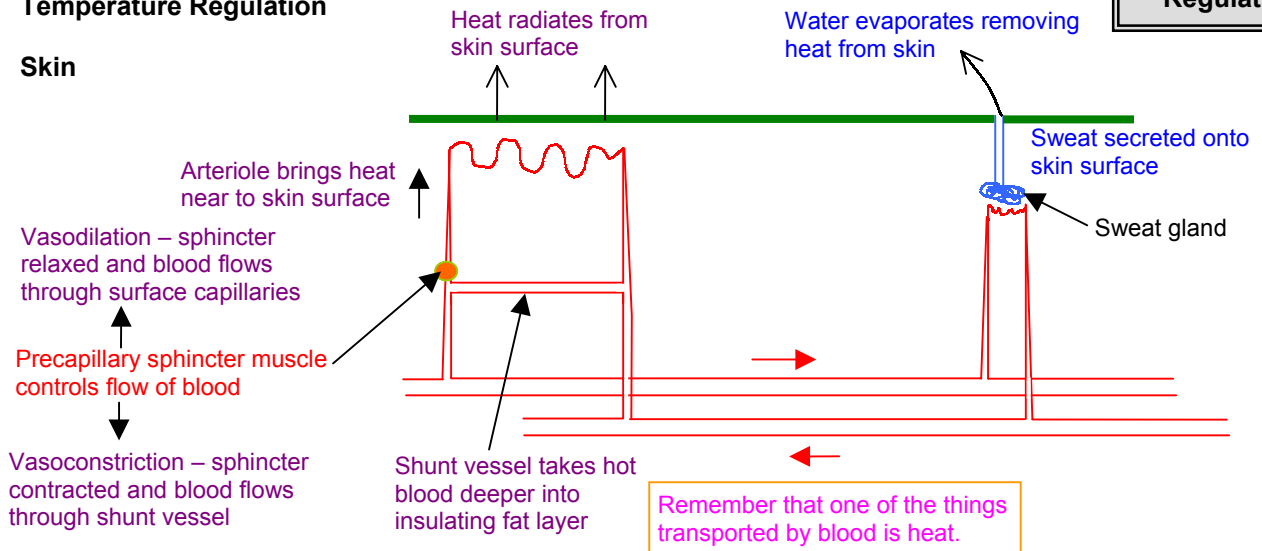


Temperature Regulation

Temperature Regulation

Skin



Shivering

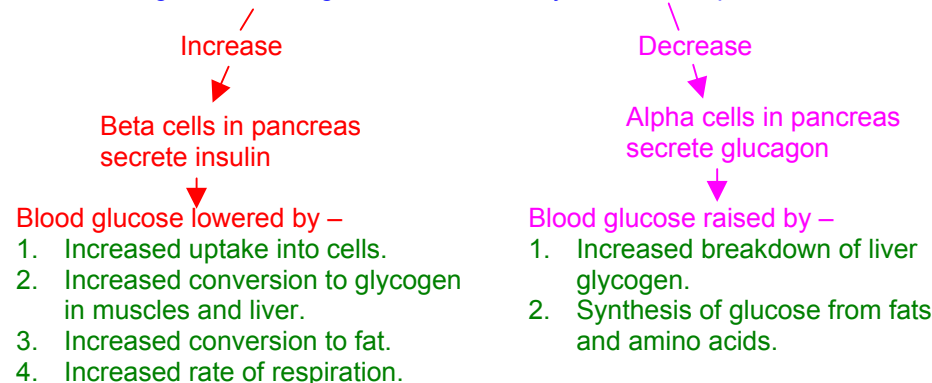
Key points

- Shivering is when the muscles undergo tiny contractions.
- Muscle contraction requires energy from ATP and this has to be made via respiration.

Respiration produces heat which warms the blood.

Control of Blood Glucose

Change in blood sugar level detected by islet cells in pancreas



Control of Blood Glucose

State the names of the two body systems involved in homeostasis.

Tip – You are studying the **IB** course -
Insulin --- **B**eta cells.

Warning – take care not to confuse glycogen and glucagon.
Glucag**o**n is the horm**o**ne.

The Kidney

Kidney

Key points

- Carries out both excretion and water regulation;
- Blood filtrate passes into tubules within the kidney and these adjust the amount of urea, salts and water.
- Thus under different conditions the concentration of the urine varies.
- Examples -
 - urine first thing in the morning is concentrated because you sweated a lot during the night;
 - drinking a lot on a cold day produces a lot of dilute urine;
 - not drinking enough on a hot day and exercising produces a little concentrated urine.

The green structure is one of about 1 million tubules in each kidney. The blood filter unit is shown in red.

Ureter carries urine down to the bladder.

