Biology Topic B12: Homeostasis in action Triple only

1. Control of body temperature (TRIPLE ONLY)	
Thermoregulatory centre	Part of the brain that receives signals about temperature of the blood and skin
37°C	Optimum internal body temperature
Vasodilation	The widening of blood vessels near the surface of the skin
Vasoconstriction	The narrowing of blood vessels near the surface of the skin
Sweat	Liquid released from pores on skin to cool the body as it evaporates
Shivering	Involuntary muscle contractions to generate heat

How the body responds to changes in temperature	
Too hot	Too cold
1. **Vasodilation** bring blood near the surface **2.** **Sweating** increases 3. Heat is lost through evaporation and radiation 4. Body temp drops	**1.** **Vasoconstriction** take blood away from surface **2.** **Sweating** stops 3. Muscles contractions **(shivering)** generate heat 4. Body temp increases

2. Controlling water and nitrogen levels (TRIPLE ONLY)	
Urea	The waste product made by the breakdown of amino acids in the liver.
Urine	The urea, excess water and ions not needed by the body.
Kidneys	The organ responsible for filtration and selective reabsorption
Selective reabsorption	When the kidneys reabsorb: • All of the glucose • Some of the mineral ions • Some of the water
Dialysis	A way of manually filtering the blood when the kidneys are no longer functioning. Whilst waiting for a transplant

3. Hormones and the kidneys (TRIPLE HT ONLY)	
ADH (anti-diuretic hormone)	A hormone made in the pituitary gland which increase the reabsorption of water by kidney tubules