Homeostasis	R	A	G
You should be able to explain that homeostasis is the regulation of the internal conditions of a cell or organism to maintain optimum conditions for function in response to internal and external changes.			
Homeostasis maintains optimal conditions for enzyme action and all cell functions. In the human body, these include control of: • blood glucose concentration • body temperature • water levels.			
These automatic control systems may involve nervous responses or chemical responses.			
All control systems include: • cells called receptors, which detect stimuli (changes in the environment) • coordination centres (such as the brain, spinal cord and pancreas) that receive and process information from receptors • effectors, muscles or glands, which bring about responses which restore optimum levels.			
Information from receptors passes along cells (neurones) as electrical impulses to the central nervous system (CNS). The CNS is the brain and spinal cord. The CNS coordinates the response of effectors which may be muscles contracting or glands secreting hormones. stimulus receptor coordinator effector response			
Photosynthesis equation			

Transport across cells	R	A	G
Diffusion			
Osmosis			
Active transport			

Menstrual Cycle	R	A	G
Blood glucose concentration is monitored and controlled by the pancreas. If the blood glucose concentration is too high, the pancreas produces the hormone insulin that causes glucose to move from the blood into the cells. In liver and muscle cells excess glucose is converted to glycogen for storage. Students should be able to explain how insulin controls blood glucose (sugar) levels in the body. Type 1 diabetes is a disorder in which the pancreas fails to produce sufficient insulin. It is characterised by uncontrolled high blood glucose levels and is normally treated with insulin injections. In Type 2 diabetes the body cells no longer respond to insulin produced by the pancreas. A carbohydrate controlled diet and an exercise regime are common treatments. Obesity is a risk factor for Type 2 diabetes. Students should be able to compare Type 1 and Type 2 diabetes and explain how they can be treated.			

Resources required for revision

Exercise books

Topic booklets including – Checklists, Key knowledge questions, knowledge organisers and practice exam questions

Suggested websites

https://www.youtube.com/watch?v=HBZcpzr5B2g&list=PL2HrnZel5wZwI-OJJN3kpZp-2uVQgHkm_

https://www.youtube.com/watch?v=L3NEXz9iryc&list=PL9IouNCPbCxULWXCO9jt0PsuAbxYpw2_1

https://www.youtube.com/watch?v=-zy9eWzmGe4&list=PLCwEZqenI8ondpuyWWR0Ffst-WK_vwc-r