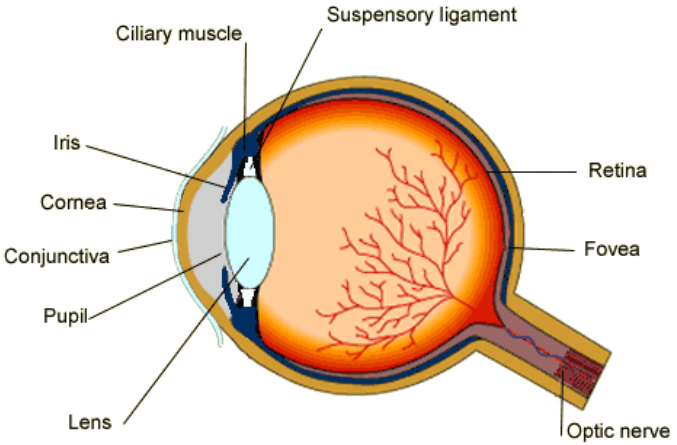
Knowledge Organiser – Homeostasis

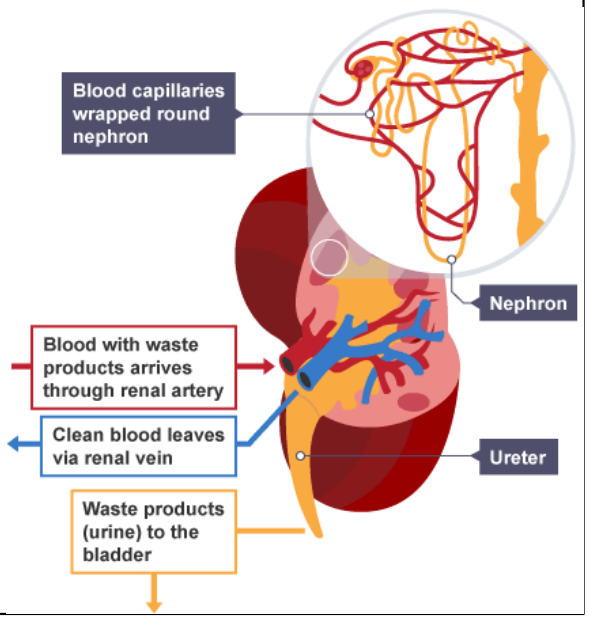
Knowledge and Content

- Identify the structure and function of parts of the eye
- Understand how the eye is able to focus on near or distant objects
- Understand that, in myopia and hyperopia, the eye cannot focus light rays on the retina and demonstrate knowledge of the techniques that are used to correct eye defects
- Explain the importance of homeostasis in regulating internal conditions in the body
- Describe the mechanisms by which body temperature is controlled when too hot or too cold
- Explain how negative feedback is involved in homeostasis
- Understand how insulin controls blood glucose levels
- Understand the causes of Type 1 and Type 2 diabetes and compare the similarities and differences between the two types of diabetes
- Explain how hormones interact in the menstrual cycle
- Describe how the kidneys produce urine and explain the role of hormones in this process
- Explain the use of hormones in technologies to treat infertility
- Describe the technique of in-vitro fertilisation

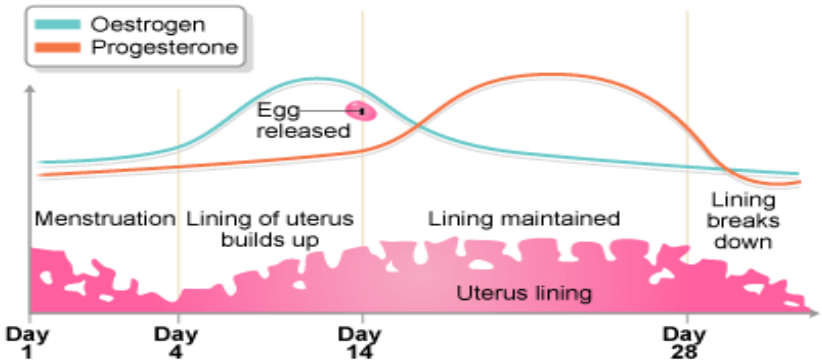
Eye



Kidney



Menstrual Cycle



Mathematical and Practical Skills

- Construct and interpret frequency table and diagrams, bar charts and histograms
- Translate information between graphical and numerical form
- Plot two variables from experimental or other data

Key Terms

Homeostasis	The regulation of the internal conditions of a cell or organism to maintain optimum conditions for function in response to internal or external changes.
Hormones	Chemical produced in one area of the body of an organism that have an effect on the functioning of another area of the body. Produced by glands in the bodies of animals.
Endocrine System	The glands that produce the hormones that control many aspects of the development and metabolism of the body.
Dialysis	The process of cleansing the blood through a dialysis machine when the kidneys fail.
Hyperopia	Long sightedness, where the rays of light from distant objects can be focused clearly on the retina but the rays of light from close objects are not focused and the objects appear blurred.
Myopia	Short sightedness, where the rays of light from close objects can be focused clearly on the retina but the rays of light from distant objects are not focused and the objects appear blurred.
ADH	Anit-diuretic hormone helps control the water balance of the body and affects the amount of urine produced by the kidney.
Follicle Stimulating Hormone (FSH)	Causes the eggs to mature in they ovary.
Glucagon	Hormone involved in the control of blood sugar levels.
Oestrogen	Female sex hormone that controls the development of secondary characteristics in girls at puberty, and the build-up and maintenance of the uterus lining during the menstrual cycle.
Pituitary Gland	Endocrine 'master-gland' found in the brain that secretes a number of different hormones into the blood in response to different conditions to control other endocrine glands in the body.