

B10 & 11 The Human nervous System & Hormonal Control – Science Faculty

Rationale and Context of Unit:	Core curriculum content:	Tier 2 & Tier 3 vocabulary explicitly taught:
<p><i>B7 non communicable diseases first introduces diabetes very briefly. The detail is left for this unit. Physics waves and light is needed to form a bases for refraction to understand vision correction with lenses.</i></p> <p><i>Students have some understanding of hormones from PD/CC lessons as well as contraception.</i></p> <p><i>7B7 reproduction provides normal reproduction that can be built upon for in vitro fertilisation and preventing pregnancy.</i></p>	<ul style="list-style-type: none"> • The differeces between the sensory and motor neurones and their roles in coordination and control • The reflex arc and how it differs from controlled responses • Trip only: The arrangement of tissues in the human eye and their adaptation to function • Trip only myopia, hyperopia and correction of eyesight. • The differences between the nervous and endocrine system and how they control the body. • How reproduction is controlled by hormones. • How we can manipulate this for birth control or fertility treatment. • Comparison of all contraception methods both hormonal, barrier and others. • Higher only studying the brain. • Control of blood sugar levels (higher tier includes glucagon) • Type 1 and 2 diabetes and its causes and treatments • Higher tier only negative feedback and adrenaline • Separate sci only plant hormones and their tropisms 	<ul style="list-style-type: none"> • <i>Neurone</i> • <i>Homeostasis</i> • <i>Stimulus</i> • <i>Receptor</i> • <i>Effector</i> • <i>Synapse</i> • <i>Neurotransmitter</i> • <i>Impulse</i> • <i>Conscious/Automatic</i> • <i>Trip only Refract</i> • <i>Trip only cillary muscles</i> • <i>Trip only Myopia/ Herperopia</i> • <i>Reflex</i> • <i>Hormone</i> • <i>Gland</i> • <i>Target organ</i> • <i>Trip only Glucagon</i> • <i>Glycogen</i> • <i>Trip only Auxin</i> • <i>Oestrogen</i> • <i>Trip only Tropism</i> • <i>Insulin</i> • <i>LH</i> • <i>Progesterone</i> • <i>FHS</i>

Challenge and Support:	World wide learning/ links to 21 st century:	Cultural capital/ Industry/ Enrichment:
<ul style="list-style-type: none"> • <i>Students do not understand the diagram of the spine and this causes confusion. Different anatomical images of this puts the cross section in context.</i> • <i>Students can be shy or squeamish about contraception and the menstrual cycle.</i> • <i>Students often struggle to put themselves into others situation in order to evaluate contraception methods. What would be best for them could be very different for another couple.</i> • <i>Negative feedback is counterintuitive and needs to be led through step by step.</i> • <i>Students struggle with the menstrual cycle hormones. This can be broken down into a clear table of, effect, triggers and inhibits.</i> • <i>ALL the language.</i> 	<ul style="list-style-type: none"> • The global variation of contraception availability, use and access. • Food wastage and how we can minimise that. 	<ul style="list-style-type: none"> • <i>Food production and transport, plant hormones and food ripening.</i> • <i>Medicine: fertility treatments</i> • <i>Local excellence. John Innes lead the work in plant science including understanding hormones.</i>
Historical, Social, Moral, Spiritual, Cultural context:	Cross curricular links/ literacy/numeracy:	Common misconceptions:
<ul style="list-style-type: none"> • The use of contraception 	<ul style="list-style-type: none"> • PE theory looks at Glucagon and its use in respiration and blood sugar levels. • PD/CC contraception types and puberty hormones. • RE contraception use 	<ul style="list-style-type: none"> • <i>Mixing up the hormones</i> • <i>Confusion between neurone types.</i> • <i>All diabetes is preventable/ only fat people have it.</i> • <i>Myopia/ hyperopia mix up.</i>
Assessment timeline:		
<ul style="list-style-type: none"> • <i>regular EPPQs</i> • <i>end of unit test (With B9)</i> • <i>EPPQ homework task</i> • <i>in lesson questioning and other progress checks</i> 		

Home learning

- *EPPQ homework booklet*

Feedback

- *Students self/peer mark homework booklets and set revision goals based on understanding.*
- *Feedback four based on the end of the unit test. (Units B8&9)*

Length of unit (duration indicated in lessons)

Combined science this is one unit B10 & B11. It is 11 units in total, 3 B10 content, 8 B11 content and an assessment

Triple Science this is taught as two units B10 (6 lessons of content and an assessment) and B11 (10 lessons of content and an assessment)

Unit: B10 & B11