

	Year 11 Biology					
	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
BIG Q Content <i>(max 5)</i> Please log into Seneca to support your child to understand this learning	<i>How is your body controlled?</i> State the conditions that must be controlled in the body. Describe the order of a reflex arc. Label the endocrine system and state the hormones produced by each gland. Describe how hormones are used to control the menstrual cycle and so can be used in contraception. Describe how hormones are used to control blood glucose levels.	<i>How does DNA make us unique?</i> Describe the structure of genetic material. Describe how genetic material is inherited. Describe the process of meiosis and explain why it's important. Use genetic diagrams to show how sex and characteristics are inherited. Describe how genetic disorders are caused and how they can be inherited.	<i>How are we different and how does this aid survival?</i> Describe variation and state some causes. Recall the theory of Evolution and how Natural Selection helps to explain it and fossils provide evidence for it. Describe possible causes for extinction. Describe the process of selective breeding and evaluate its use. Describe the process of genetic engineering and evaluate its use. Describe the systems that Scientists have devised in order to classify living things.	<i>How is an ecosystem so important for survival?</i> State what resources plants and animals would need to compete for. Describe how some organisms are adapted to survive in their environment. State examples of biotic and abiotic factors and describe how these can affect different organisms. Recall the structure of a food chain and describe the importance of predator/prey relationships in maintaining ecological balance. Describe how carbon and water are both cycled.	<i>How can we find out where organisms live?</i> Define biodiversity and describe how biodiversity can be increased. Describe how an area can be sampled in order to determine the distribution of organisms, using quadrats and transects. Process data by calculating the mean, median and mode from given data. Relate biotic and abiotic factors to the area being sampled in order to explain the distribution of organisms.	<i>Revision</i>
Vocabulary <i>(max 10)</i> Please use your child's knowledge notes to help them to learn these words	Homeostasis Reflex Stimuli Receptor cells Effectors Hormones Endocrine system Contraceptive Insulin Glycogen	Genome Meiosis Gametes Allele Dominant Recessive Inheritance Polydactyly Cystic fibrosis Embryonic Screening	Variation Evolution Fossils Natural Selection Charles Darwin Selective breeding Desirable feature Genetic engineering Classification	Abiotic factors Biotic factors Adaptations Food chain Competition Ecosystem Interdependence Carbon cycle Water cycle	Biodiversity Sampling Quadrats Transects Mean Median Mode Reproducible Representative	
Catholic Link	Creation: endocrine system, conception	Creation & dignity: inheritance, genetic disorders	Creation & the environment: variation, natural selection	Creation & the environment: environment cycles, ecosystems	Creation & the environment: biodiversity	
Careers Link	Endocrinologist, neurologist	Geneticist, genetic counsellor	Palaeontologist, genetic engineer	Ecologist, climate scientist	Conservation scientist, research scientist	

Ways to enrich the Y11 Biology curriculum at home:

- Create a homemade quadrat using string or straws. Go to a local field or park and count the number of species in your quadrat and repeat.
- Test your family reaction times – get someone to drop a ruler through your hand and see who can catch it quickest. Who has the best reaction time in your family?
- Construct a family survey with different features - e.g. attached ear lobes, widows peak, eye colour etc. Which are inherited? Or environmental?