Revision summary

Use the following summary of syllabus dot points and key knowledge within Module 5 to ensure that you have thoroughly reviewed the content. Provide a brief definition or comment for each item to demonstrate your understanding or code them using the traffic light system – green (all good), amber (needs some review), red (priority area to review). Alternatively, write a follow-up strategy.

How does reproduction ensure the continuity of a species?	
Advantages and disadvantages of asexual and sexual reproduction	
Advantages and disadvantages of external and internal fertilisation	
Modes of asexual and sexual reproduction in animals, plants, fungi, bacteria and protists	
Features of fertilisation, implantation and hormonal control of pregnancy and birth in mammals	
Impact of scientific knowledge on the manipulation of plant and animal reproduction in agriculture	
Cell replication: How important is it for genetic material to be replicated exactly?	
Structure of DNA	
DNA replication using the Watson and Crick DNA model	
Comparison of mitosis and meiosis	
Effect of mitosis and meiosis on the continuity of species	
DNA and polypeptide synthesis: Why is polypeptide synthesis important?	
Comparison of DNA structure and function in prokaryotic and eukaryotic cells	

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››	Modelling of polypeptide synthesis. Include transcription, translation, location and all molecules involved	
	The role of genes and environment on phenotypic expression	
	The hierarchical levels of a functional protein	
	Genetic variation: How can the genetic similarities and differences within and between species be compared?	
	Crossing over homologous chromosomes, independent assortment and random segregation	
	The role of fertilisation and mutations	
	Autosomal, sex-linkage, codominance, incomplete dominance and multiple allele inheritance	
	Punnett squares and pedigrees	
	Single nucleotide polymorphism (SNP)	
	Inheritance patterns in a population: Can population genetic patterns be predicted with any accuracy?	
	DNA sequencing and profiling	
	Short tandem repeats (STRs)	
	PCR and gel electrophoresis	
	Large-scale collaborative project using population genetics data to study conservation management, inheritance of disease/disorder or human evolution	

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