	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Theme/Big Idea	**B11 – Hormonal coordination** Principles of hormonal control; control of blood glucose levels; treating diabetes; negative feedback; human reproduction and the menstrual cycle; fertility and infertility treatments; plant hormones. **B12 – Maintaining balance in the body** Maintaining body temperature; removing waste products; the human kidney; dialysis; kidney transplants; water balance and the role of hormones.	**B13.1 – Types of reproduction** Asexual and sexual reproduction; advantages and disadvantages of each; production of genetically identical offspring compared with offspring showing variation. **B13.3 – The best of both worlds** The biological advantages and disadvantages of sexual and asexual reproduction; how organisms can use different reproductive strategies in different conditions. **B13.5 – DNA structure and protein synthesis** DNA structure; complementary base pairing; the genetic code; how DNA provides the information needed to make proteins. **B13.6 – Gene expression and mutation** Gene expression; mutations; how changes in DNA can	**B14 – Variation and selection** Variation; evolution by natural selection; selective breeding; genetic engineering; cloning; adult cell cloning; ethical issues surrounding genetic technologies. **B15 – Evolution and classification** History of genetics; theories of evolution; accepting Darwin's ideas; evidence for evolution; fossils and extinction; antibiotic-resistant bacteria; classification of organisms.	**Revision and exams – Year 11 consolidation** Retrieval, application and examination practice across the Year 11 specification.	**Revision – Year 11 consolidation** Targeted revision of specification content and misconceptions.	**External Exams – GCSE examinations** Final external examinations for the separate science qualification.

		alter proteins and phenotypes; relationships between genes, proteins and characteristics. **B14 – Variation and selection** Variation; evolution by natural selection; selective breeding; genetic engineering; cloning; adult cell cloning; ethical issues surrounding genetic technologies.				
Content What are they learning? (including keywords)	**B11 – Hormonal coordination** Principles of hormonal control; control of blood glucose levels; treating diabetes; negative feedback; human reproduction and the menstrual cycle; fertility and infertility treatments; plant hormones. **Keywords:** hormone, endocrine system, target organ, insulin, glucagon, blood glucose, negative feedback, diabetes, oestrogen, progesterone, FSH, LH, fertility	**B13.1 – Types of reproduction** Asexual and sexual reproduction; advantages and disadvantages of each; production of genetically identical offspring compared with offspring showing variation. **Keywords:** sexual reproduction, asexual reproduction, gamete, fertilisation, clone, variation **B13.3 – The best of both worlds** The biological advantages and disadvantages of sexual	**B14 – Variation and selection** Variation; evolution by natural selection; selective breeding; genetic engineering; cloning; adult cell cloning; ethical issues surrounding genetic technologies. **Keywords:** variation, mutation, natural selection, selective breeding, genetic engineering, vector, clone, adult cell cloning,	**Revision and exams – Year 11 consolidation** Revision of key content, required practicals, mathematical skills and exam technique. **Keywords**: retrieval, application, practical, calculation, data, evaluation, command word	**Revision – Year 11 consolidation** Retrieval practice, required practicals, equations, data and extended responses. **Keywords:** retrieval, application, calculation, practical, data, evaluation	**External Exams – GCSE examinations** Final revision and examination preparation. **Keywords:** retrieval, application, calculation, data, practical, evaluation

	B12 – Maintaining balance in the body Maintaining body temperature; removing waste products; the human kidney; dialysis; kidney transplants; water balance and the role of hormones. **Keywords:** homeostasis, temperature, urea, kidney, nephron, dialysis, transplant, water balance, ADH, osmoregulation	and asexual reproduction; how organisms can use different reproductive strategies in different conditions. **Keywords:** reproduction, sexual, asexual, variation, clone, adaptation, population **B13.5 – DNA structure and protein synthesis** DNA structure; complementary base pairing; the genetic code; how DNA provides the information needed to make proteins. **Keywords:** DNA, nucleotide, base, complementary base pair, gene, genetic code, protein synthesis, amino acid **B13.6 – Gene expression and mutation** Gene expression; mutations; how changes in DNA can alter proteins and phenotypes; relationships between genes, proteins and characteristics. **Keywords**: gene expression, mutation,	GM, ethics **B15 – Evolution and classification** History of genetics; theories of evolution; accepting Darwin's ideas; evidence for evolution; fossils and extinction; antibiotic-resistant bacteria; classification of organisms. **Keywords:** evolution, natural selection, Darwin, theory, evidence, fossil, extinction, antibiotic resistance, classification, species, taxonomy			

		allele, phenotype, genotype, protein, DNA, genetic variation **B14 – Variation and selection** Variation; evolution by natural selection; selective breeding; genetic engineering; cloning; adult cell cloning; ethical issues surrounding genetic technologies. **Keywords:** variation, mutation, natural selection, selective breeding, genetic engineering, vector, clone, adult cell cloning, GM, ethics				
Skills How are they learning it?	**B11 – Hormonal coordination** Interpret hormone-control diagrams and feedback loops; analyse blood-glucose data; explain hormonal interactions; interpret menstrual-cycle graphs; evaluate treatments for infertility and the use of plant hormones. **Required practical:**	**B13.1 – Types of reproduction** Compare sexual and asexual reproduction; interpret examples; evaluate advantages and disadvantages in different contexts. **Required practical:** No AQA required practical specified. **B13.3 – The best of both worlds** Compare reproductive strategies; use evidence	**B14 – Variation and selection** Interpret variation and inheritance data; explain natural selection; evaluate selective breeding and genetic engineering; interpret genetic-engineering diagrams; assess ethical arguments. **Required practical:** No AQA	**Revision and exams – Year 11 consolidation** Use retrieval practice, exam questions, data interpretation and practical evaluation.	**Revision – Year 11 consolidation** Plan and complete targeted revision; use exam questions and feedback to improve responses.	**External Exams – GCSE examinations** Apply knowledge, practical skills and mathematical reasoning under examination conditions.

	No AQA required practical specified. **B12 – Maintaining balance in the body** Interpret homeostasis diagrams and data; explain kidney function; compare dialysis and transplantation; analyse changes in water balance; evaluate treatment options. **Required practical:** No AQA required practical specified.	to justify which strategy is advantageous in different environments. **Required practical:** No AQA required practical specified. **B13.5 – DNA structure and protein synthesis** Interpret DNA diagrams; use complementary base-pairing; explain how genetic information is used to make proteins. **Required practical:** No AQA required practical specified. **B13.6 – Gene expression and mutation** Interpret genetic information; explain the effects of mutations; link genes, proteins and phenotypes; evaluate genetic evidence. **Required practical:** No AQA required practical specified. **B14 – Variation and selection** Interpret variation and inheritance data; explain natural selection; evaluate selective breeding and genetic engineering; interpret genetic-engineering diagrams;	required practical specified. **B15 – Evolution and classification** Interpret evolutionary trees, fossil evidence and classification data; evaluate evidence for evolution; explain antibiotic resistance; compare classification systems; distinguish scientific evidence from historical ideas. **Required practical:** No AQA required practical specified.			

		assess ethical arguments. **Required practical:** No AQA required practical specified.				
Key Questions	**B11 – Hormonal coordination** How do hormones coordinate body functions? How does negative feedback maintain stable internal conditions? How are hormones used to treat infertility? **B12 – Maintaining balance in the body** How does the body maintain stable internal conditions? How do the kidneys control water and remove waste? How do dialysis and kidney transplants help patients?	**B13.1 – Types of reproduction** What are the differences between sexual and asexual reproduction? Why can variation be advantageous? **B13.3 – The best of both worlds** When might sexual reproduction be advantageous? When might asexual reproduction be advantageous? **B13.5 – DNA structure and protein synthesis** How is genetic information stored in DNA? How does DNA code for proteins? **B13.6 – Gene expression and mutation** How can a mutation change a characteristic? How are genes, proteins and phenotypes linked?	**B14 – Variation and selection** How does natural selection change populations? How can humans alter organisms through selective breeding and genetic engineering? What are the benefits and ethical concerns of cloning? **B15 – Evolution and classification** What evidence supports evolution? Why is the fossil record incomplete? How does antibiotic resistance evolve? How and why are organisms classified?	**Revision and exams – Year 11 consolidation** Can I apply my knowledge to unfamiliar contexts and explain practical evidence?	**Revision – Year 11 consolidation** Which areas do I need to revisit and how can I improve my exam responses?	**External Exams – GCSE examinations** Can I apply the full specification confidently in the external examinations?

		B14 – Variation and selection How does natural selection change populations? How can humans alter organisms through selective breeding and genetic engineering? What are the benefits and ethical concerns of cloning?				
Assessment (specific assessed piece(s); milestone(s))	B11: End of topic assessment B12: End of topic assessment **Marking Milestone**	B13.1: End of topic assessment B13.3: End of topic assessment B13.5: End of topic assessment B13.6: End of topic assessment B14: End of topic assessment **Marking Milestone**	B14: End of topic assessment B15: End of topic assessment **Marking Milestone**	**Revision and exams** **Marking Milestone**	**Revision** **Marking Milestone**	**External Exams** **Marking Milestone**