

| Week | Area | Topics | Learning activities | Tasks and assessments |
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| 1 | How does reproduction maintain the continuity of life? | Cell cycle (derivation of cells from pre-existing cells; binary fission in prokaryotic cells; key events in the various stages of the cell cycle in eukaryotic cells) | <ul style="list-style-type: none"> Mitosis simulation Cell cycle poster Excursion to GTAC Activity: comparison of binary fission and mitosis | Chapter 7 Review Questions 2, 3, 4, 5, 6, 7, 10, 12, 13, 15, 16, 22. Annotated Cell Cycle poster |
| 2 | | | | |
| 3 | | Asexual and sexual reproduction (nature of a unique genetic identity; types of asexual reproduction; biological advantages and disadvantages of asexual reproduction; emerging issues associated with cloning; key events in meiosis including crossing over and non-disjunction; biological advantage of sexual reproduction) | <ul style="list-style-type: none"> Experiment: plant tissue culture (for example, students may choose African violet, carnation, cauliflower or rose) Simulations: mitosis; meiosis including crossing over and non-disjunction Comparative table of asexual and sexual reproduction | Chapter 8 Review Questions 1 – 12 |
| 4 | | | | |
| 5 | | Cell growth and differentiation (types and functions of stem cells in human development; difference between embryonic and adult stem cells; consequences of stem cell differentiation; cancer; abnormal embryonic development) | | SAC (Cell cycle, asexual/sexual reproduction, meiosis, cell growth and differentiation) Date: _____ |
| 6 | How is inheritance explained? | Genomes, genes, alleles and chromosomes (distinction between chromosome, genome, gene, allele; uniqueness of individual genomes measured at base pair level; role of genomic research; role of chromosomes; chromosome variability; autosomes and sex chromosomes; nature of homologous pairs; gene loci; creation and use of karyotypes) | <ul style="list-style-type: none"> Media analysis: genomic research Chromosome analysis: students create karyotypes using provided chromosomes related to Trisomy 13 (Patau syndrome), Trisomy 18 (Edwards syndrome), Trisomy 21 (Down's syndrome), genotype 47, XXY (Klinefelter syndrome) or genotype 45, X (Turner syndrome) | Chapter 9 Review Questions 1 – 10, 12, 13, 15, 16, 17, 19. |
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| 9 | | Genotypes and phenotypes, pedigree charts, genetic cross outcomes and genetic decision-making (symbols used in assigning genotypes; dominant and recessive phenotypes; the influence of genes, environmental factors and epigenetic factors on phenotype; polygenic inheritance leading to continuous variation using height or skin colour in humans as examples) | <ul style="list-style-type: none"> • Pedigree analysis and genetic cross exercises • Simulation activity: marshmallow meiosis (baby reebops) • Experiment: Dihybrid Crosses with Maize • M & Ms activity (Polygenic inheritance) • Bioinformatics activity: researching genetic disorders using BLAST | Maize Prac Report |
| 10 | | | | Huntington's Disease Report |
| Term 2 1 | | | | Chapter 10 Review questions 1 – 10, 12, 13, 14, 15, 18, 22, 23. Q29 Optional (Good exam revision) Practice SAC |
| 2 | | Outcome 3 Investigation of an Issue | <ul style="list-style-type: none"> • Identifying Issues, stakeholders, and describing technology involved • Conducting research; Credible sources; investigating ethics; communicating facts and opinions • Presenting data; scientific writing | Investigation of an Issue Report |
| 3 | | | | |
| 4 | | Researching and writing Issue | <ul style="list-style-type: none"> • Referencing | |
| 5 | | Presentation of an Issue | All overdue Chapter reviews and assessments <u>must</u> be completed and submitted by end of School Thursday 9th November 2017 to be eligible for VCAA assessment. | |
| 6 | | Exam study | | |
| 7 | | Unit 2 Examination Week | | |
| 8 | | Year 12 Headstart | | |
| 9 | | Year 11 Headstart | | |
| 10 -11 | | Enjoy your holidays! 😊 | | |