

|   | Half term 1  | Half term 2   | Half term 3  | Half term 4   | Half term 5  | Half term 6          |
|---|--|---|--|---|--|----------------------|
| <b>Year 11<br/>Biology &amp;<br/>Combined<br/>Science<br/>Biology</b>                               | <b>Content delivered:</b><br><b>Unit 7: Ecology</b><br>Communities<br>Biotic & abiotic factors<br>Biodiversity<br>Animal adaptations<br>Plant adaptations<br>HSW: Ecology practical work<br>How materials are cycled<br>Waste management | <b>Content delivered:</b><br><b>Unit 7: Ecology</b><br>Land use<br>Deforestation<br>Global warming<br>Trophic levels (Biology only)<br>Food security (Biology only)<br>Farming techniques (Biology only)<br>Fisheries (Biology only)<br>Biotechnology (Biology only)<br><b>Unit 6: Genetics</b><br>Sexual & asexual reproduction<br>Meiosis<br>Variation<br>Evolution | <b>Content delivered:</b><br><b>Unit 6: Genetics</b><br>Genetic inheritance<br>Inherited disorders<br>Sex determination<br>Variation<br>Evolution<br>Selective breeding<br>Genetic engineering<br>Evidence for evolution<br>Fossils<br>Extinction<br>Resistant bacteria<br>Classification  | <b>Content delivered:</b><br><b>Unit 5: Homeostasis and response</b><br>The nervous system<br>The brain (Biology only)<br>The eye (Biology only)<br>Thermoregulation (Biology only)<br>Endocrine system<br>Controlling blood sugars<br>Controlling water levels (Biology only)<br>Reproduction & contraception<br>Treating infertility<br>Plant hormones (Biology only) | <b>Content delivered:</b><br>Unit 1 content review and exam prep<br>Unit 2 content review and exam prep<br>Unit 3 content review and exam prep<br>Unit 4 content review and exam prep<br>Unit 5 content review and exam prep<br>Unit 6 content review and exam prep<br>Unit 7 content review and exam prep   |                      |
|   | <b>Key Words</b><br><b>Level 2</b><br><b>Level 3</b>   | Structural, behavioural, functional, adaptation, quadrat, transect, biotic, abiotic, behavioural, structural, functional, adaptation, nutrient, detritivore, recycle  | deforestation, global warming, ozone, biodiversity, trophic level, consumer, producer, herbivore, carnivore, biomass, quota, sustainable, biotechnology, anaerobic, sexual, variation, inheritance, asexual, anther, pollen, sperm, chromosome, meiosis, genome, chromosome, inheritance, gamete, homozygous, heterozygous, Darwin, Lamarck, survival, favourable, inherited, fertile, | Gamete, inheritance, heterozygous, homozygous, dominant, recessive, carrier, Darwin, Lamarck, survival, speciation, favourable, inherited, fertile, fossil, sedimentary, extinction, natural selection, favourable, reproduce, plasmid, extinction, evolution, kingdom, phylum, class, order, family, genus, species  | Homeostasis, sensory, relay, motor, neurone, synapse, receptor, effector, response, myopia, hyperopia, concave, convex, sclera, pupil, suspensory ligaments, retina, optic nerve, impulse, hormone, insulin, glucagon, glycogen, pancreas, osmoregulation, dialysis, infertility, oestrogen, progesterone, testosterone, FSH, LH, menstrual cycle, condom, IUD, hormone, secrete, auxin, ethene, gibberellin, phototropism | Taken from all units |
| <b>Where previous knowledge has occurred and future development</b><br>KS2 → KS3 → <b>KS4</b> → KS5 | KS2: Adaptations of living things<br>KS3: Year 8 – adaptation to change<br>KS4: Unit 1 – plant cells<br>KS5: Ecological relationships  | KS2: The role of flowers; constructing & using food chains<br>KS3: Year 7 – Food security<br>KS4: Unit 1 – specialised cells<br>KS4: Unit 7 – adaptations<br>KS5: Cell cycle & Hardy-Weinberg equation  | KS2: Classification of living things<br>KS3: Year 8 – variation<br>KS4: Unit 1 – specialised cells<br>KS4: Unit 7 – adaptations<br>KS5: Monohybrid/dihybrid crosses and Hardy-Weinberg equation  | KS2: Changes as humans age<br>KS3: Reproduction<br>KS4: Unit 1 – specialised cells<br>KS4: Unit 2 – diet<br>KS4: Unit 4 – respiration<br>KS5: Action potentials, thermoregulatory systems, hormones   | KS2: All relevant content<br>KS3: All relevant content<br>KS4: All taught units from Y10 & Y11<br>KS5: Used in all units   |                      |
| <b>Common Misconceptions</b>  | All adaptations are beneficial   | Global warming and climate change are the same thing  | That some people have more chance of having a baby boy or girl   | Brain injuries result in death  | Identified and addressed from mock exams   |                      |
| <b>Literacy</b>   | Scientific writing (HSW): Ecology<br>NHTW reviews as starter activities  | Ethical arguments: deforestation and land use<br>NHTW reviews as starter activities   | Writing to compare and evaluate: the work of Darwin and Lamarck<br>NHTW reviews as starter activities  | Writing to describe: blood glucose control<br>Writing to describe: Thermoregulation<br>NHTW reviews as starter activities   | NHTW reviews as starter activities   |                      |
| <b>Numeracy</b>   | Drawing and interpreting graphs<br>Calculating means   | Interpreting different types of graphs  | Calculating probabilities  | Calculating percentages   | Graphs skills<br>Calculating means   |                      |
| <b>Homework</b>   | Completion of kerboodle/Seneca/carousel section quizzes  | Completion of kerboodle/Seneca/carousel section quizzes   | Completion of kerboodle/Seneca/carousel section quizzes  | Completion of kerboodle/Seneca/carousel section quizzes   | Completion of kerboodle/Seneca/carousel section quizzes  |                      |
| <b>Assessment this half-term</b>  | Unit 7 test with elements of units 1-4   | Mock exam – paper 1 & 2   | Mock exam – paper 2  | Unit 5 test with elements of units 1-7  | Exam style questions   |                      |
| <b>Career opportunities</b><br><b>Employment Links</b>  | LIFE SKILLS: Understanding how species interact<br>EMPLOYMENT: Conservationist   | LIFE SKILLS: Understanding how population growth affects resources<br>EMPLOYMENT: Farmer, fisherman   | LIFE SKILLS: Understanding how characteristics are passed on<br>EMPLOYMENT: Archaeologist  | LIFE SKILLS: Understanding how to correct vision defects<br>EMPLOYMENT: Optometrist   | LIFE SKILLS: Resilience and organisation<br>EMPLOYMENT: You can do anything with science!  |                      |
| <b>Enrichment</b>   |  |   | Biology olympiad   | Nancy Rothwell Award  |  |                      |
| <b>Practical activities/HSW</b>   | Ecology fieldwork<br>% cpver<br>Effect of abiotic factor on distribution   | Darwin's finches – testing beak size  | Extracting DNA<br>Cloning  | Ruler drop test   | RP reviews   |                      |
| <b>Employability Skills</b>   | <b>Aiming high</b><br>Creativity<br>Leadership<br>Listening<br>Presenting<br>Problem solving<br>Staying positive<br><b>Literacy</b><br><b>Numeracy</b><br>Independence<br><b>Communication</b><br>Teamwork                               | <b>Aiming high</b><br>Creativity<br>Leadership<br>Listening<br>Presenting<br>Problem solving<br>Staying positive<br><b>Literacy</b><br><b>Numeracy</b><br>Independence<br>Communication<br>Teamwork   | <b>Aiming high</b><br>Creativity<br>Leadership<br>Listening<br>Presenting<br>Problem solving<br>Staying positive<br><b>Literacy</b><br><b>Numeracy</b><br>Independence<br><b>Communication</b><br>Teamwork   | <b>Aiming high</b><br>Creativity<br>Leadership<br>Listening<br>Presenting<br>Problem solving<br>Staying positive<br><b>Literacy</b><br><b>Numeracy</b><br>Independence<br>Communication<br>Teamwork   | <b>Aiming high</b><br>Creativity<br>Leadership<br>Listening<br>Presenting<br>Problem solving<br>Staying positive<br><b>Literacy</b><br><b>Numeracy</b><br>Independence<br>Communication<br>Teamwork  |                      |
| <b>IT Skills</b>  | IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes  | IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes   | IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes  | IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes   | IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes  |                      |

# Summer exams