OVERVIEW BIOLOGY MYP YEAR 4							
Unit title and teaching hours	Key concept	Related consepts	Global context	Statement of inquiry	Objectives	ATL Skills	Brief description of content
Balanced systems **16 Hours**	systems	Interaction, balance, environment	Globalization and sustainability	Sustainability within the global environment is dependent upon maintaining balance while interacting with ecosystems.	A - All B - All C – i	Communication: Make inferences and draw conclusions Social: Listen actively to other perspectives and ideas Organizational skills: Keep an organized and logical system of information files/notebooks Self-management skills: Consider content: ◦What did I learn about today?, What don't I yet understand? What questions do I have now? Research: Access information to be informed and inform others Thinking: Use models and simulations to	Biodiversity Exponential populations growth in the absence of limiting factors. Food chains; food webs; bioaccumulation. Different types of species interactions, symbiotic relationships Interpret graphs showing predator-prey relationships. Interpret information from charts, graphs and tables relating to populations and to relationships between living organisms and their environments. Energy and biomass loss at each trophic level of a food chain. Relationship of diet and land use. Estimating population size. Design and carry out an investigation relating to the effect of an abiotic factor on a habitat. Photosynthesis, respiration, decay, formation of fossil fuels and combustion affect levels of carbon dioxide and oxygen in air.

						explore complex systems and issues	Human impact on global levels of carbon dioxide due to deforestation and combustion of fossil fuels. Quotas and regulations to maintain fish stocks at sustainable levels.
All living things have genes **16 hours**	Change	Interaction models	Identities and relationships	Genetic factors determine the identity of a species, influence relationships with other species and drive change over time through interactions with the environment.	A B C D	Communication skills: Use a variety of media to communicate with a range of audiences; Use and interpret a range of discipline-specific terms and symbols Social skills: Help others to succeed; Exercise leadership and take on a variety of roles within groups Self-management skills: Self-motivation - Practise analysing and attributing causes for failure, Practise managing self-talk, Practise positive thinking Research skills: access information to be informed and inform others, seek a range of perspectives from varied sources	- the terms 'nucleus', 'chromosome', 'DNA', 'gene', 'allele' structure of DNA and outline how its structure relates to its function the cause and effect of gene mutations genetic diagrams, calculate the ratio of expected genotypic and phenotypic outcomes the difference between asexual and sexual reproduction the process of mitosis life cycles for both vertebrates and invertebrates genes code for proteins how mutations lead to a change in phenotype evidence for the evolution of species fossils formation evolution of species by natural selection evidence for natural selection Interpretation of data that shows evidence for natural selection the role of isolation in speciation the stages of meiosis, variation and the production of gametes

						Thinking skills: evaluate evidence and arguments, draw reasonable conclusions; use brainstorming and visual diagrams to generate new ideas and inquiries, apply existing knowledge to generate new ideas	antibiotic resistant bacteria, evolution of superbugs