Quality of Education: *Curriculum is planned and sequenced so that new **knowledge** and **skills** build on What has been taught before and towards its clearly defined end points.*

Ormiston Victory Academy

SUBJECT: Biology	**CURRICULUM PROGRESSION PATHWAYS**	**CL: Mr J. Kendrick-Eriksen and Mr B. Gott**		
KS3 (Level 1) Biology	KS4 (Level 2) Biology	KS5 (Level 3) Biology	Further Education and training	Careers
<u>Cells</u> **Knowledge**: Basic organelles and functions, tissues and organs **Skills:** Using microscopes and preparing slides. **<u>Ecosystems</u>** **Knowledge:** Variation, adaptation, Food chains **Skills:** reading graphical data, and how organisms rely on food **<u>Homeostasis</u>** **Knowledge:** Respiration, photosynthesis, energy consumption **Skills:** Recalling basic equations, rationalizing diet and exercise	**<u>Cells</u>** **Knowledge:** cell structure and functions for different organisms, importance of different organs in systems and hormones linked to these **Skills:** Relating functions to uses in organisms and unicellular processes **<u>Ecosystems</u>** **Knowledge: P**opulation flux in predator prey relationships, interdependence of organisms, human impacts and extinction **Skills:** Relating potential causes to effects in a variety of circumstances, evaluating human influences **<u>Homeostasis</u>** **Knowledge:** Reflexes, hormonal control, the nervous system, menstrual cycle. **Skills:** Describing links of hormone interactions with organs and bodily functions.	**<u>Cells</u>** **Knowledge:** Ultrastructure of cells, Biological molecules, Enzyme actions and structure of membranes **Skills:** Chemical analysis of samples, rates of reactions **<u>Ecosystems</u>** **Knowledge:** Succession, Biodiversity and Speciation, Conservation and sustainability **Skills:** Analysis of complex inter-relationships of organisms and how to manage these to promote healthy populations **<u>Homeostasis</u>** **Knowledge:** Tropisms, ATP synthesis, oxidative phosphorilation, Krebs cycle **Skills:** Analysis of energy systems and limiting factors effecting photosynthesis.	**Apprenticeships:** • Animal Care • Environmental Conservation • Horticulture • Veterinary Nursing • Land based service engineer technician **Degree Level:** • Biology • Botany • Zoology • Genetics • Microbiology • Sport and exercise science • Molecular Biology **Levels:** Intermediate Advanced Higher Degree Masters P.H.D	• Research Scientist • Pharmacology • Biologist • Ecologist • Environmental Stewardship • Nature Conservation Officer • Biotechnologist • Forensic Scientist • Sport Scientist • Exercise Physiologist • Personal Trainer • Sports therapist • Microbiologist • Clinical Research Associate • Medicinal Chemist • Food technologist

Core knowledge and skills mapped across the curriculum