Science Overview - Biology

Year 7

	Term 1	Term 2	Term 3
Topic	· Introduction to Microscopy · Cells and Unicellular Organisms	· Reproductive systems · Gestation and Birth · Movement	· Ecosystems · Biodiversity and human influences
Key Concept	**Cells and Cellular Processes**	**Biological systems for life**	**Organisms and their interactions with the environment**
Learning Objectives	· Name the parts of a microscope. · Prepare a light microscope slide. · View a microscope slide using a microscope. · Identify images and describe the function of the nucleus, cell membrane and cytoplasm. · Identify cells as animal or plant cells. · Describe some specialised animal and plant cells. · State the meaning of the term unicellular. · Identify structural components and their function in unicellular organisms.	· State the changes that occur in males and females during puberty. · Describe the role and the stages of the menstrual cycle. · Identify the structures and functions of the male and female reproductive organs. · Explain the structural adaptations of the sperm and egg cell. · Describe how fertilisation occurs and the importance of implantation. · Describe the stages of growth from embryo to newborn. · Explain how some substances can enter and affect the foetus. · Describe how tissues, organs and organ systems are formed. · Explain the role of the skeleton, joints and muscles in movement.	· Describe the movement of energy through food chains, food webs and pyramids. · Describe bioaccumulation. · Explain the impact of daily and seasonal changes on an ecosystem. · Describe how human influence can affect the organisms in an ecosystem. · Explain how organisms are classified into the five Kingdoms. · Explain the meaning of biodiversity.
Scaffolding SEND	glossaries, targeted questions, knowledge organisers, recall quizzes	glossaries, targeted questions, knowledge organisers, recall quizzes	glossaries, targeted questions, knowledge organisers, recall quizzes
Key Vocabulary	organism, magnification, objective lens, eye piece lens, stage, specialised, cytoplasm, cell membrane, nucleus, mitochondria,	puberty, hormones, periods, egg cell, sperm cell, foreskin, womb, sexual intercourse, erection, adolescence, cervix, menstrual cycle, fertilisation, testes, scrotum, urethra,	habitat, fertilisers, carnivore, herbivore, omnivore, pesticides, herbicides, yield, nocturnal, deciduous, interdependence, producer, primary consumer, secondary

	cell wall, permanent vacuole, chloroplasts, chlorophyll, multicellular, unicellular	ovulation, ovary, vagina, menstruation, menopause, semen ejaculation, uterus, amniotic fluid, placenta, umbilical cord, diaphragm, bladder, gullet, oesophagus, rectum, circulatory, digestive, urinary, locomotion, antagonistic, tendons, ligaments, cartilage, vertebrate, mitochondria	consumer, tertiary consumer, pyramids of number, pyramids of biomass, bioaccumulation, quadrat, pitfall trap, sweep net, genus, kingdoms, protoctists, prokaryotes
Formative Assessment	Rewind grids	Rewind grids	Rewind grids
Summative Assessment	End of unit test	End of unit test	End of unit test
Careers	botanist, conservationist, forensic scientist, geoscientist, immunologist, lab technician, marine biologist, neuroscientist, urologist, volcanologist, zoologist	marine biologist, lab technician, geneticist, doctor, nurse, midwife, dietician, zoologist, conservationist, forensic scientist, marine biologist, neuroscientist	botanist, conservationist, geoscientist lab technician, marine biologist, volcanologist, weather forecaster, zoologist, town planner, agriculturist
Links	To build on basic cell structure. To prepare for advanced microscopy and cell structure.	To build on the lifecycles of mammals and the reproduction processes in animals. In addition, the impact that diet, drugs, exercises, and lifestyle have on a bodies function. To prepare for the menstrual cycle, contraception and assisted reproductive technologies. In addition, the functioning of specific organs.	To build on the organisation of organisms. To prepare to study the interdependence and evolution of organisms.