Curriculum Plan
Subject : Biology Key Stage 3 Year 7

	HALF TERM 1	HALF TERM2	HALF TERM3	HALF TERM 4	HALF TERM 5	HALF TERM 6
Topic Titles	Cells and Organs	Material cycles and energy - photosynthesis	Interactions and interdependencies	Genetics and evolution	Experimental skills and investigations	Analysis and Evaluation
Objectives (The things we want the pupils to make progress in)	Structure and function of living organisms	Photosynthesis	Relationships in an ecosystem	Selective Breeding	How to work Scientifically.	How to work Scientifically
Stage 4 GCSE 3-4	Demonstrate **adequate** understanding of cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts the similarities and differences between plant and animal cells the role of diffusion in the movement of materials in and between cells the structural adaptations of some unicellular organisms the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.	Demonstrate an **adequate** understanding of the requirements of plants for healthy growth. Produce clear and adequate evidence of the reactnats and products of photosynthesis. State the requirements of plants to maintain healthy growth and independently select appropriate tools and prepare a seed bed.	Demonstrate an **adequate** understanding of the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops the importance of plant reproduction through insect pollination in human food security how organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Demonstrate an **adequate** understanding of the variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction the importance of maintaining biodiversity and the use of gene banks to preserve hereditary material.	Demonstrate a **developing** understanding in asking questions and developing a line of enquiry based on observations of the real world, alongside prior knowledge and experience make predictions using scientific knowledge and understanding select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements apply sampling techniques.	apply **developing** mathematical concepts and calculate results present observations and data using appropriate methods, including tables and graphs interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions present reasoned explanations, including explaining data in relation to predictions and hypotheses evaluate data, showing awareness of potential sources of random and systematic error identify further questions arising from their results.
Stage 3 GCSE 1-2	Demonstrate **some** understanding of cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts the similarities and differences between plant and animal cells the role of diffusion in the movement of materials in and between cells the structural adaptations of some unicellular organisms the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.	Demonstrate **some** understanding of the requirements of plants for healthy growth. Produce some evidence of the reactnats and products of photosynthesis. State the requirements of plants to maintain healthy growth and independently select appropriate tools and prepare a seed bed.	Demonstrate **some** understanding of the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops the importance of plant reproduction through insect pollination in human food security how organisms affect, and are affected by, their environment, including the accumulation of toxic materials	Demonstrate **some** understanding of the variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction the importance of maintaining biodiversity and the use of gene banks to preserve hereditary material.	Demonstrate **some** understanding in asking questions and developing a line of enquiry based on observations of the real world, alongside prior knowledge and experience make predictions using scientific knowledge and understanding select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements apply sampling techniques.	apply **some** mathematical concepts and calculate results present observations and data using appropriate methods, including tables and graphs interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions present reasoned explanations, including explaining data in relation to predictions and hypotheses evaluate data, showing awareness of potential sources of random and systematic error identify further questions arising from their results.
Stage 2 GCSE Entry Level 3	Demonstrate a **basic** understanding of cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts the similarities and differences between plant and animal cells the role of diffusion in the movement of materials in and between cells the structural adaptations of some unicellular organisms the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.	Demonstrate **basic** understanding of the requirements of plants for healthy growth. Produce some evidence of the reactnats and products of photosynthesis. State the requirements of plants to maintain healthy growth and independently select appropriate tools and prepare a seed bed.	Demonstrate a **basic** understanding of the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops the importance of plant reproduction through insect pollination in human food security how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.	Demonstrate a **basic** understanding of the variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction the importance of maintaining biodiversity and the use of gene banks to preserve hereditary material.	Demonstrate **basic** understanding in asking questions and developing a line of enquiry based on observations of the real world, alongside prior knowledge and experience make predictions using scientific knowledge and understanding select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements apply sampling techniques.	apply **basic** mathematical concepts and calculate results present observations and data using appropriate methods, including tables and graphs interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions present reasoned explanations, including explaining data in relation to predictions and hypotheses evaluate data, showing awareness of potential sources of random and systematic error identify further questions arising from their results.
Stage 1 Entry Level	Demonstrate **an emerging** understanding of cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts the similarities and differences between plant and animal cells the role of diffusion in the movement of materials in and between cells the structural adaptations of some unicellular organisms the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.	Demonstrate **an emerging** understanding of the requirements of plants for healthy growth. Produce some evidence of the reactnats and products of photosynthesis. State the requirements of plants to maintain healthy growth and independently select appropriate tools and prepare a seed bed.	Demonstrate **an emerging** understanding of the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops the importance of plant reproduction through insect pollination in human food security how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.	Demonstrate **an emerging** understanding of the variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction the importance of maintaining biodiversity and the use of gene banks to preserve hereditary material.	Demonstrate **an emerging** understanding in asking questions and developing a line of enquiry based on observations of the real world, alongside prior knowledge and experience make predictions using scientific knowledge and understanding select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements apply sampling techniques.	apply **an emerging** mathematical concepts and calculate results present observations and data using appropriate methods, including tables and graphs interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions present reasoned explanations, including explaining data in relation to predictions and hypotheses evaluate data, showing awareness of potential sources of random and systematic error identify further questions arising from their results.