Biology Progression Grid

	Year 7	Year 8	Year 9 – GCSE
Beginning	• I can only view prepared slides if microscope is already set up. • I can name very few or no parts of a plant or animal cell. • I can name only a few of the organs of the breathing, circulatory and skeletal system. • I can compare familiar objects, materials and living things and predict what might happen. • I can use a microscope with help to view prepared slides. • I can name some parts of plant and animal cells. • I can describe what the lungs, heart and skeleton are for. • I can describe some changes that occur at puberty. • I can suggest how ideas I can be investigated and make predictions about what might happen.	• I can use my knowledge of basic life processes, such as growing, feeding, moving or using their senses, to describe similarities and differences between living things. • I can provide simple explanations for changes affecting animal and plant behaviour, such as seasonal changes or the use of colour in camouflage. • I can carry out a fair test and say which factors need to be kept constant. • I can draw conclusions and relate it to my knowledge and understanding. • • I can talk about a variety of living things and sort them into animals and plants. They recognise and name external parts of the body, using words such as head or arm, and of plants, using words such as leaf or flower. • I can sort living things into groups using observable features, such as number of legs or shape of leaf. They sequence the basic stages of human development and know what is required to keep healthy and safe. • I can suggest how ideas can be investigated and make predictions about what might happen. • I can use appropriate instruments to make measurements and know when a test is fair.	• I can sort living things into groups using observable features. • I can sequence the basic stages of human development • I know what is required to keep healthy and safe. • I can observe and compare familiar objects, materials and living things. • I can make a simple record of my observations and conclusions. • I can describe similarities and differences between living things. • I can provide simple explanations for changes affecting animal and plant behaviour. • I can suggest how ideas can be investigated and make predictions about what might happen.
Developing	• I can use a microscope to view prepared slides. • I can label plant and animal cells correctly. • I can identify the main organs of the reproductive system. • I can describe the function of flowers and	• I can sort living things into groups using observable features, such as number of legs or shape of leaf. • I can observe familiar objects, materials and living things, and say what they are going to do or have done. • I can compare familiar objects, materials	• I can classify the animals and plants found in a local habitat using groupings • I can sequence the main stages of a life cycle • I can name the major organs of the human body and identify the position of these organs.

	seeds. • I can name the main organs and structures in the breathing, circulatory and skeletal systems. • I can carry out a fair test and say which factors need to be kept constant. • I can draw conclusions and relate it to my knowledge and understanding.	and living things and predict what might happen.	• I know the conditions necessary to keep healthy. • I can carry out a fair test and say which factors need to be kept constant. • I can draw conclusions and relate it to my knowledge and understanding.
Secure	• I can prepare own slides and view under a microscope. • I can draw and label plant and animal cells. • I can describe sexual intercourse and fertilisation. • I can name the label the main structures in flowers and describe fertilisation. • I can explain gas exchange across the alveoli. • I can describe the functions of the skeleton and how muscles are involved. • I can describe different types of joints. • I can design a fair test to answer questions that arise from their work in science. • I can interpret my data and begin to explain these using my scientific knowledge and understanding.	• I can name the main resources that plants and animals need to survive. • I can describe how organisms are adapted. • I can draw a food chain. • I can name the food groups in a balanced diet • I can label the main organs in the digestive system. • I can give examples of genetic and environmental variation. • I can recall the names of some illegal recreational drugs. • I can use a range of apparatus with appropriate precision and safety. • I can interpret my data and begin to explain these using my scientific knowledge and understanding.	• I can assign organisms to their major groups and understand the main stages in a life cycle. • I understand the ways by which human activity, such as deforestation, can change the environment. • I know the functions of food, the roles of nutrients in the diet and the reasons for maintaining a healthy diet. • I can describe, in simple terms, the parts and basic functions of the major organ systems in humans. • I can design a fair test to answer questions that arise from their work in science. • I can use my knowledge to make predictions about what they think will happen. • I can interpret my data and begin to explain these using my scientific knowledge and understanding. • I can draw conclusions based on the available evidence
Confident	• I can prepare good slides and view using a microscope under different magnifications. • I can explain functions of the parts of plant and animal cells. • I can explain how different cells are specialised for their functions. • I can describe changes from fertilisation to birth. • I can describe the menstrual cycle. • I can compare the differences between	• I understand that organisms compete for resources. • I am able to explain what causes variation. • I understand why most food chains begin with a plant. • I can write a word equation for photosynthesis. • I can list how a leaf is adapted for photosynthesis. • I know that plants need mineral salts. • I understand why we need a balanced diet.	• I know and understand the differences between plant and animal cells. • I know that living organisms show variation. • I understand why food chains and food webs exist in the environment • I understand the circulatory, digestive and respiratory systems in humans and can use appropriate scientific terminology to describe them. • I can apply my scientific knowledge from

	wind and insect pollinated flowers. • I can relate a model of the lungs to breathing. • I can name some substances that move in and out of cells. • I can apply my scientific knowledge from other investigations to plan an investigation. • I can explain my conclusions using the evidence collected and my knowledge and understanding of science.	• I can describe the functions of the main organs in the digestive system. • I can describe how gases enter and leave leaves. • I can recall the word equation for aerobic respiration • I know where genes are found inside a cell. • I can apply my scientific knowledge from other investigations to plan an investigation. • I can explain my conclusions using the evidence collected and my knowledge and understanding of science.	other investigations to plan an investigation. • I can explain my conclusions using the evidence collected and my knowledge and understanding of science.
Exceptional	• I can draw cells viewed under a microscope to scale. • I can demonstrate a good understanding of cell structure and function. • I can evaluate different methods of seed dispersal. • I can relate the structure of the lungs to efficient gas exchange. • I can explain the changes that occur during breathing. • I can explain how antagonistic muscle pairs work. • I can describe diffusion. • I can plan (with guidance) investigations. Identifying key factors that need to be considered. • I can make predictions using my scientific knowledge.	• I can label a diagram showing a cross section of the leaf. • I can explain the effects of different elements on plant growth. • I can describe how food is digested and absorption. • I know the word equation for anaerobic respiration. • I can describe the differences between aerobic and anaerobic respiration in animals. • I can describe the important stages in evolution by natural selection. • I can describe the effects drugs have on the body. • I can plan (with guidance) investigations. Identifying key factors that need to be considered. • I can present my data clearly and concisely using graphs with lines of best fit.	• I understand that genetic information is carried in the form of chromosomes and genes. • I know the requirements to maintain a healthy body and a healthy baby during pregnancy • I understand the processes of cell respiration and photosynthesis in terms of the main underlying chemical changes. • I can plan (with guidance) investigations. Identifying key factors that need to be considered. • I can present my data clearly and concisely using graphs with lines of best fit. I understand that genetic information is carried in the form of chromosomes and genes. • I know the requirements to maintain a healthy body and a healthy baby during pregnancy • I understand the processes of cell respiration and photosynthesis in terms of the main underlying chemical changes. • I can plan (with guidance) investigations. Identifying key factors that need to be considered. • I can present my data clearly and concisely using graphs with lines of best fit.

Beyond	• I can calculate magnification of a microscope. • I can relate structure and function of specialised cells. • I can link diffusion with wilting. • I can explain how organ systems link together. • I can measure lung volume. • I can make the link between blood cells and bones. • I can explain and measure muscle strength. • I can apply my knowledge and understanding to a range of contexts including unfamiliar situations. • I can produce (unaided) precise plans for my investigations. • I can evaluate my investigations and produce structured reports.	• I can explain bioaccumulation in food chains and some effects of this. • I am able to explain the importance of plants. • I know the difference between photosynthesis and chemosynthesis. • I am able to explain how a leaf is adapted for photosynthesis. • I am able to explain why foods need to be digested. • I can explain the effects of anaerobic respiration on the body during and after exercise. • I can apply my knowledge and understanding to a range of contexts including unfamiliar situations. • I can produce (unaided) precise plans for my investigations. • I can evaluate my investigations and produce structured reports.	• I can explain how living organisms are interdependent and show adaptations to their environment. • I can explain how the characteristics of a living organism are influenced by its genome and its interaction with the environment. • I can explain how evolution occurs by a process of natural selection and accounts both for biodiversity and how organisms are all related to varying degrees. • I can explain how living organisms may form populations of single species, communities of many species and ecosystems, interacting with each other, with the environment and with humans in many different ways • living organisms are interdependent and show adaptations to their environment. • I can describe how the chemicals in ecosystems are continually cycling through the natural world. • Unaided, I can prepare systematic and precise plans for their investigations, including a strategy for dealing with results. • I can decide on the observations and measurements that need to be taken and the degree of accuracy that is required. • I can set up and use a range of scientific apparatus with precision and skill.