



Subject: Year 7 Interdependence

Prior Key stage 2 Knowledge			
<p>Plants - explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <p>Animals and Humans - identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Construct and interpret a variety of food chains, identifying producers, predators and prey</p> <p>Living things and their habitats - recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things</p>			
Overarching Topic: Interdependence			
<p>Why is this topic being studied at this time?</p> <p>How does it fit into the wider subject curriculum?</p>	<ul style="list-style-type: none"> Do species live alone, or do many live in communities with other organisms? Evolutionary theory and the cell theory give us the basis for how and why organisms relate to each other. The diversity of life found on Earth today is the result of 4 billion years of evolution. The origin of life is not completely understood by science, though limited evidence suggests that life may already have been well-established a few 100 million years after Earth formed. Until approximately 600 million years ago, all life was made up of single-celled organisms. The level of biodiversity found in the fossil record suggests that the last few million years include the period of greatest biodiversity in the Earth's history. This will build on key topics that have been covered in year 7 such as respiration, photosynthesis also topics covered in year 7 such as organisms systems. This topic lays the foundation for the study at GCSE as it allows students to be able to further their knowledge in respiration and photosynthesis, also covered in GCSE are the topics organising plants and animals, adaptations interdependence and community. This is also an important topic as it allows students to develop ideas about food and where our food comes from that will be important in the wider world, as well as discussing how toxins and climate change will impact our food. 		
	Essential	Core	Ambitious
<p>The Big Questions (What questions will students be able to answer upon mastery of the topic?)</p>	<p>What is a producer? What are herbivores and carnivores? What is a food chain?</p>	<p>Can you create a food chain from producer to tertiary consumer? How does a species population changes as its predator or prey population changes? What are the effects of toxic materials on a species' population?</p>	<p>Why don't species live alone – why do humans have bacteria on and in them? Choose an animal – how would increasing/decreasing their numbers affect the human population? Evaluate the decision to become vegan (no animal products). How would this affect a food web involving humans? Chemicals, like micro plastics, can accumulate in food chains. Why should we care about this? How can we prevent it from occurring in the first place and how might we resolve the accumulation that has already started?</p>
The Key Skills/ Technique	The sophistication and application of skills will become more advanced as students' progress through the essential, core and ambitious knowledge		
	Skill/Technique	How will this skill be developed?	
	1. Graphing & Drawing	Draw graphs with suitable scales, axes and units. Correct line of best fit. Appreciation of anomalies and processed data. Scientific drawing of cells, concepts and scientific equipment.	
	2. Variables	Identify independent, dependent and control variables and devise experiments to include these to ensure valid results. Appreciation of uncertainty.	
3. Data Analysis	Describe, explain and predict trends. Graph and table data interpretation. Identify links and patters within and between topics. Statistical analysis of data to include mode/median/mean/range determination. Drawing justified conclusions from presented data.		

	4. Application	Apply known and taught theory in unfamiliar contexts. Making links to taught theory and extracting key ideas. Communicating using correct scientific terminology.
	5. Working Scientifically	Identify hazards and planning to limit risk. Describe how to improve accuracy/precision/repeatability/reproducibility/validity. Evaluate reliability of methods and investigations, taking in to account data analysis.