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| **Geography - Year 9 Medium Term Plan/SOW** | | | | | **The Academy of St Francis of Assisi** | |
| **Unit 1** | **Interdependent World** | | | | **Number of lessons in sequence** | **10 x 1 hour lessons** |
| **Overarching Curricular Goals** | | ***"Eventually we'll realise that if we destroy the ecosystem, we destroy ourselves."*** - Jonas Salk  **By the end of this unit students will:**  Be able to describe the meaning of interdependence in ecosystems  Be able to suggest and explain how changes to ecosystems can have significant impacts  Be able to the explain how ecosystems around the world depend on rainforests and the global implications of Amazon dieback  Be able to describe the biodiversity of coral reef ecosystems and categorise the ways in which they are important  Be able to explain the interdependent nature of ocean ecosystems in relation to humpback whales and phytoplankton  Be able to describe and explain the distribution of cold environments and their characteristics  Be able to explain how the food webs in cold environments create economic opportunities  Be able to explain the global impacts of melting ice in the Arctic  Be able to evaluate the effectiveness of sustainable management strategies in cold environments  **Knowledge students will secure:** \* Interdependence is revealed through studying ecosystems. All biotic and abiotic features of ecosystems are connected, and allow each other to thrive. Humans rely on natural ecosystems to survive \* Interdependence is revealed through studying ecosystems. All biotic and abiotic features of ecosystems are connected, and allow each other to thrive. Humans rely on natural ecosystems to survive \* Human activity has fundamentally damaged our ecosystems, causing a rise in tipping points around the world: e.g. Rainforests \* Coral reefs acts as a natural flood barrier and phytoplankton absorbs huge amounts of carbon dioxide. They are under threat due to a warmer climate and pollution \* Phytoplankton make the oceans a more substantial carbon sink than the world's rainforests. Whales cycle these organisms around the oceans which feeds the entire food web, but are being hunted \* The Arctic is split up into polar and tundra regions, located around the north pole. They have different climates and seasons \* Arctic food webs have specifically adapted organisms. Their mineral rich seas feed countless species, but hunting has caused disruption \* Arctic sea ice helps to mitigate climate change by reflecting sunlight. Arctic permafrost is melting, releasing methane \* Human activity has damaged our ecosystems. We can protect them through careful management, such as government action, rewilding, and technology  **Skills students will develop:**  Competence in a range of skills in using maps, photographs and diagrams including digital sources; and develop their competence in applying sound enquiry and investigative approaches to questions (study like a geographer)  Apply geographical knowledge, understanding, skills and approaches appropriately and creatively to real world contexts, and to contemporary situations and issues such as deforestation; and develop well-evidenced arguments drawing on their geographical knowledge and understanding (applying geography) | | **Links to National Curriculum & prior learning**  **Building for future learning** | **KS3:** This Unit 1, taking off from the Year 7 sequence of learning which built upon and deepened students’ KS2 learning, will provide a high-quality geography education that inspires in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives. Teaching will equip pupils with knowledge about diverse places, people, resources and natural and human environments, together with a deep understanding of the Earth’s key physical and human processes. As pupils progress, their growing knowledge about the world will help them to deepen their understanding of the interaction between physical and human processes, and of the formation and use of landscapes and environments. ‘Pupils should develop contextual knowledge of the location of globally significant places, including their defining physical and human characteristics and how these provide a geographical context for understanding the actions of processes Pupils should understand the processes that give rise to key physical and human geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time. In doing so, they should become aware of increasingly complex geographical systems in the world around them. They should develop greater competence in using geographical knowledge, approaches and concepts [such as models and theories] and geographical skills in analysing and interpreting different data sources. In this way pupils will continue to enrich their locational knowledge and spatial and environmental understanding.’ Locational knowledge:  **-** Pupils should extend their locational knowledge and deepen their spatial awareness of the world’s countries using maps of the world to focus on Russia, Asia, focusing on their environmental regions, key physical characteristics, and countriesHuman and physical geography: - Pupils should understand, through the use of detailed place-based exemplars at a variety of scales, the key processes in weather and climate, international development and the use of natural resources - Pupils should understand how human activity relies on effective functioning of natural systems Geographical skills: - pupils should use maps, atlases, photographs, graphs, globes and digital computer/ mapping to locate countries and describe features - use fieldwork to observe, measure and record the human and physical features in the local area using a range of methods including sketch maps and graphs  **KS3 and 4 curriculum links**: This topic, which builds a foundation for students to understand how to work as geographers, recalls and is a spring-board for a number of different topics across Key Stage 3 and 4: Year 7 – Unit 1: physical features of our local geography, grid references and timescales in both human and physical geography, nature recycles resources/ Unit 3: flooding and coastal areas Year 8 – Unit 1: connections in ecosystems, the role of trees and green spaces in slowing climate change/ Unit 2: global resources/ Unit 3: causes of climate change,  Year 9 – Unit 2: tourism destinations/ Unit 3: resource distribution across the world depends on sustainable management and climate Year 10 – Section A: causes and impacts of climate change/ Section B: forest ecosystems and interdependent organisms, deforestation, sustainable management, impacts of human activity on ecosystems Year 11 - Section A: sustainability in urban spaces/ Section B: pollution and development degrading the environment | |
| **2/3 tier vocabulary** | | **Differentiation/Scaffolding/Support** | **Stretch and challenge opportunities in class and home learning.** | ***Opportunities for wider reading/Listening/watching*** | | |
| ecosystem, interdependent, biotic, abiotic, producer, consumer, photosynthesis, food web, biodiverse, nutrient, extinct, pesticide, agriculture, deforestation, decomposer, decompose, pollinator, pollution, drought, positive feedback loop, phytoplankton, plankton, carbon sink, algae, fertilise, social, economic, environmental, Arctic, tundra, methane, greenhouse gas, tropical, sustainable, conservation, re-wilding  KO - [T:\Geography\Year 9\NEW CURRICULUM\Unit 1 - Interdependent World\Revision\Year 9 Unit 1 KO.docx](file:///T:\Geography\Year%209\NEW%20CURRICULUM\Unit%201%20-%20Interdependent%20World\Revision\Year%209%20Unit%201%20KO.docx) | | **Knowledge support** – Knowledge organisers provided as a foundation for accessing new content, particularly relating to specific biological and ecosystem terminology that students will not have a knowledge framework for, such as ‘phytoplankton’ and ‘positive feedback loop’  Extended revision booklets alongside KOs to provide more detailed material and visuals for revising case studies and inter-related processes  Classroom displays also utilised as a support for students locational knowledge and vocabulary.  **Reading support -**Key features in all extended text put in bold, highlighters provided for reading through together. Use of the visualiser to read through as a class, then ask students to identify any words they don’t know and discuss meanings as a class and annotate.  **Support** – Sentence starters and writing frames for extended writing, visual cues used as a discussion point and mind maps created to provide a basis for this. Slowly reducing support to increase independence throughout the unit. Use the visualiser to model, share good practice to support students in developing confidence. If available, a pre-completed task in a different class exercise book or my own exercise book used as a model.  **Skill** | **Opportunities for inclusion of challenging content -** The content of this entire topic extends and challenges student knowledge beyond that of relevant GCSE topics. Understanding of climate processes and ecosystem networks built in Year 7 and 8 is essential for students to access this topic, meaning that new students or those frequently absent over those two years will rely on their knowledge organisers and booklets.  Particularly challenging is the concept of interdependence itself, between both biotic and abiotic features of the ecosystems that we rely on for a stable environment and economy, as well as the way idea of tipping points caused by positive feedback loops, all of which are linked across huge expanses of our planet. Another is the relationship between the world’s ecosystems and our economy, impacting both our political, physical and mental wellbeing as communities and individuals. More specifically, challenging concepts also then include the finer details including the connection between whale activity and the ability of our oceans to act as carbon sinks, or coral reefs providing both economic benefits and flood defences (both of which are beginning to collapse due to the melting of the ice caps at our poles.)    **Useful websites to stretch students**  Global forest watch - <https://www.globalforestwatch.org/>  Tipping points - <https://www.thetippingpoints.com/maps/amazon-dieback/>  NASA: Global Climate Change - <https://climate.nasa.gov/vital-signs/arctic-sea-ice/>  State of the world’s forests –  <http://www.fao.org/state-of-forests/en/> | **Read** – Articles to be identified to provide stretch and challenge for higher ability students, encouraging awareness of global interdependence between ecosystems, significant roles of producers and consumers in maintaining balance, and contemporary issues, e.g.: the methane dragon Siberia’s melting ice and methane - <https://www.sciencealert.com/another-giant-gaping-crater-was-suddenly-found-in-siberia-the-largest-in-recent-years> Amazon destruction - <https://www.ndtv.com/world-news/brazils-amazon-deforestation-increased-by-25-per-cent-in-2020-2260679>  UK consumption fuels Amazon fires - <https://www.independent.co.uk/environment/climate-crisis-consumerism-demand-goods-uk-amazon-brazil-fires-a9610276.html>  Coral reef flood defence - <https://www.independent.co.uk/environment/coral-reef-floods-storms-great-barrier-reef-bleaching-climate-change-a8395891.html>  Tipping points - <https://www.theguardian.com/science/2020/sep/19/the-tipping-points-at-the-heart-of-the-climate-crisis>  Ocean vents - <https://www.sciencedaily.com/releases/2019/06/190605100335.htm>  Politics and climate change: Extinction Rebellion - <https://www.cambridgeindependent.co.uk/news/in-pictures-extinction-rebellion-s-ocean-march-brings-blue-wave-to-cambridge-9121428/>  Oil industry corruption - <https://www.bbc.co.uk/news/stories-53640382>  Bolsonaro and the Amazon - <https://www.newsecuritybeat.org/2020/09/president-bolsonaro-fiddles-brazilian-amazon-smoke/>  Climate strikes and Greta Thunberg - <https://www.refinery29.com/en-gb/2020/09/10036536/where-is-greta-thunberg-now-climate-strike-anniversary>  **Listen –** ‘Top 15 Ecology Podcasts You Must Follow in 2020’  <https://blog.feedspot.com/ecology_podcasts/>  **Watch** – Documentaries available on YouTube, Netflix and BBC iPlayer including ‘What if We Change: Ecosystem Restoration’ <https://www.youtube.com/watch?v=u7ffAzRGqnw> , ‘Extinction: The Facts’, ‘Planet Earth’, ‘Guardians of the Amazon’ <https://www.youtube.com/watch?v=BdTAbgPQuNI> , ‘Tipping Point: The Amazon’ <https://www.youtube.com/watch?v=55VpBcwEiN4> , ‘David Attenborough’s Light on Earth’ <https://www.youtube.com/watch?v=ejmZvGEtnWw> , ‘Whales Change Climate’ <https://www.youtube.com/watch?v=M18HxXve3CM> | | |

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| **Unit 1:**  **Interdependent World** | **Sequence of Learning: Lesson Title** | Key Concepts **Skills** Case studies/ Examples | **Assessment** | **Homework** | **Furthering Cultural Capital/**  **Opportunities for reading/speaking** | *Recall* and links to prior or future topics/ **Cross-curricular links** | **Lesson Resources** |
| **1**  Local  **2** | What does interdependence mean in geography? | Interdependence is revealed through studying ecosystems. All biotic and abiotic features of ecosystems are connected, and allow each other to thrive. Humans rely on natural ecosystems to survive |  |  | Developing knowledge of how living and non-living things rely on each other, including humans | *DO NOW: Re-cap task on ecosystem key vocabulary* Year 8 Unit 1 the role of trees in ecosystems, the nutrient cycle | Knowledge Booklet - [T:\Geography\Year 9\NEW CURRICULUM\Unit 1 - Interdependent World\Revision\Interdependent World Knowledge Booklet.docx](file:///T:\Geography\Year%209\NEW%20CURRICULUM\Unit%201%20-%20Interdependent%20World\Revision\Interdependent%20World%20Knowledge%20Booklet.docx)  Lesson Powerpoint - [T:\Geography\Year 9\NEW CURRICULUM\Unit 1 - Interdependent World\Lesson 01 - Interdependence\Lesson 1 The Meaning of Interdependence.pptx](file:///T:\Geography\Year%209\NEW%20CURRICULUM\Unit%201%20-%20Interdependent%20World\Lesson%2001%20-%20Interdependence\Lesson%201%20The%20Meaning%20of%20Interdependence.pptx) |
| Changes to ecosystem food webs | Within ecosystesms, food webs reveal how small changes can have large impacts. Ponds are a small-scale example of this. Insects are essential  **Grid references**, Sefton Park | Teacher-marked extended writing to explain how features of small-scale pond ecosystems are interdependent | Key vocab flashcards | Gaining knowledge of the natural systems which provide us with food  *Opportunity to read challenge article on tipping points* | *Main task to re-cap grid references* Year 7 Unit 1 grid references, Year 8 Unit 1 the nutrient cycle and pollination**Biology** | Lesson Powerpoint - [T:\Geography\Year 9\NEW CURRICULUM\Unit 1 - Interdependent World\Lesson 02 - Changes to Ecosystem Food Webs\Lesson 2 Changes to Ecosystem Food Webs.pptx](file:///T:\Geography\Year%209\NEW%20CURRICULUM\Unit%201%20-%20Interdependent%20World\Lesson%2002%20-%20Changes%20to%20Ecosystem%20Food%20Webs\Lesson%202%20Changes%20to%20Ecosystem%20Food%20Webs.pptx) |
| National  **3** | Fieldwork opportunity | Students visit Sefton Park to analyse pond ecosystems and plant reproduction  **Field sketching, data collection** |  |  | Developing an understanding of how functioning ecosystems are all around us, seeing green spaces as environmentally and socially important |  |  |
| Tropical rainforest interdependence | Human activity has fundamentally damaged our ecosystems, causing extinction of many species that play a role in interdependence and heating the planet: e.g. Rainforests… **Suggest using key vocabulary World and thematic map reading,** Amazon Rainforest (Brazil) | Self-assessed low-stakes quiz Peer-assessed Figure study |  |  | *DO NOW: Re-cap of the human causes of climate change* Year 8 Unit 2 causes of climate change and global atmospheric circulation, Year 8 Unit 1 the role of trees in ecosystems, the nutrient cycle | Lesson Powerpoint - [T:\Geography\Year 9\NEW CURRICULUM\Unit 1 - Interdependent World\Lesson 03 - Tropical Rainforest Interdependence\Lesson 3 Tropical Rainforest Interdependence.pptx](file:///T:\Geography\Year%209\NEW%20CURRICULUM\Unit%201%20-%20Interdependent%20World\Lesson%2003%20-%20Tropical%20Rainforest%20Interdependence\Lesson%203%20Tropical%20Rainforest%20Interdependence.pptx) |
| **4**  International  **5**  **6**  **7**  **8**  **9**  **10** | Coral reef interdependence | ...Coral reefs acts as a natural flood barrier and phytoplankton absorbs huge amounts of carbon dioxide. They are under threat due to a warmer climate and pollution **Evaluation of a statement** | Peer-assessed Figure study |  | Exploring important and current climate and ecological scientific theory | Year 8 Unit 2 climate change impacts and global atmospheric circulation | Lesson Powerpoint - [T:\Geography\Year 9\NEW CURRICULUM\Unit 1 - Interdependent World\Lesson 04 - Coral Reef Interdependence\Lesson 4 Coral Reef Interdependence.pptx](file:///T:\Geography\Year%209\NEW%20CURRICULUM\Unit%201%20-%20Interdependent%20World\Lesson%2004%20-%20Coral%20Reef%20Interdependence\Lesson%204%20Coral%20Reef%20Interdependence.pptx) |
| Ocean ecosystem interdependence | … Phytoplankton make the oceans a more substantial carbon sink than the world's rainforests. Whales cycle these organisms around the oceans, but are being hunted **Sketching and annotating diagrams to explain complex phyiscal processes** Japan |  | Key vocab mindmap | Exploring important and current climate and ecological scientific theory  *Scholarship reading on Ocean Vents Opportunity to watch ‘Whales Change Climate’* | **R.E. ethics of hunting/ eating meat** |  |
| Cold environments location | The Arctic is split up into polar and tundra regions, located around the north pole. They have different climates and seasons  **World map skills, latitude and longitude** |  |  |  | *DO NOW: Re-cap task on global atmospheric circulation*  Year 8 Unit 2 causes of climate change and global atmospheric circulation |  |
| Cold environments rich seas | Arctic food webs have specifically adapted organisms. Their mineral rich seas feed countless species, but hunting has caused disruption  Siberia (Russia) | Self-assessed low-stakes quiz |  |  | Year 7 Unit 3 glacial landscapes |  |
| Cold environments melting and methane | Arctic sea ice helps to mitigate climate change by reflecting sunlight. Arctic permafrost is melting, releasing methane  Siberia (Russia) | Teacher-marked extended writing to suggest reasons why whaling should be banned due to the interconnected nature of ecosystems | ‘What does interdependence mean to you?’ poster | Developing an understanding of how ecosystems across the planet have an essential role in maintaining our climate: it is all connected. Alarming current scientific study  *Opportunity to read article on Siberia’s melting permafrost* | Year 7 Unit 3 glacial landscapes, Year 8 Unit 2 impacts of climate change |  |
| Improvements |  | Improving Extended Writing Self-assessed low-stakes quiz |  |  |  |  |
| Sustainable management of ecosystems | Human activity has damaged our ecosystems. We can protect them through careful management, such as government action, rewilding, and technology  **Evaluating and critical thinking** |  |  | Examination of current political and environmental theories in intellectual property and the push for ecocide law  *Opportunity to read challenge articles on Extinction Rebellion and climate strikes* |  |  |
| **Revision and Assessment Week (AP1)** |  | ***"Eventually we'll realise that if we destroy the ecosystem, we destroy ourselves."*** - Jonas Salk | Entire unit, knowledge-based |  |  | *Short recap section focused around map skills* |  |