



Context					
Unit	Biomes				
Assessment	How much do you agree with the following statement? 'It is already too late to protect biomes from climate change.'				
Key Knowledge <i>How does this unit fit in? What Big Ideas are explored?</i>	<p>The national curriculum states that pupils should “describe and understand key aspects of: physical geography, including: climate zones [and] biomes.” The exact number and names of biomes is not entirely agreed upon by geographers, but the major biome types are a hugely significant aspect of understanding the world that we live in. In this unit pupils will be introduced to six major biome types. The knowledge concept covered in this unit is environment. Pupils will learn the names, locations and key features of six biomes. Particular attention will be paid to location, especially with regards to lines of latitude and how different parts of the world experience different climates as a result of where they are located. They will learn about the tropical zones close to the equator, and temperate zones as we move further north or south. Finally, the polar zones, which receive almost no direct sunlight will be located. There are lots of great opportunities to link this knowledge with science lessons. Pupils will then move on to consider the causes and impact of the climate emergency, especially with reference to flora and fauna which live within a biome. The interaction between physical and human geography will also be explored here. When learning about the impact of climate change on the flora and fauna of different biomes, pupils often feel a passionate sense of responsibility. This lesson allows pupils to direct that towards writing a speech to set out the challenges and potential solutions for protecting biomes. Children will have already learnt to write a speech in ‘Autumn 2, Writing’ and can therefore apply their skills here. In the final Think! Question, pupils will have the chance to set out the threats and dangers to biomes as a result of climate change, as well as making a judgement as to whether the solutions can save them.</p>				
Skills <i>What skills are taught in this unit?</i> Skills Progression	<p>Enquiry - Compare, contrast, analyse and evaluate appropriate sources E.G maps, atlases, globes, digital computer mapping, OS maps, maps they have created, sketches, diagrams, graphs, photographs, aerial photographs.</p> <p>Human & Physical - Compare human and physical characteristics of countries and cities; analyse the impact that human and physical environments have on each other and understand how some of these aspects have changed over time.</p> <p>Location & Place - Compare different regions and analyse why changes occur over time.</p> <p>Mapwork - Locate cities and counties of the UK and some countries in the world choosing appropriate resources.</p>				
Vocabulary <i>To be displayed on the working wall</i>	Tropical Rainforest Savanna Desert	Temperate deciduous forest Coniferous forest (taiga) Tundra	Adapted Biome Climate	Drought Extinct Fossil Fuels	Greenhouse gases Permafrost Wildfires

Unit Overview

Enquiry Question		Learning Intention	Focus Skill	Diversity	Local Geography	Curriculum Links
1	What are the Earth's biomes?	To locate the main 6 biomes of the world on a map	Mapwork Location & Place		What biome is the UK?	
2	Why are biomes where they are?	To explain why different biomes experience different climates	Mapwork Location & Place			
3	Why are biomes under threat?	To explore the negative impact humans have on biomes	Human & Physical Location & Place			
4	What are the features of your favourite biome?	To explain how biomes are changing and the impact this may have on the flora and fauna	Enquiry Human & Physical Location & Place			Trip to The Living Rainforest
5	How can we persuade people to protect biomes?	To persuade people to protect biomes around the world.	Human & Physical	Influential Women: Greta Thunberg		English: persuasive writing Computing: Recording a podcast
6	How much do you agree with the following statement? 'It is already too late to protect biomes from climate change.'					

Lesson 1

Enquiry Question	What are the Earth's biomes?			
Learning Intention	To locate the main 6 biomes of the world on a map.			
SOLO SC: Uni- Structural	I can define what a biome is and identify the main 6 biomes of the world.			
SOLO SC: Multi- Structural	I can describe the main 6 biomes of the world.			
SOLO SC: Relational	I can locate the main 6 biomes of the world on a map.			
SOLO SC: Extended Abstract	I can explain how a country's location in relation to the equator, has an impact on its climate			
The lesson (How will children meet the LI?)	<p>CONCEPTS: The aim of this lesson is for all children to have a secure knowledge of what biomes are and have opportunity to develop mapwork skills being able to identify where in the world the main 6 biomes exist.</p> <ul style="list-style-type: none"> - Introduce the knowledge organiser for this topic. - Introduce the key concepts for this unit. How does this unit fit in with our geography journey so far? - What connections can the children make with this content? Encourage discussion. - Watch this Video introducing biomes and launching the topic. - Follow the instructions in the pupil booklet. Children use the knowledge organiser to label a map and develop a key. Children will use atlases to locate different countries on the map and therefore work out what biome matches the location. 			
Key Vocabulary for the lesson	Tropical rainforest Savanna	Coniferous forest Temperate deciduous forest	Tundra Desert	Biome Climate Equator
Digital Links	Previous Learning Quiz available on Google Forms			
Resources	Digital resource lesson 1 Lesson Plan	Pupil Booklet Pupil Booklet (ANSWERS)	Atlases (1 between 2) Knowledge Organiser	

Lesson 2

Enquiry Question	Why are biomes where they are?		
Learning Intention	To explain why different biomes experience different climates		
SOLO SC: Uni- Structural	I can match a biome with its climate		
SOLO SC: Multi- Structural	I can describe the climate of the main 6 biomes of the world		
SOLO SC: Relational	I can explain why different biomes experience different climates		
SOLO SC: Extended Abstract	I can consider how changes to weather patterns may impact different biomes		
The lesson <small>(How will children meet the LI?)</small>	<p>CONCEPTS: The aim for this lesson is for children to be able to use their knowledge of location to explain the climate of different biomes.</p> <ul style="list-style-type: none"> - Children complete the retrieval quiz. Give the children an opportunity to remember the answer, then an opportunity to locate the answers (books, learning walls, peers) before finally revealing the answers. This is low-stakes quizzing. The aim is that children are able to remember more over time. - Follow the learning in the pupil booklet: use data recorded in maps, tables etc to draw conclusions and make comparisons about different biomes. - Plenary: children to choose a biome in secret. They should describe locational features which contribute to the climate and the rest of the class/a partner needs to work out which biome they are talking about. - (Support: Match up cards) 		
Key Vocabulary for the lesson	Climate Temperature Latitude	Rainfall Equator Water Vapour	Tropical Temperate Polar
Digital Links	Retrieval Quiz available on Google Forms		
Resources	Digital Resource Lesson 2 Lesson Plan	Pupil Booklet Pupil Booklet (ANSWERS)	Globe Match up cards

Lesson 3

Enquiry Question	Why are biomes under threat?								
Learning Intention	To explore the negative impact humans have on biomes								
SOLO SC: Uni- Structural	I can name one way in which biomes are impacted by human activity								
SOLO SC: Multi- Structural	I can describe how biomes are impacted by human activity								
SOLO SC: Relational	I can explore the negative impact humans have on biomes								
SOLO SC: Extended Abstract	I can reflect on how the world could change by 2050 if this activity continues								
<p style="text-align: center;">The lesson (How will children meet the LI?)</p>	<p>CONCEPTS: The aim for this lesson is for children to analyse the impact that human and physical environments have on each other and understand how some of these aspects have changed over time.</p> <ul style="list-style-type: none"> - Children complete the retrieval quiz. Give the children an opportunity to remember the answer, then an opportunity to locate the answers (books, learning walls, peers) before finally revealing the answers. This is low-stakes quizzing. The aim is that children are able to remember more over time. - At the beginning of the lesson, the booklet states: “Human activities often release gases such as carbon dioxide and methane: greenhouse gases. These greenhouse gases trap heat in the atmosphere so it warms up. Humans have added so much extra greenhouse gas to the atmosphere that the Earth’s temperature has increased by more than 1 °C over the last 200 years.” As a class, gather suggestions about what these ‘human activities’ are: e.g. pollution from transport, factories, burning of fossil fuels, deforestation and so on. Record on sugar paper and add to the working wall. - - Work through the pupil booklet, analysing ways in which biomes are being impacted. - Pupils to research human activities which are causing a climate emergency. What is the purpose of the activity? Why is it necessary? How is it impacting the environment? What possible solutions are there to reduce impact on the environment? What does carbon neutral mean? Children could share learning in a collaborative document on Google Classrooms. 								
Key Vocabulary for the lesson	<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Greenhouse gases</td> <td style="width: 25%;">Permafrost</td> <td style="width: 25%;">Wildfires</td> <td style="width: 25%;">Temperature</td> </tr> <tr> <td>Carbon dioxide</td> <td>Adapted</td> <td>Drought</td> <td>Desertification</td> </tr> </table>	Greenhouse gases	Permafrost	Wildfires	Temperature	Carbon dioxide	Adapted	Drought	Desertification
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Digital Links	Previous Learning Quiz available on Google Forms; Research and presentation created on chromebooks								
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Lesson 4

Enquiry Question	What are the features of your favourite biome?						
Learning Intention	To explain how biomes are changing and the impact this may have on the flora and fauna						
SOLO SC: Uni- Structural	I can describe the climate of my chosen biome						
SOLO SC: Multi- Structural	I can list ways plants and animals are adapted to their environment						
SOLO SC: Relational	I can explain how biomes are changing and the impact this may have on the flora and fauna						
SOLO SC: Extended Abstract	I can consider ways in which we can protect biomes from changing climates						
The lesson <small>(How will children meet the LI?)</small>	<p>CONCEPTS: The aim for this lesson is for children to analyse the impact that human and physical environments have on each other and understand how some of these aspects have changed over time.</p> <ul style="list-style-type: none"> - Children complete the retrieval quiz. Give the children an opportunity to remember the answer, then an opportunity to locate the answers (books, learning walls, peers) before finally revealing the answers. This is low-stakes quizzing. The aim is that children are able to remember more over time. - Follow the learning in the Pearson Booklet. Children will require the use of chromebooks to research animals which have adapted to their chosen biome. Children will then consider how that animal will become under threat because of a change in the climate of the biome. 						
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Digital Links	Previous Learning Quiz available on Google Forms Visit different biomes using Google Earth						
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Lesson Plan	Pupil Booklet (ANSWERS)						

Lesson 5

Enquiry Question	How can we persuade people to protect biomes?								
Learning Intention	To persuade people to protect biomes								
SOLO SC: Uni- Structural	I can identify how human activity is damaging biomes								
SOLO SC: Multi- Structural	I can list reasons why biomes should be protected								
SOLO SC: Relational	I can persuade people to protect biomes								
SOLO SC: Extended Abstract	I can draw upon influential leaders to support my message								
The lesson (How will children meet the LI?)	<p>CONCEPTS: The aim for this lesson is for children to apply their understanding of biomes and the current climate emergency to persuade others to act. Children will use skills from writing and computing when recording a persuasive advert.</p> <ul style="list-style-type: none"> - Children complete the retrieval quiz. Give the children an opportunity to remember the answer, then an opportunity to locate the answers (books, learning walls, peers) before finally revealing the answers. This is low-stakes quizzing. The aim is that children are able to remember more over time. - Show the children a picture of Greta Thunberg. Who is she? Elicit what the children already know about her. - Show pupils a video: ‘Greta Thunberg and George Monbiot make short film on the climate crisis’. Discuss how convincing the pupils thought the speech was. What made it persuasive? - Follow the Pearson Booklet to gather ideas and then children to work in groups of 3 to record a short advert persuading people to act to help the climate crisis. 								
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Lesson 6 - ASSESSMENT

Assessment Think! Question	How much do you agree with the following statement? 'It is already too late to protect biomes from climate change.'
Tasks	Class discussion about Think! Question - encourage use of appropriate vocabulary (Collaborative) Think! Question (Independent) Knowledge Quiz (Independent)
Key Vocabulary for the lesson	Adapted Biome Climate Drought Extinct Fossil Fuels Greenhouse gases Permafrost Wildfires
Digital Links	Knowledge Quiz available on Google Forms
Resources	Think! Question Knowledge Quiz Knowledge Quiz ANSWERS