

Geography Medium Term Autumn 2 and Spring 1 Year 6

Unit **Biomes around the world**

Enquiry Question **Are biomes fixed?** Other questions to consider: Do biomes change over time? What factors influence the stability of biomes?

Prior Learning Knowledge	Prior Learning Skills	Prior Knowledge Vocabulary	Reading Links	
<p>Year 1/2- biomes in Nigeria and natural resources Year 3- waste (including recycling) Year 4- climate change melting of the ice caps, changing habitats (rising sea temperatures) Year 5- Biomes already studied- UK (temperate deciduous forest) Amazon (tropical rainforest). Deforestation. Longitude and latitude.</p>	<p>Use a wide range of maps, atlases, globes and digital maps to locate countries and features studied.</p> <ul style="list-style-type: none"> Relate different maps to each other and to aerial photos. Interpret and use thematic maps. Use six figure coordinates. Use eight cardinal points to give directions and instructions. Ask and answer questions that are more causal e.g. Why is that happening in that place? Could it happen here? What happened in the past to cause that? How is it likely change in the future? Develop their views and attitudes to critically evaluate responses to local geographical issues or events in the news e.g. for/against arguments relating to the proposed wind farm. Communicate geographical information in a variety of ways including through maps, diagrams, numerical and quantitative skills and writing at increasing length. Use and interpret live data 	<p>South America, Brazil, rainforest, Amazon, tropics, Capricorn, Cancer, longitude and latitude, time zones, Amazon basin, Trade, port, harbour, fair trade, natural resources</p>	<p>Under the Weather: Stories of Climate Change by Tony Bradman The World, place, location, global geography, the environment (climate change)</p> <p>Potential misconceptions: The USA is a country the continent is North America. Deserts aren't always hot- Antarctica.</p>	
Year 6 Essential knowledge end point (substantive)	Year 6 Disciplinary Knowledge: (Working, Talking, Writing like a Geographer)	Equality Diversity & Justice	Vocabulary	Writing opportunities
<p>Identify the position and significance of longitude, latitude, equator, n + s hemisphere, the Tropics, Arctic and Antarctic circles, prime meridian and time zones To use latitude and longitude Know the world is split up into time zones by imaginary lines called meridians- The Prime Meridian runs through Greenwich in London Explain what biomes are and locate different ones around the world Location of the USA, its key physical features. The USA is geographically diverse and contains multiple different biomes. Developing on their understanding of using 6 figure grid references Describe and understand key aspects of: - physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle. human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.</p>	<p><u>MAPPING</u></p> <ul style="list-style-type: none"> Use latitude/longitude in a globe or atlas. Use models and maps to discuss land shape i.e. contours and slopes. Use the scale bar on maps. <p><u>FIELDWORK</u></p> <ul style="list-style-type: none"> Interpret data collected and present the information in a variety of ways including charts and graphs. <p><u>ENQUIRY AND INVESTIGATION</u></p> <ul style="list-style-type: none"> Make predictions and test simple hypotheses about people and places. <p><u>COMMUNICATION</u></p> <ul style="list-style-type: none"> Identify and explain increasing complex geographical features, processes (changes), patterns, relationships and ideas. Use more precise geographical language relating to the physical and human processes detailed in the PoS e.g. tundra, coniferous/deciduous forest when learning about biomes. <p><u>USE OF ICT/TECHNOLOGY</u></p> <p>Use appropriate search facilities when locating places on digital/online maps and websites.</p> <ul style="list-style-type: none"> Investigate electronic links with schools/children in other places e.g. email/video communication. 	<p><u>PSHE Link:</u> How can we look after ourselves as well as the environment? How are local choices that we make connected to global issues? Look at the Global Goal. What kind of future do we want?</p>	<p>Prime/Greenwich Meridian Diverse The 5 major types of biomes: aquatic, grassland, forest, desert, and tundra The specific categories of biomes- freshwater, marine, savanna, tropical rainforest, temperate rainforest and taiga</p>	<p>Creating a group presentation on a particular biome Various short writing opportunities to answer key geographical questions/ make predictions Generating questions Non chronological report on biomes with expression of own opinion on the enquiry question: 'Are biomes fixed?' with justified reasons.</p>

Enquiry question: Are biomes fixed?

Learning objective	Essential knowledge end point and Disciplinary Knowledge: (Working, Talking, Writing like a Geographer)	Activities
<p>Creating interest</p> <p>Lesson 1- To investigate biomes around the world</p>	<p>Essential knowledge end point (substantive): Identify the position and significance of longitude, latitude, equator, n + s hemisphere, the Tropics, Arctic and Antarctic circles, prime meridian and time zones Name some significant countries in the different continents. To use latitude and longitude Explain what biomes are and locate different ones around the world</p> <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer): Use a wide range of maps, atlases, globes and digital maps to locate countries and features studied.</p> <ul style="list-style-type: none"> ▪ Make predictions and test simple hypotheses about people and places. ▪ Use more precise geographical language relating to the physical and human processes detailed in the PoS e.g. tundra, coniferous/deciduous forest when learning about biomes. ▪ Communicate geographical information in a variety of ways including through maps, diagrams, numerical and quantitative skills and writing at increasing length. ▪ Use appropriate search facilities when locating places on digital/online maps and websites. 	<p>Starter: Meta minutes Introduce this unit’s enquiry question. You might want to ask children to answer this question based on what they already know about biomes (give an example to put the question into context e.g. will tropical rainforests always be hot and wet with high biodiversity of vegetation and animal species?) These could be recorded on post its and added to floor book.</p> <p>Main teaching and learning: Recap on prior knowledge of biomes. What is a biome? What biomes have we already studied? What are the key aspects of these? Year 5- Biomes already studied- UK (temperate deciduous forest) Amazon (tropical rainforest) In groups give children photographs of different biomes across the world and a variety of world maps- can they use their knowledge of biomes, the Equator, the tropics and the north and south pole to try to identify the type of biome and the possible location in the world. (This is an ideal time to recap on lines of longitude and latitude). Why do they think this? What suggests it is that biome, that it is near to the equator etc? take photos and note children’s ideas and opinions in floor book.</p> <p>Look at and locate the different biomes as a class- discuss their features. Split children into groups and give them a biome to research- feedback/present to the class in some way and display info on all biomes on WW and in floor book for future reference.</p>
<p>Lesson 2- To know why there are different time zones across the world.</p>	<p>Essential knowledge end point (substantive): Know the world is split up into time zones by imaginary lines called meridians- The Prime Meridian runs through Greenwich in London</p> <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):</p> <ul style="list-style-type: none"> ▪ Identify and explain increasing complex geographical features, processes (changes), patterns, relationships and ideas. 	<p>Starter: meta minutes Main teaching and learning: see resources in one drive folder.</p>
<p>Lesson 3 and 4- An investigation of the USA (either a full afternoon or 2 separate hour-long lessons)</p>	<p>Essential knowledge end point (substantive): Location of the USA, its key physical features.</p> <ul style="list-style-type: none"> ▪ Describe and understand key aspects of: <ul style="list-style-type: none"> - physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle. human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water. <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):</p>	<p>Starter: meta minutes Main teaching and learning: Lesson 3-Locating and Exploring the USA Starter</p> <ul style="list-style-type: none"> • Show a globe and ask: “Where is the USA? What do you already know about it?” • Quick quiz: Identify the USA on a globe, atlas, and digital map. <p>Main Activity - Map Exploration Challenge</p> <ul style="list-style-type: none"> • Provide physical and political maps, atlases, and access to digital maps (e.g., Google Earth, digimaps). • Pupils locate: <ul style="list-style-type: none"> ○ Major cities (New York, Los Angeles, Chicago) ○ Rivers (Mississippi, Colorado) ○ Mountain ranges (Rockies, Appalachians)

	<p>Use a wide range of maps, atlases, globes and digital maps to locate countries and features studied.</p> <ul style="list-style-type: none"> Use models and maps to discuss land shape i.e. contours and slopes. Use six figure coordinates. 	<ul style="list-style-type: none"> Neighbouring countries (Canada, Mexico) <ul style="list-style-type: none"> Compare how different maps show the same features. <p>Deeper Learning:</p> <ul style="list-style-type: none"> Discuss: “Which type of map helped you most? Why?” Introduce the concept of map layers in digital tools <p>Lesson 4: Understanding Landforms and Coordinates</p> <p>Starter-</p> <ul style="list-style-type: none"> Recap: What physical features did we find in the USA? Introduce contour lines and elevation using a topographic map. <p>Main Activity:</p> <p>Landform Investigation</p> <ul style="list-style-type: none"> Use contour maps of the Grand Canyon Pupils could build a simple 3D model using cardboard or clay to represent elevation (based on contour . Discuss slopes and how they affect travel, weather, and settlement. (make links to the biome type) <p>Coordinate Quest</p> <ul style="list-style-type: none"> Recap six-figure grid references. Use six figure coordinates. Provide a USA grid map and 6 figure grid reference clues. Pupils locate landmarks using six-figure grid references. <p>Deeper learning:</p> <ul style="list-style-type: none"> Peer quiz: Pupils create grid reference clues for others to solve. Reflect: “How do grid references help us understand geography better?”
<p>Lesson 5 and 6- To know that the USA is geographically diverse and contains multiple different biomes</p>	<p>Essential knowledge end point (substantive):</p> <p>The USA is geographically diverse and contains multiple different biomes.</p> <ul style="list-style-type: none"> Describe and understand key aspects of: <ul style="list-style-type: none"> physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle. human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water. <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):</p> <ul style="list-style-type: none"> Interpret and use thematic maps. Use more precise geographical language relating to the physical and human processes detailed in the PoS e.g. tundra, coniferous/deciduous forest when learning about biomes. Make predictions and test simple hypotheses about people and places. Communicate geographical information in a variety of ways including through maps, diagrams, numerical and quantitative skills and writing at increasing length. 	<p>Starter: meta minutes</p> <p>Lesson 5- Exploring USA biomes with thematic maps</p> <p>Recap different types of biomes referring to research completed in lesson 1. The UK primarily has a Temperate Forest biome which consists of grasslands, moorlands and heathlands. Ask the question: What biome do you think the USA has? Children can make a prediction and record to look back at after the lesson.</p> <p>Main teaching and learning:</p> <p>Starter</p> <p>Display a biome map of the USA.</p> <ul style="list-style-type: none"> Ask: “What do you notice about the colours and patterns? What might they represent?” <p>Main Activity</p> <p>Biome Mapping Task</p> <ul style="list-style-type: none"> Provide students with a thematic map showing USA biomes (e.g. tundra, desert, forest, grassland). Students identify and label: <ul style="list-style-type: none"> Key biomes (e.g. Sonoran Desert, Great Plains, Rocky Mountain coniferous forests, Alaskan tundra). States or regions where each biome is found. Use a table to record biome characteristics: climate, vegetation, wildlife, and human activity. <p>Geographical Language Focus</p> <ul style="list-style-type: none"> Introduce and define terms: <i>tundra, coniferous forest, deciduous forest, desert, grassland, wetland.</i> Students match definitions to biome examples on the map. <p>Deeper learning:</p> <ul style="list-style-type: none"> Group discussion: “Why do different biomes exist in the same country?” Introduce the idea of latitude, elevation, and climate zones influencing biome distribution. <p>Lesson 6- Human and Physical Processes in USA Biomes</p> <p>Starter</p> <ul style="list-style-type: none"> Recap biome types and locations.

		<ul style="list-style-type: none"> • Ask: “How do people live differently in each biome?” <p>Main Activity (35 mins) Biome Case Study Stations</p> <ul style="list-style-type: none"> • Set up stations with information and images about different biomes: <ul style="list-style-type: none"> ○ Tundra (Alaska) – permafrost, limited vegetation, indigenous communities. ○ Desert (Arizona) – arid climate, cactus vegetation, urban development. ○ Coniferous Forest (Rockies) – logging, tourism, wildlife. ○ Grasslands (Midwest) – agriculture, tornadoes, prairie ecosystems. • Students rotate and complete a worksheet comparing: <ul style="list-style-type: none"> ○ Physical features ○ Human activities ○ Environmental challenges <p>Thematic Map Interpretation</p> <ul style="list-style-type: none"> • Use climate, vegetation, and population density maps. • Pupils interpret how physical geography influences human settlement and land use. • Deeper learning: • Class discussion: “How do humans adapt to different biomes?” • Reflect on how geographical diversity affects culture, economy, and environment.
<p>Lesson 7 and 8 - To investigate the effects of human activity and climate change on different biomes</p>	<p>Essential knowledge end point (substantive):</p> <ul style="list-style-type: none"> ▪ Describe and understand key aspects of: <ul style="list-style-type: none"> - physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle. human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water. <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):</p> <p>Ask and answer questions that are more causal e.g. Why is that happening in that place? Could it happen here? What happened in the past to cause that? How is it likely change in the future?</p> <p>Communicate geographical information in a variety of ways including through maps, diagrams, numerical and quantitative skills and writing at increasing length.</p>	<p>Lesson 7- How are global biomes changing? Starter</p> <ul style="list-style-type: none"> • Display a world biome map. • Recap different types of biomes and their characteristics • Recap what climate change is (Prior learning- Year 3- human activity, waste, Year 4 climate change melting ice caps and rising sea temperatures, Year 5 deforestation) <p>Main Activity Thematic Map Analysis</p> <ul style="list-style-type: none"> • Provide students with: <ul style="list-style-type: none"> ○ A world biome map ○ A global climate change impact map (e.g. temperature rise, drought zones, sea level rise) • Students identify which biomes are most affected and begin to generate and ask causal questions: <ul style="list-style-type: none"> ○ <i>Why is the Arctic tundra warming faster than other areas?</i> ○ <i>What happened in the past to cause desertification in the Sahel?</i> ○ <i>What might happen in the future? What would the impact of this be?</i> ○ <i>Could similar changes happen in the UK?</i> <p>Deeper learning:</p> <ul style="list-style-type: none"> • “Which biome is most vulnerable to climate change? Why?” <p>Lesson 8- Investigating Impacts Starter</p> <ul style="list-style-type: none"> • Recap biome types and climate change impacts. • Show a short video or animation of biome shifts over time. <p>Main Activity Case Study Investigation</p> <ul style="list-style-type: none"> • Students work in groups to explore a global biome case study: <ul style="list-style-type: none"> ○ Arctic Tundra (Greenland/Siberia) – melting permafrost, habitat loss ○ Amazon Rainforest – deforestation, reduced rainfall ○ Sahel Region (Africa) – desertification, food insecurity ○ Australian Bushlands – increased wildfires ○ Coral Reefs (Great Barrier Reef) – ocean warming and acidification • Each group answers causal questions: <ul style="list-style-type: none"> ○ <i>Why is this happening here?</i> ○ <i>What are the human and physical causes?</i>

		<ul style="list-style-type: none"> ○ <i>How might this change in the future?</i>
Lesson 9- Are biomes fixed?	<p>Essential knowledge end point (substantive): Explain what biomes are and locate different ones around the world</p> <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer): <ul style="list-style-type: none"> ▪ Describe and understand key aspects of: physical geography, including: climate zones, biomes Communicate geographical information in a variety of ways including through maps, diagrams, numerical and quantitative skills and writing at increasing length. </p> <hr/> <hr/>	<p>Show a world biome map and examples of how some biomes are changing due to climate change, deforestation, or human activity. Ask some key questions and discuss: Do biomes change over time? What factors influence the stability of biomes?</p> <p>Writing Prompt for Pupils: Write a report explaining what biomes are and describing some of the main biomes around the world. Then answer the question: “Are biomes fixed?” In your writing, try to include:</p> <ul style="list-style-type: none"> • A definition of a biome. • Descriptions of at least three different biomes (e.g. rainforest, tundra, desert, grassland). • Examples of where these biomes are found in the world. • How climate, plants, and animals are different in each biome. • How human activity or climate change might affect biomes. • Your opinion: Do you think biomes stay the same forever? Why or why not? <p>Support Materials:</p> <ul style="list-style-type: none"> • Word bank with key vocabulary: <i>biome, climate, vegetation, tundra, rainforest, desert, grassland, change, temperature, rainfall, human activity, global warming.</i> • Sentence starters: <ul style="list-style-type: none"> ○ “A biome is a type of...” ○ “One example of a biome is...” ○ “This biome is found in...” ○ “I think biomes are/are not fixed because...” <p>Success Criteria (Pupil Checklist):</p> <ul style="list-style-type: none"> ✓ I explained what a biome is ✓ I described at least three biomes ✓ I used geographical vocabulary ✓ I gave examples of where biomes are found ✓ I explained how biomes can change ✓ I answered the question “Are biomes fixed?” with reasons <p>Peer review: Groups share and critique each other’s presentations. Reflect: “How can geographical knowledge help us respond to climate change?”</p>