



MEDIUM TERM PLANNING

Subject	Topic/Key Question	Year Group	Term	Time Allocation
Geography	Why are rainforests so wet and deserts so dry?	4	Summer 2	11 hours Plus visit to Twycross Zoo and rainforest workshop

What knowledge and skills will children have gained by the end of this unit?

- Understand the difference between weather and climate.
- Identify and compare climates of different countries.
- Read and interpret climate graphs.
- Understand why animals and plants live in specific climates.
- Locate the Amazon rainforest.
- Identify a range of biomes and compare.
- Locate world deserts and compare these to rainforests.

Lesson Sequence	Time Allocation	Key Question/WALT	Teaching Activities	Resources	Vocabulary
Lesson 1	1 hour	Why is climate so different across the UK?	Discuss weather and climate. What is the difference? Using resource 1 discuss the differences between the two maps. Can children say what is different? Which season are each of the months in? Do we have the same weather each season?	Collins Teacher Notes	Weather Climate Season

		<p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Explain the difference between weather and climate. Compare temperatures and rainfall in two countries. 	<p>Using resources 2 and 3. Model how to complete the table using the information on the maps. Children complete in topic pairs.</p> <p>Why does it get colder the further north you go and why is it so much warmer in the south of the country?</p> <p>Using resource 4 showing annual rainfall across the UK .</p> <p>What is the difference between the highest annual average rainfall received in one place and the lowest annual average rainfall? Whereabouts are these two places located? The wettest is in the west and the driest is in the east of the country. Whereabouts in the UK is the place with the highest temperature ever recorded, compared with the two places that have recorded the lowest temperatures?</p> <p>Look at the map in Resource 5. Before reaching the UK over what do these winds blow? The Atlantic Ocean. As they blow for thousands of kilometres over the Atlantic Ocean, the prevailing winds absorb a lot of moisture which then falls as rain when they reach the UK – most falls on the land they meet first (the west) and consequently less rain falls to the East. Support children to locate as near as possible Wolverhampton. Looking at the resources can they say what the rainfall could be?</p>	Resources 1 to 5	<p>North</p> <p>South</p> <p>Country</p> <p>Equator</p> <p>Temperature</p> <p>Moisture</p>
Lesson 2	1 hour	<p>What are the world's climates?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Explain different climates across 	<p>Give out copies of the map and key in Resource 6. Explain that the Earth is divided up into different climates according to patterns of temperature and rainfall that places experience. Allow time for the pupils just to explore the map and in particular, to understand the different classifications of climate shown in the key. What kind of climate does the United Kingdom have according to the key?</p> <p>Using both of the maps in Resources 6 and 7, the pupils can now complete the table in Resource 8 to identify the kind of climate they would mostly find in a number of countries around the world. For a number of the larger countries in the table they will have to list more than one category of climate.</p>	Collins Teacher Notes Resources 6-10	<p>Earth</p> <p>Climate</p> <p>Temperature</p> <p>Country</p> <p>Equator</p> <p>Tropic of Capricorn</p> <p>Tropic of Cancer</p>

		<p>the world.</p> <ul style="list-style-type: none"> Describe the climate in the UK. 	<p>Using the map in Resource 9 together with the map in Resource 7 the pupils can familiarise themselves with how rainfall varies throughout the world by filling in the correct answers to the questions on a copy of Resource 10. Ask the pupils what they notice about the location of the wettest places on Earth in relation to the Equator and the Tropics of Capricorn and Cancer? The wettest places on Earth are all found around the Equator and between the Equator and the Tropics of Capricorn and Cancer. How does this compare with the pattern of the very driest areas on Earth? Which continent is the only one without a very dry area? The distribution of very dry areas on Earth is much more evenly spread than the location of the wettest areas – there are very dry areas in every continent except Europe.</p>		
Lesson 3	1 hour	<p>How do climate graphs help geographers compare the climate of one place with another?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Read and interpret climate graphs. Compare climate graphs. 	<p>Explain to the pupils that geographers draw a special graph, such as those in Resource 11, called a climate graph. Climate graphs allow us to see very quickly and easily the pattern of average temperature each month (shown by a continuous red line) and average monthly rainfall (shown by blue bars). Temperature is read from the left-hand vertical axis and rainfall on the right-hand vertical axis. They are a quick and easy way of summing up the climate of a place at a glance.</p> <p>Resource 11 shows the climate graphs of nine places in the world that, as yet, remain anonymous. Each place is a good example of a type of climate.</p> <p>Firstly the pupils need to match the climate descriptions in the table in Resource 12 with what they work out to be the correct climate graph 1–9. Climate graph 5 might present a challenge and appear not to fit any of the descriptions. Tell the pupils that this place is, in fact, in the Southern Hemisphere so reverse the seasons, i.e. June and July will be the middle of winter and December and January in the middle of summer. This may help.</p> <p>The correct order of the climate graphs is shown in Resource 13. Discuss with the pupils which graphs they found to be the easiest to match and</p>	Collins Teacher Notes Resource 11-14	Geographer Climate Vertical Horizontal Axis Climate graph Temperature Climate zone

			<p>which were the most challenging. Now that the pupils have correctly matched the answers 1–9, the next challenge is to see whether they can match the climate graphs 1–9 to the nine climate stations around the world shown on the map in Resource 6. The answers are also in Resource 13.</p> <p>As a final activity in this enquiry the pupils can go online at www.metoffice.gov.uk/public/weather/climate/ and download the average monthly temperature and rainfall figures from the Meteorological Office climate station closest to their school or where they live. Click on the appropriate red dot, then click on 'Averages table' along the top tool bar and the data will be presented. The Met Office temperature data for each month shows both a maximum and minimum temperature. Pupils should calculate an average to arrive at one temperature figure. Using the data the pupils can now draw a climate graph on a copy of the template in Resource 14. When complete, take time to display and discuss. Of the nine climate graphs they have studied previously, which one is their graph most similar to and which is it most different from? The closest comparison should be with Paris (climate graph 4) because Paris, like all of the United Kingdom, is in the temperate climate zone – generally mild and wet all year</p>		
Lesson 4	1 hour	<p>How does the climate affect the plants and animals living in a place?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Match animals and plants to 	<p>In Resource 15 there are photographs of eight different places around the world. Divide the pupils into pairs and ask them to look carefully at each environment. For each location the pupils need to be encouraged and supported to answer two questions: <i>What is the climate of this place like?</i> Think particularly about temperature and rainfall; and also: <i>What kind of plants and animals are likely to live here?</i></p> <p>Then see if the pupils can match the photographs 1–8 with the descriptions of climate and plants and animals in the table in Resource 16. The answers are in Resource 17.</p> <p>Now the pupils can look at the eight animals in Resource 18 and the eight plants in Resource 19 and complete the same kind of exercise, by matching</p>	Collins teacher notes Resources 15–20	<p>Environment</p> <p>Location</p> <p>Rainfall</p> <p>Climate</p> <p>Investigate</p> <p>Community</p> <p>Biome</p> <p>Tropical</p>

		<p>the correct climates.</p> <ul style="list-style-type: none"> Describe a desert biome and a tropical forest biome. 	<p>the animals and plants to the most appropriate descriptions of climates from around the world. The answers are in Resource 17.</p> <p>Finally in this enquiry, distribute copies of the world map of biomes in Resource 20. Explain that, during this enquiry, the pupils have been investigating the different types of plants and animals that are found in places with different climates around the world. Such large communities of plants and animals covering distinct areas of the world are called <i>biomes</i> and the many different types are shown on the map. We can't look in detail at all of the biomes so let's get to know two in more detail – hot deserts and tropical forest biomes. We can find both in the continent of South America.</p>		
Lesson 5	1 hour	<p>Why is the jungle of the Amazon Rainforest so wet and humid?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Explain why it rains in some climates more than others. 	<p>Encourage the pupils to look carefully at the continent of South America on the map of biomes in Resource 20. The tropical forest biome is shaded dark green. What do the pupils notice about the area of the tropical forest biome in South America compared with all of the others? What can be found in the middle of the biome? A network of rivers. Which river in particular?</p> <p>Let's look at more detailed maps in Resource 21 and Resource 22. The River Amazon is the world's greatest river in terms of the volume of water it carries and it is only a few kilometres shorter than the River Nile (the longest river in the world). At any second of the day or night one-fifth of all the river water in the world will be found in the River Amazon and its tributaries (smaller rivers that flow into and join a larger river). Where does the River Amazon have its source (where it begins)? It is high up in the Andes Mountains in Peru. A wide variety of films that can be shown to introduce the Amazon and the wonder and diversity of the ecosystem of the tropical rainforest of the Amazon Basin can be sourced at www.bbc.co.uk/nature/habitats/tropical_and_subtropical_moist_broadleaf_forests#intro and also at www.youtube.com/watch?v=YUuA-C_13DE</p>	Resources 20-24+	Continent Biome River Tributaries Ecosystem

			<p>Resource 23 includes the climate data for the city of Manaus, located in the middle of the Amazon Basin in Brazil. The pupils can use this data to draw their own climate graph using the template in Resource 14. How much rain falls in Manaus every year? Compare this with the average of 700 mm for Birmingham – most British people think it rains a lot in the United Kingdom! It rains almost every day of the year in Manaus and this, combined with the hot temperature, makes the weather conditions very humid – perfect conditions for a jungle to grow.</p> <p>But why does it rain <u>every</u> day? Divide the pupils into pairs and give them a copy of the diagram in Resource 24. Explain that this diagram explains why it rains every day in the tropical rainforest of the Amazon Basin. What do they think might go in each of the five boxes to describe what is going on here? Allow time for the pupils to speculate and reason. Then take feedback and discuss the thoughts of the whole group.</p> <p>Finally give the pupils the jumbled list of statements in Resource 25 to read through.</p> <p>Can they now reorder them and write them in the correct boxes on the diagram in Resource 24?</p>		
Lesson 6	1 hour	<p>Why is Arica the driest inhabited place on Earth? By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Explain why Arica is the driest inhabited 	<p>Without any other introduction or explanation project the two images in Resource 26. Explain to the pupils that this is a very special place. It holds an important record. It is number one in the world for something – can they work out what it might be from the images? What kind of place is this? Where might it be? Any there any clues as to the surrounding natural environment or weather and climate? Is there any evidence of what people do here?</p> <p>Next show them the map in Resource 27. The photographs in Resource 26 are of the city of Arica in the country of Chile – can the pupils locate it? At this point, cross-reference with the political map of South America in Resource 21. Referring back to the map of world biomes in Resource 20, ask the pupils in which biome the city of Arica can be found? It is hot desert –</p>	<p>Resources 26- 30</p> <p>Websites</p> <p>Video links on notebook</p>	<p>Inhabit</p> <p>Environment</p> <p>Political map</p> <p>Biome</p> <p>Desert Landscape</p>

place on Earth.

is this a clue to why Arica is so famous? It is the driest inhabited place on Earth with only an average of 0.76 mm of rainfall each year! This is because it is surrounded by the Atacama Desert, which is the driest non-polar desert in the world (central Antarctica at the South Pole is drier). Some places in the Atacama Desert haven't had any rainfall for 500 years – see the location of Arica on the *Google Earth* image in [Resource 28](#).

Now encourage the pupils to look carefully at the images of the Atacama Desert in [Resource 29](#). The Atacama Desert is very long and narrow – 1000 km from north to south and only 150 km at its widest point (west to east). What is the landscape of the desert like? Do they find anything surprising about the landscape? Some pupils might well find the lack of sand and sand dunes that characterise the Sahara Desert (the largest hot desert) a surprise. The Atacama is a rocky or stony desert – the white colour that appears in some of the photographs is, in fact, salt deposits.

So why is the Atacama Desert so dry? Give each pupil a copy of the diagram in [Resource 30](#). When finished this will enable them to understand why it hardly ever rains in the city of Arica or across the Atacama Desert as a whole. What do they think the empty four boxes should say? Encourage and support plenty of speculation as a summative piece the pupils can add the following five pieces of information to the correct boxes:

- *Moist air flows in from the southeast across the Pacific Ocean towards Arica.*
- *Immediately the moist air is forced to rise into the atmosphere as it meets the Andes Mountains.*
- *As the air rises it condenses to form water vapour in huge clouds above the mountains.*
- *All the rain falls on the eastern side of the Andes Mountains.*
- *The city of Arica and the Atacama Desert remain the driest places on Earth.*

and reasoning here.

Lesson 7	1 hour	<p>Where is the Amazon rainforest? By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> ▪ Locate the Amazon Rainforest. ▪ Compare and contrast the location of the Amazon and animals that live there. 	<p>Compare and contrast a rainforest and temperate forest in UK. (Amazon)</p> <p>Locate the Amazon rainforest on a world map. Why is it important? Show video and using Twinkl PPT compare and contrast the locations, size and animals that may live there. Children complete comparison table in topic pairs.</p>	Twinkl PPT and resources.	Amazon Rainforest Location Inhabit Climate biome
Lesson 8	1 hour	<p>What animals live in the rainforest? By the end of this lesson</p>	<p>Using Twinkl discuss the layers of the rainforest and the animals that live in each layer.</p> <p>Using action cards for each layer – say the name of the animal and children show action.</p>	Twinkl PPT and resources	Rainforest Canopy Understory emergent

		<p>children will be able to:</p> <ul style="list-style-type: none"> ▪ Explain which animals live in the rainforest and why. ▪ Describe the levels of trees in the rainforest. 	<p>Children will complete shades of green activity for rainforest trees. Draw animal for each layer.</p> <p>Children will record using a fact file animals of the rainforest.</p> <p>Children can create trick photography using Pic Collage of themselves exploring the rainforest and labelling the different parts of the forest floor.</p>		
Lesson 9/10	2 hour	<p>Why is the Amazon so important? What is deforestation? What is the impact of deforestation?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> ▪ Explain how why 	<p>Using questions as a starting point- assess children's understanding.</p> <p>Using Twinkl PPT work through slides, stopping to discuss points.</p> <p>Video clips of deforestation .Using the example of Rondonia in the Amazon basin, share google images of the changes to the landscape from 1975-2009. What do the children notice about the changes to the area?</p> <p>So what has caused this to happen? Take ideas from children before introducing the range of reasons for deforestation. Share Palm oil video showing the destruction of rainforest to make way for palm oil plantations.</p> <p>Share maps of Borneo rainforest over time and show video of impact on wildlife particularly orang-utan . Show video- There's and orang-utan in my bedroom.</p> <p>Discuss the range of animals that have been impacted by palm oil production.</p>	<p>Twinkl- Rainforest deforestation resources.</p> <p>Videos embedded in notebook</p>	<p>Deforestation Landscape Rainforest Palm oil</p>

		<p>the Amazon is so important</p> <ul style="list-style-type: none"> Explain what deforestation is and its impact. 	<p><u>Task 1</u>- using debating cards half the class. One half is for deforestation the other is against. Children will have 10 minutes to discuss the cards and ready their presentation.</p> <p>Children present- CT to chair the debate- asking for more explanation or clarification of statements. Impress upon children the importance of having evidence for what they say.</p> <p>Share information about palm oil and how it has so many different names using video embedded within notebook.</p> <p><u>Task 2</u></p> <p>Design a Save the Rainforest Poster <i>Could be done in 2Publish+ in Purple Mash or Publisher on a laptop</i></p> <p><u>Task 3</u></p> <p>Make a rainforest promise</p>		
Lesson II	1 hour	<p>How is a desert created? Where are deserts located?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Read and Describe what a desert is. Identify which animals 	<p>Discuss what a desert is? What is it like in a desert? What animals and plant live there? Are all deserts made of sand?</p> <p>Share Twinkl PPT- discussing any points.</p> <p>Children working in Topic pairs, will use an atlas to find the world's largest deserts and label on a world map.</p> <p>Compare the animals and plants that are found in the desert with those in the Amazon rainforest. Why are these animals more suited to a desert?</p>	Twinkl PPT and lesson resources.	Desert Rainforest Climate Territory

		and plants live in a desert and compare these to those that live in a rainforest			
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Links to the National Curriculum:

Locational knowledge:

- locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities

Place knowledge:

- understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America

Human and physical geography:

- describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle

Geographical skills and fieldwork:

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied