

**Collins**

# Primary Connected Geography | KEY STAGE 1 AND 2

Teachers Professional Development Programme



Author: David Weatherly

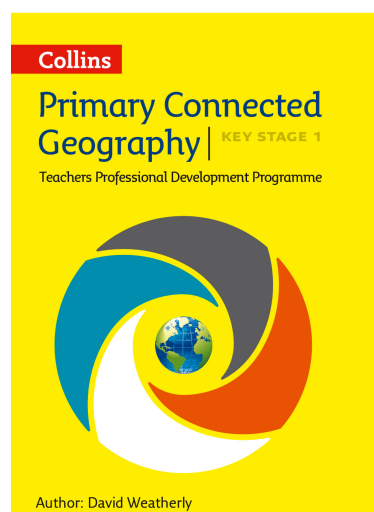
## About Connected Geography

*Connected Geography* has been very carefully designed and resourced to provide teachers with a coherent, progressive and rigorous learning programme for Years 1–6 which will engage and motivate pupils and encourage them to see the world through the eyes of young geographers.

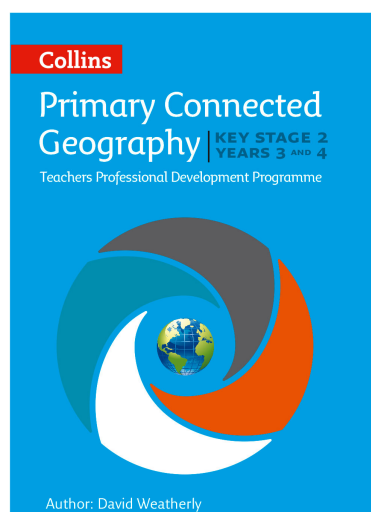
Many pupils in primary education today will live to see the next century and the content and approach to learning adopted in the *Connected Geography* programme recognises this. It seeks to identify the most relevant and meaningful aspects of the suggested subject content of the National Curriculum in geography to explore in depth, rather than providing a textbook that attempts comprehensive coverage at the expense of subject rigour and challenge.

A unique aspect of *Connected Geography* is that it is also a valuable professional development tool for teachers. Each enquiry includes detailed subject content knowledge, as well as guidance on approaches to learning and teaching to adopt inside and outside of the classroom to achieve the best subject outcomes. A wealth of resources including photographs, GIS data sets, satellite imagery, hyperlinks to streamed video, newspapers, and maps and plans at different scales are also included with each enquiry.

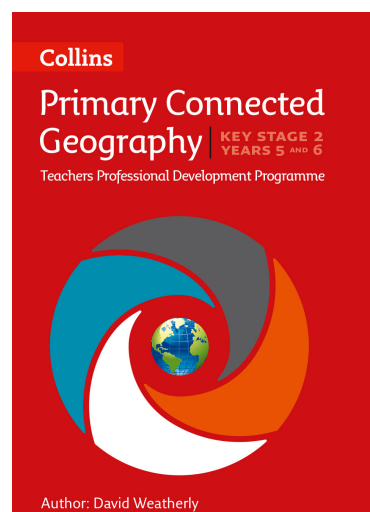
To gain the greatest benefit from each enquiry it is suggested that teachers begin by reading through the complete scheme of work documentation of each investigation to ensure that they understand its content, objectives and structure and are confident in introducing and developing it with pupils. Careful reading will also ensure that teachers are familiar with the rationale, context and methodology of each enquiry as outlined below.



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## Outcomes focused curriculum

Learning objectives are outcome focused and progressively more challenging for Years 1–6 and reflect what it means for a pupil to get better at geography. The learning objectives, which highlight outcomes in bold, appear on the first page of the planning for each enquiry. They recognise that whilst it is important for pupils to increase and extend their knowledge of the subject it is also vital that they have space and time to develop as geographers.

Important subject knowledge is implicit in each enquiry but this is balanced with adequate time and opportunity for pupils to master key subject skills and outcomes by ‘doing less better’. This ensures progression in both the complexities of content and in terms of pupils applying their knowledge to achieve higher order outcomes as they move through the programme. The eighteen *Connected Geography* enquiries have been written to ensure that pupils are progressively challenged to achieve the following outcomes as they move through the programme. This progression reflects increasing mastery of the subject, which is highlighted in the learning objectives of each investigation:

Name and recognise	Identify	Locate	Describe
Observe	Compare and contrast	Reason	
Measure–Record–Present	Understand through explanation	Conclude	
Make informed judgements	Apply	Predict	Evaluate
Reflect	Critique	Hypothesise	

## The importance of subject vocabulary

Choosing subject content carefully and effectively ‘doing less better’ provides space to ensure that appropriate and specialised geographical vocabulary is introduced and consolidated with pupils. This is an area of planning that is often overlooked when there is an emphasis on building curricula around content rather than subject outcomes. To this end the front page of each enquiry includes a comprehensive list of subject vocabulary as a starting point for teachers to introduce and develop with pupils as the investigation unfolds. This is of course not an exhaustive list and teachers will want to add to it as the enquiry process unfolds in the context of their own schools. An important aspect of both continuity and progression is to ensure that time is devoted to thinking about what subject vocabulary the pupils have already mastered and how this can be built upon and extended through the curriculum. *Connected Geography* has addressed this.

### **Clear purpose and context to every enquiry**

The central purpose or rationale of geography, often referred to as its paradigm, is to enable pupils to understand the interaction of human beings with their environments – at personal, local, regional, national and global scales. This paradigm is central to all of the eighteen enquiries in the *Connected Geography* programme – with each exploring people – environment relationships – see Page 1 of the planning documentation of each enquiry. Throughout the design and writing of the programme considerable thought has been given to concentrating on the most relevant and purposeful aspects of the topics, places and themes of the geography content of the National Curriculum so as to provide pupils with a subject base fit for purpose in the 21<sup>st</sup> century. All geographical investigation is essentially placed based and the enquiries have been written to provide a comprehensive range of examples at different scales of locations around the world, in line with National Curriculum requirements, to illustrate key geographical concepts.

### **Connecting with other subject areas**

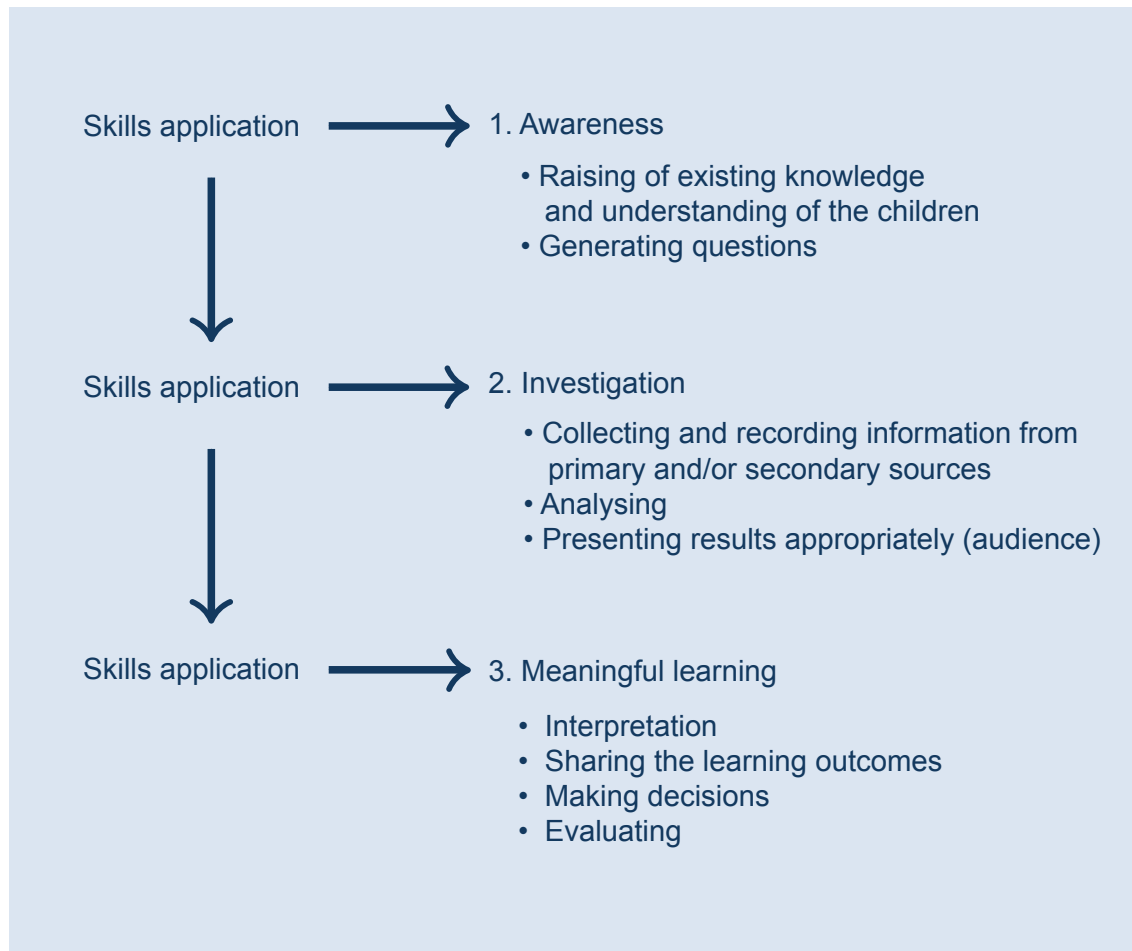
As well as delivering the subject content of geography within the National Curriculum, the eighteen enquiries of the *Connected Geography* programme also make links with areas of other subjects, which, if desired, can be delivered at the same time. Such connections are detailed on the second of the planning documentation of each investigation. Both Language and Literacy and Numeracy and Mathematics are of course embedded throughout all of the enquiries. In addition each enquiry highlights relevant links to the content of other National Curriculum subjects. This adds huge value to pupils learning as such connections provide different perspectives and viewpoints about issues and illustrate how interconnected and interdependent the world is in the twenty-first century. When suggesting such cross-curricular linkages the emphasis has been on relevance and ‘adding value’ to study rather than on making tokenistic or superficial connections.

### **Key question led and enquiry based learning**

The *Connected Geography* programme does not attempt to teach topics in their entirety as this often leads to an over emphasis on content and ‘knowing’ rather than on enabling pupils to achieve higher order outcomes by interrogating information and applying skills from one context to another. What *Connected Geography* does is to ask big questions about topics, places, themes and issues – questions that are relevant if you are going to live to see the next century.

At Key Stage 1 many of these questions will understandably be more tightly defined or closed ‘Who’, ‘What’, ‘Where’ and ‘When’ questions but a Key Stage 2 a more open ended approach will be apparent to teachers with an emphasis on ‘Why’ and ‘How’ questions. Each enquiry has a key question underpinned by several ancillary or sub questions for the pupils to master in turn as they progress through the investigation. All of the ancillary questions have been carefully designed to take the pupil from the known and familiar to the unknown and unfamiliar in a supportive manner. By the time the pupils have completed all stages of the investigation they

will be in a position to answer the key question. The key question enquiry structure adopts the approach of initially identifying where the pupils are in terms of their experience or knowledge of the focus of the enquiry; then supporting them to complete a number of ancillary question investigations to progress their understanding; and finally assisting them to make sense of the progress they have made through a range of ways that can track and record achievement against performance descriptors (see Assessment section below).



### **Assessment and performance descriptors**

The final page of the planning documentation of each enquiry suggests possible ways that pupils, achievement and progress might be judged by the teacher. In the assessment table the learning objectives and anticipated outcomes are listed again and cross-referenced this time to the specific ancillary questions where they were addressed. In the right hand column suggestions are made as to how a pupil might demonstrate progress against each outcome i.e. what they might write, make, present, enact or discuss that will enable the teacher to make a judgement of whether an objective has been accomplished, such as being able to describe how a community was affected by a volcanic eruption or explaining the challenges faced by those who manage National Parks. It is not anticipated that every learning outcome will be assessed in every enquiry but it is recommended that teachers select a sample of outcomes to assess in each enquiry to build up a developing picture of

how a pupil is progressing as a young geographer. The focus should be on whether the pupil has shown that they have been able to, for example, identify; describe; compare and contrast; explain; make a judgement or evaluate and record. It is not necessary or particularly desirable to attach a numerical value to the achievement of subject outcomes. It is left to the discretion of the teacher as to which outcomes are most appropriate and relevant to assess bearing in mind the priority of identifying the pupil's progress towards end of Key Stage 1, Key Stage 2 (Years 3 and 4) and Key Stage 2 (Years 5 and 6).

Here is a set of performance descriptors in geography as suggested by a school:

*During **Key Stage 1** we challenge and support our children to carry out a number of geographical investigations through the Connected Geography learning programme which enable them to use and apply basic and appropriate subject vocabulary, subject tools (including maps, aerial photographs and graphical data and fieldwork skills) to recognise, identify, describe, observe, reason and begin to explain in simple terms the interaction of people with their environments.*

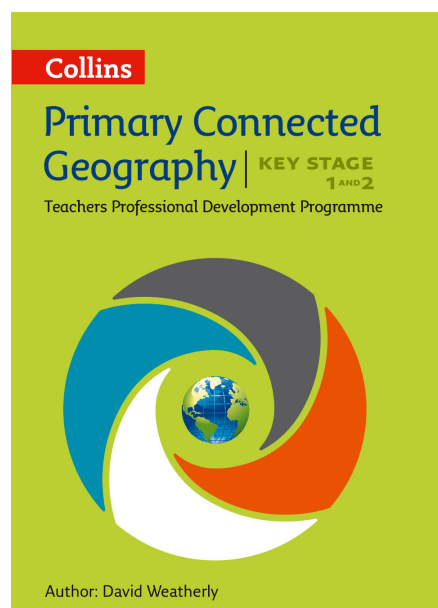
*Through **Key Stage 2 (Years 3 and 4)** in geography, learning and teaching builds on the knowledge and understanding, skills and attitudes outcomes at Key Stage 1 and the pupils make progress through being provided with opportunities to reach explanations (which means that their understanding is based on the clear use of evidence e.g. from data they have collected and presented in a graph) and reach conclusions about topics, places and issues they have studied through the Connected Geography learning programme. Another important aspect of geography at Key Stage 2 (Years 3 and 4) is that our pupils begin to be able to see the world through the perspective of different stakeholders i.e. people and things that have an interest in or are connected to an issue or place. To this end during Key Stage 2 (Years 3 and 4) we challenge and support our children to undertake geographical investigations from Connected Geography which enable them to use and apply appropriate and increasingly specialised subject vocabulary, subject tools (such as satellite imagery and GIS) and fieldwork skills to recognise, identify, describe, observe, reason, explain and reach basic conclusions about the interaction of people with their environments.*

*At **Key Stage 2 (Years 5 and 6)** Connected Geography focuses on topics and big questions that extend the children's subject skills so that they are able to make judgements about things they learn both from their own personal perspective and through empathising with the position of others. In addition opportunities are provided for the children to evaluate what they have learned and how they have learned it and to come up with their own questions to investigate. Higher outcomes in geography also involve children being able to apply what they have learned in one context to another and to understand concepts as well as more discrete areas of knowledge which they learned and understood e.g. being aware of the fact that a*

*seaside beach is only one example of how the land meets the sea and that 'coast' (a concept or generalised set of information) refers to anywhere where the land meets the sea which may be a beach but also could well be a cliff, port, estuary, mud flat or marsh. To achieve this during Key Stage 2 (Years 5 and 6) we challenge and support our pupils to undertake Connected Geography investigations which enable them to use and apply specialised subject vocabulary, subject tools (such as GIS) and fieldwork skills to recognise, identify, describe, observe, reason, explain, reach conclusions and make judgements, evaluate, apply and hypothesise about the interaction of people with their environments.*

### **Resources to support learning**

Each enquiry within the *Connected Geography* programme draws upon a wealth of learning and teaching resources, which will both inspire and motivate pupils to immerse themselves in the investigations. Resources are numbered and shown in bold in the Scheme of work. In addition all of the resources for every enquiry have been assembled in chronological order into a PowerPoint presentation that teachers can use to project images and information as required. The Teachers' Resources PDF file for each enquiry has a contents page where every resource is numbered and linked to the first page of that resource in the document. The resources are also bookmarked in this PDF. Some resources have contents listed for the teacher's use, these are deliberately excluded from the PowerPoint presentations. Some of the film clips noted in the scheme of work files are already supplied in the resources folder. Not all resources folders have contents, but you may wish to add any files you download to these folders.



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## Connected Geography: National Curriculum Key Stage 1 Overview

<b>Key Question</b>	<b>Locational knowledge</b>	<b>Place knowledge</b>	<b>Human and physical</b>	<b>Skills and fieldwork</b>	<b>Cross curricular links</b>
<b>What is the geography of where I live?</b>	Continents and Oceans Lines of latitude and longitude Equator North and South Poles United Kingdom	Small area of the United Kingdom	Physical and human features Basic subject vocabulary	World maps Atlases and globes Compass directions Aerial photographs and plans Fieldwork	Language and literacy Numeracy and Mathematics Computing
<b>Why do we love being beside the seaside so much?</b>	Continents and Oceans Lines of latitude and longitude Equator North and South Poles United Kingdom		Weather Seasons Hot and cold areas Physical and human features Basic subject vocabulary	World maps Atlases and globes Compass directions Aerial photographs and plans Fieldwork	Language and literacy Numeracy and Mathematics Computing Science Art and Design Design and Technology
<b>How does the weather affect our lives?</b>	Continents and Oceans Lines of latitude and longitude Equator North and South Poles United Kingdom		Weather Seasons Hot and cold areas Physical and human features Basic subject vocabulary	World maps Atlases and globes Compass directions Aerial photographs and plans Fieldwork	Language and literacy Numeracy and Mathematics Computing History Art and Design Design and Technology Music

## Connected Geography: National Curriculum Key Stage 1 Overview

Key Question	Locational knowledge	Place knowledge	Human and physical	Skills and fieldwork	Cross curricular links
<p><b>Why don't penguins need to fly?</b></p>	<p>Continents and Oceans Lines of latitude and longitude Equator North and South Poles United Kingdom</p>		<p>Weather Seasons Hot and cold areas Physical and human features Basic subject vocabulary</p>	<p>World maps Atlases and globes Compass directions Aerial photographs Plans Fieldwork</p>	<p>Language and literacy Numeracy and Mathematics Computing Science Design and Technology Art and Design</p>
<p><b>Why does it matter where our food comes from?</b></p>	<p>Continents and Oceans Lines of latitude and longitude Equator North and South Poles United Kingdom</p>		<p>Weather Seasons Hot and cold areas Physical and human features Basic subject vocabulary</p>	<p>World maps Atlases and globes Compass directions Aerial photographs and plans Fieldwork</p>	<p>Language and literacy Numeracy and Mathematics Computing Science Design and Technology</p>
<p><b>How does Kampong Ayer compare with where I live?</b></p>	<p>Continents and Oceans Lines of latitude and longitude Equator North and South Poles</p>	<p>Small area in a contrasting non-European country</p>	<p>Weather Seasons Hot and cold areas Physical and human features Basic subject vocabulary</p>	<p>World maps Atlases and globes Compass directions Aerial photographs and plans Fieldwork</p>	<p>Language and literacy Numeracy and Mathematics Computing Science Art and Design Design and Technology</p>

## Connected Geography: National Curriculum Key Stage 2 (Years 3 and 4) Overview

Key Question	Locational knowledge	Place knowledge	Human and physical	Skills and fieldwork	Cross curricular links
<b>Why do some earthquakes cause more damage than others?</b>	South America Latitude and longitude Northern and Southern Hemisphere and time zones		Volcanoes and earthquakes	Maps, atlases, globes and digital/computer mapping Map symbols and key	Language and literacy Numeracy and Mathematics Computing Science Design and Technology
<b>Beyond the Magic Kingdom: what is the Sunshine State really like?</b>	Europe including Russia North America South America United Kingdom Latitude and longitude Northern and Southern Hemisphere and time zones	Region within North or South America	Climate zones Settlement and land use Economic activity and trade	Maps, atlases, globes and digital/computer mapping Eight points of compass Map symbols and key	Language and literacy Numeracy and Mathematics Computing Science History
<b>Why do so many people live in megacities?</b>	Europe including Russia North America South America United Kingdom Latitude and longitude Northern and Southern Hemisphere		Settlement and land use Economic activity and trade	Maps, atlases, globes and digital/computer mapping	Language and literacy Numeracy and Mathematics Computing History

## Connected Geography: National Curriculum Key Stage 2 (Years 3 and 4) Overview

Key Question	Locational knowledge	Place knowledge	Human and physical	Skills and fieldwork	Cross curricular links
<b>How and why is my local environment changing?</b>	United Kingdom		Settlement and land use	Maps, atlases, globes and digital/computer mapping Eight points of compass Map symbols and key and the use of Ordnance Survey maps Fieldwork – observe, measure, record and present	Language and literacy Numeracy and Mathematics Computing Science History
<b>How can we live more sustainably?</b>	United Kingdom		Natural Resources	Maps, atlases, globes and digital/computer mapping Fieldwork – observe, measure, record and present	Language and literacy Numeracy and Mathematics Computing Science Design and Technology
<b>Why are jungles so wet and deserts so dry?</b>	South America United Kingdom Latitude and longitude Northern and Southern Hemisphere		Climate zones Biomes and vegetation belts	Maps, atlases, globes and digital/computer mapping Eight points of compass Map symbols and key	Language and literacy Numeracy and Mathematics Computing Science

## Connected Geography: National Curriculum Key Stage 2 (Years 5 and 6) Overview

Key Question	Locational knowledge	Place knowledge	Human and physical	Skills and fieldwork	Cross curricular links
<b>How do volcanoes affect the lives of people on Hiemaey?</b>	Europe including Russia Latitude and longitude Northern and Southern Hemisphere and time zones	A region in a European country	Climate zones Volcanoes and earthquakes Settlement and land use Economic activity and trade	Maps, atlases, globes and digital/computer mapping Eight points of compass Map symbols and key	Language and literacy Numeracy and Mathematics Computing History
<b>What is a river?</b>	Europe including Russia United Kingdom Latitude and longitude Northern and Southern Hemisphere	A region of the United Kingdom	Rivers and the water cycle Natural resources	Maps, atlases, globes and digital/computer mapping Eight points of compass Four and six figure grid references Map symbols and key and the use of Ordnance Survey maps Fieldwork – observe, measure, record and present	Language and literacy Numeracy and Mathematics Computing Science History Music
<b>Why are mountains so important?</b>	Europe including Russia North America South America United Kingdom Latitude and longitude Northern and Southern Hemisphere		Mountains Natural resources	Maps, atlases, globes and digital/computer mapping Eight points of compass Four and six figure grid references Map symbols and key and the use of Ordnance Survey maps	Language and literacy Numeracy and Mathematics Computing Science History

## Connected Geography: National Curriculum Key Stage 2 (Years 5 and 6) Overview

Key Question	Locational knowledge	Place knowledge	Human and physical	Skills and fieldwork	Cross curricular links
<b>How is climate change affecting the world?</b>	North America United Kingdom Latitude and longitude Northern and Southern Hemisphere		Climate zones Biomes and vegetation belts Types of settlement and land use Natural resources	Maps, atlases, globes and digital/computer mapping Map symbols and key	Language and literacy Numeracy and Mathematics Computing Science
<b>Why is fair trade fair?</b>	Europe including Russia South America United Kingdom Latitude and longitude Northern and Southern Hemisphere		Climate zones Economic activity and trade Natural resources	Maps, atlases, globes and digital/computer mapping Eight points of compass Four and six figure grid references Map symbols and key and the use of Ordnance Survey maps	Language and literacy Numeracy and Mathematics Computing History
<b>Who are Britain's National Parks for?</b>	North America United Kingdom Latitude and longitude Northern and Southern Hemisphere	A region of the United Kingdom	Mountains Types of settlement and land use Economic activity Natural resources	Maps, atlases, globes and digital/computer mapping Eight points of compass Four and six figure grid references Map symbols and key and the use of Ordnance Survey maps	Language and literacy Numeracy and Mathematics Computing Science History Art and Design

Geography: Key Stage 2 Years 3 and 4

Teachers Professional Development Programme

## Enquiry 6: Why are jungles so wet and deserts so dry?



Author: David Weatherly

Connecting the curriculum through enquiry based learning

# Key Question: Why are jungles so wet and deserts so dry?

## Learning objectives

During the enquiry pupils will have opportunities through the application and analysis of a wide range of geographical skills and resources to:

- **Observe, describe and explain** in basic terms the pattern of climate in the United Kingdom;
- **Identify, describe and begin to offer reasons** for the distribution of different types of climate around the world;
- **Compare and contrast** the temperature and rainfall data in different climate graphs to **reach conclusions** about the climate in different locations in the world;
- **Construct** a climate graph from temperature and rainfall data for their home location and **compare and contrast** this with climate graphs of other locations to **reach conclusions and make judgements**;
- **Understand** how climate affects both the landscape of different biomes and the plants and animals that can live there;
- **Observe, describe and explain** why areas of tropical rainforest such as the Amazon Basin have so much convectional rainfall;
- **Describe** the natural environment of the Atacama Desert and **explain** why the city of Arica is the driest inhabited place in the world;

## Purpose of the enquiry

In terms of continuity and progression this enquiry builds on and extends the pupils' understanding of the concept of weather, which was introduced and investigated at Key Stage 1. It lays a firm foundation of understanding to enable them to consider the challenges of climate change later through the Upper Key Stage 2 programme. Throughout the enquiry, pupils are encouraged to reflect upon how climate has such an important influence upon landscapes, plants, animals and human activity on Earth – they investigate this relationship at a number of scales. Pupils apply a wide range of geographical and computer skills throughout the enquiry to enable them to better understand the relationship between climate and living things and also to introduce them to the concept of biomes. Towards the end of the enquiry the pupils are able to develop their understanding of how climate is the main factor determining the distribution of biomes on Earth through the study of two biomes in depth.

## Context

Initially pupils revisit their work on weather carried out in the school grounds and local area at Key Stage 1. Following this they are introduced to the concept of climate in the context of the United Kingdom. The focus here is on enabling pupils to see how climate varies, even across a relatively small country in terms of land area as the UK, and to understand some of the reasons for this. From the UK the pupils then begin to look at climate on a global scale and are able to apply a range of geographical skills to identifying the characteristics and distribution of different climate zones across the world. The remainder of the enquiry then focuses on enabling pupils to understand what a biome is and how the landscapes, plants and animals within the different biomes of the world are determined largely by climate. This is achieved by looking in depth at two biomes within the continent of South America – the tropical rainforest biome of the Amazon Basin and the hot desert biome of the Atacama Desert.

## National Curriculum coverage Geography

Pupils should be taught to:

### 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.
- Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time.
- Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night).

### 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.
- 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.

### Geographical skills

- Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.
- Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world.



# Key Question: Why are jungles so wet and deserts so dry?

- Identify, locate; describe and explain how plants and animals are adapted to the climate of either the coniferous forest or savanna biome.

## Key Subject Vocabulary

Weather; Climate; Temperature; Political map; Temperate; Council; Pattern; Location; North Pole; Equator; Location; Distribution; Country; Prevailing; Wind; Ocean; Climate graph; Classification; Key; Tropic of Cancer; Tropic of Capricorn; Polar; Continental; Mediterranean; Tropical; Equatorial; Drought; Annual; Winter; Summer; Mild; Season; Northern Hemisphere; Southern Hemisphere; Meteorological; Climate station; Average; Coniferous; Tropical; Rainforest; Savanna; Hot desert; Ice cap; Tundra; Mountain; Environment; Grassland; Shrubs; Trees; Animals; Herbivores; Landscape; Lichens; Moss; Deciduous; Forest; Evergreen; Predators; Humid; Oxygen; Drought; Carnivore; Biome; South America; River; Amazon Basin; Amazonia; Nile; Andes; Tributary; Source; Mouth; Humid; Convection; Condensation; Cloud; Thunderstorm; Cumulonimbus; City; Inhabited; Polar; Sahara; Adaptation.

## Connections to the subject content of other curriculum areas

### Language and literacy

Teachers should develop pupils' spoken language, reading, writing and vocabulary as integral aspects of the teaching of every subject. English is both a subject in its own right and the medium for teaching; for pupils, understanding the language provides access to the whole curriculum. Fluency in the English language is an essential foundation for success in all subjects.

### Spoken language

Pupils should be taught to speak clearly and convey ideas confidently using Standard English. They should learn to justify ideas with reasons; ask questions to check understanding; develop vocabulary and build knowledge; negotiate; evaluate and build on the ideas of others; and select the appropriate register for effective communication. They should be taught to give well-structured descriptions and explanations and develop their understanding through speculating, hypothesising and exploring ideas. This will enable them to clarify their thinking as well as organise their ideas for writing.

### Reading and writing

Teachers should develop pupils' reading and writing in all subjects to support their acquisition of knowledge. Pupils should be taught to read fluently, understand extended prose (both fiction and non-fiction) and be encouraged to read for pleasure. Schools should do everything to promote wider reading. They should provide library facilities and set ambitious expectations for reading at home.

Pupils should develop the stamina and skills to write at length, with accurate spelling and punctuation. They should be taught the correct use of grammar. They should build on what they have been taught to expand the range of their writing and the variety of the grammar they use. The writing they do should include narratives, explanations, descriptions, comparisons, summaries and evaluations: such writing supports them in rehearsing, understanding and consolidating what they have heard or read.

### Vocabulary development

Pupils' acquisition and command of vocabulary are key to their learning and progress across the whole curriculum. Teachers should therefore develop vocabulary actively, building systematically on pupils' current knowledge. They should increase pupils' store of words in general; simultaneously, they should also make links between known and new vocabulary and discuss the shades of meaning in similar words. In this way, pupils expand the vocabulary choices that are available to them when they write.

In addition, it is vital for pupils' comprehension that they understand the meanings of words they meet in their reading across all subjects, and older pupils should be taught the meaning of instruction verbs that they may meet in examination questions. It is particularly important to induct pupils into the language that defines each subject in its own right, such as accurate mathematical and scientific language.

### Numeracy and Mathematics

Teachers should use every relevant subject to develop pupils' mathematical fluency. Confidence in numeracy and other mathematical skills is a precondition of success across the national curriculum.

Teachers should develop pupils' numeracy and mathematical reasoning in all subjects so that they understand and appreciate the importance of mathematics. Pupils should be taught to apply arithmetic fluently to problems, understand and use measures, make estimates and sense check their work.

Pupils should apply their geometric and algebraic understanding, and relate their understanding of probability to the notions of risk and uncertainty. They should also understand the cycle of collecting, presenting and analysing data. They should be taught to apply their mathematics to both routine and non-routine problems, including breaking down more complex problems into a series of simpler steps.

# Key Question: Why are jungles so wet and deserts so dry?

## Science

### Living things and their habitats

Pupils should be taught to:

- 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.

## Computing

Pupils should be taught to:

- Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.
- Use search technologies effectively; appreciate how results are selected and ranked; and be discerning in evaluating digital content.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; and identify a range of ways to report concerns about content and contact.

# Key Question: Why are jungles so wet and deserts so dry?

## NOTES

### Ancillary Question 1: Why is climate different across the United Kingdom?

During the Key Stage 1 enquiries, pupils investigated the weather, i.e. the conditions of the atmosphere including temperature, rainfall, cloud cover, wind strength and direction at one moment in time. Ask the pupils to look out of the window and to describe the weather. Is the weather the same as it was yesterday or last week? The weather changes during a day and often from one moment to the next! Weather happens from day to day.

Climate, on the other hand, is the average pattern of the weather that a place receives over 30 years. We can't make generalisations about weather conditions from one day to the next but we can when we average out what happens over a much longer time frame. When we measure average weather conditions in a place over 30 years, we can then begin to describe its climate. In comparison to many other places in the world, the United Kingdom is a small country, in terms of land area, and generally it is never very hot and never very cold. We have what is called a *temperate* climate. However, this does not mean that the climate (average weather conditions) is the same in every place. Even in a small country the climate of one place can be very different to the climate of another.

Divide the pupils into pairs and give them the two maps in **Resource 1**. These show average January and July temperatures across the United Kingdom – they are not the same! Using a copy of the political map showing administrative areas in **Resource 2**, the pupils can now work together to interpret the maps and fill in the tables in **Resource 3**. Having completed this exercise, take some time to discuss with the pupils the *pattern* of temperatures they can see in the two maps. Why does it get colder the further north you go and why is it so much warmer in the south of the country? This is because of the location of the UK in the world – about half way between the North Pole and the Equator. The further north you travel in the UK towards the North Pole, the colder it becomes and the further south you travel towards the Equator the warmer it becomes.

Not only is the pattern of average temperatures across the UK different from one location to another, so also is the distribution (how something is spread out over an area) of rainfall during an average year. Again, this may be very surprising for such a small country. Give out copies of the average annual rainfall map in **Resource 4**. 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?

We have seen that average temperatures decrease from south to north (or increase from north to south) in the UK, so what about the pattern of rainfall? It is much heavier in the west and north and decreases the further east you travel. What clues are there on the map to help us explain why this is so? What do the arrows indicate? The prevailing (direction from which they most often blow) winds that travel across the UK come in a southwesterly direction in both winter and summer. 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.

Before moving on, support the pupils to locate the position of their home settlement as accurately as possible on the rainfall distribution map in **Resource 4**. What is the average annual rainfall of where they live? How does it compare with the rest of the UK? Is it wetter or drier than most? Similarly, what about January and July temperatures, as shown on the maps in **Resource 1**, compared with the rest of the country?

Geography: Key Stage 2 Years 3 and 4

Teachers Professional Development Programme

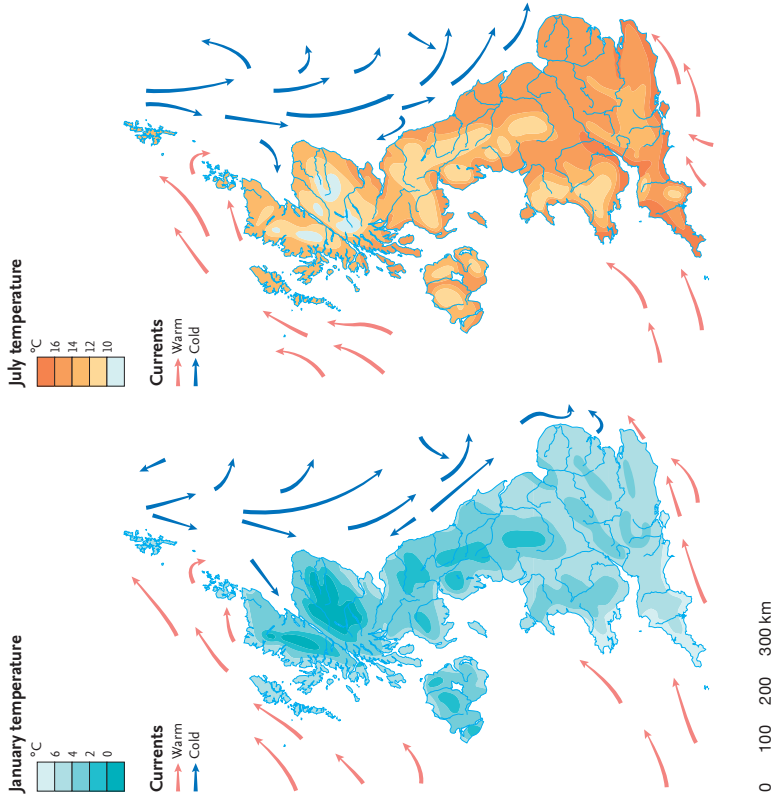
## Enquiry 6: Why are jungles so wet and deserts so dry?



Author: David Weatherly

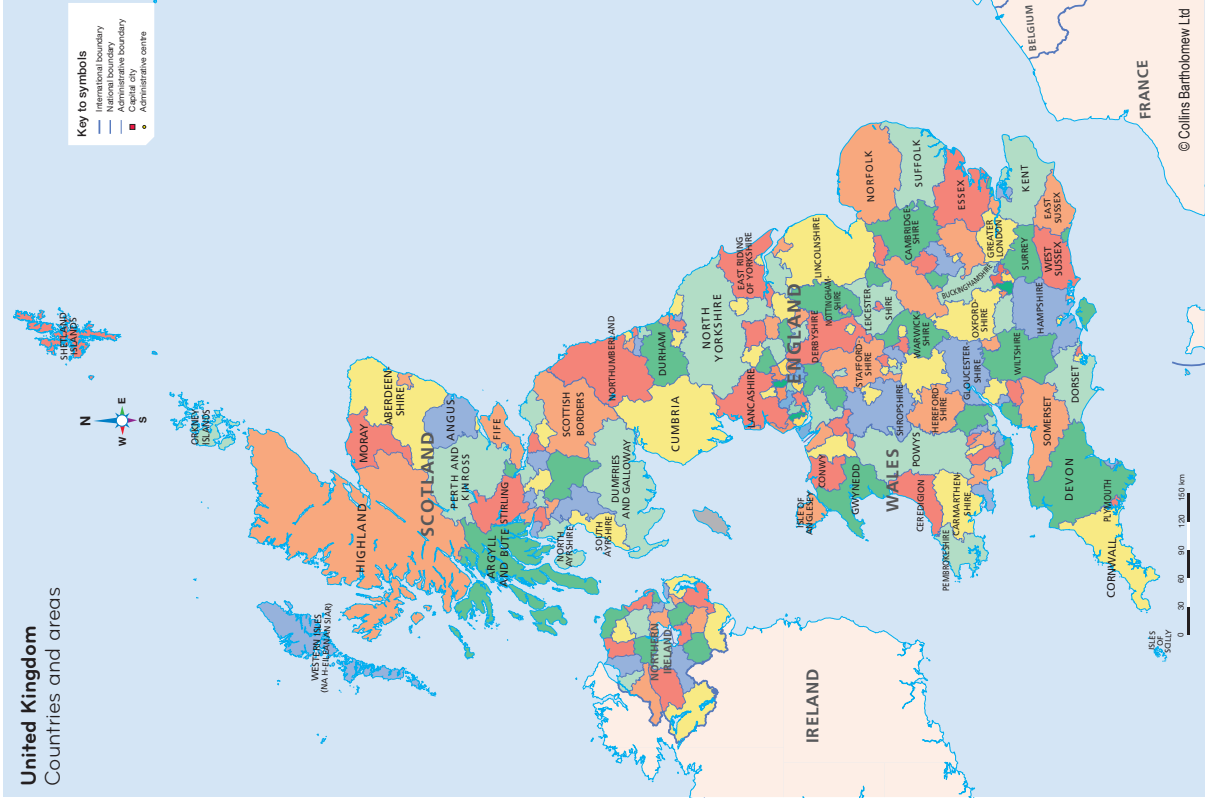
Connecting the curriculum through enquiry based learning

## Resource 1: UK Temperature maps



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## Resource 2: United Kingdom – countries and areas



### Resource 3: January and July temperatures

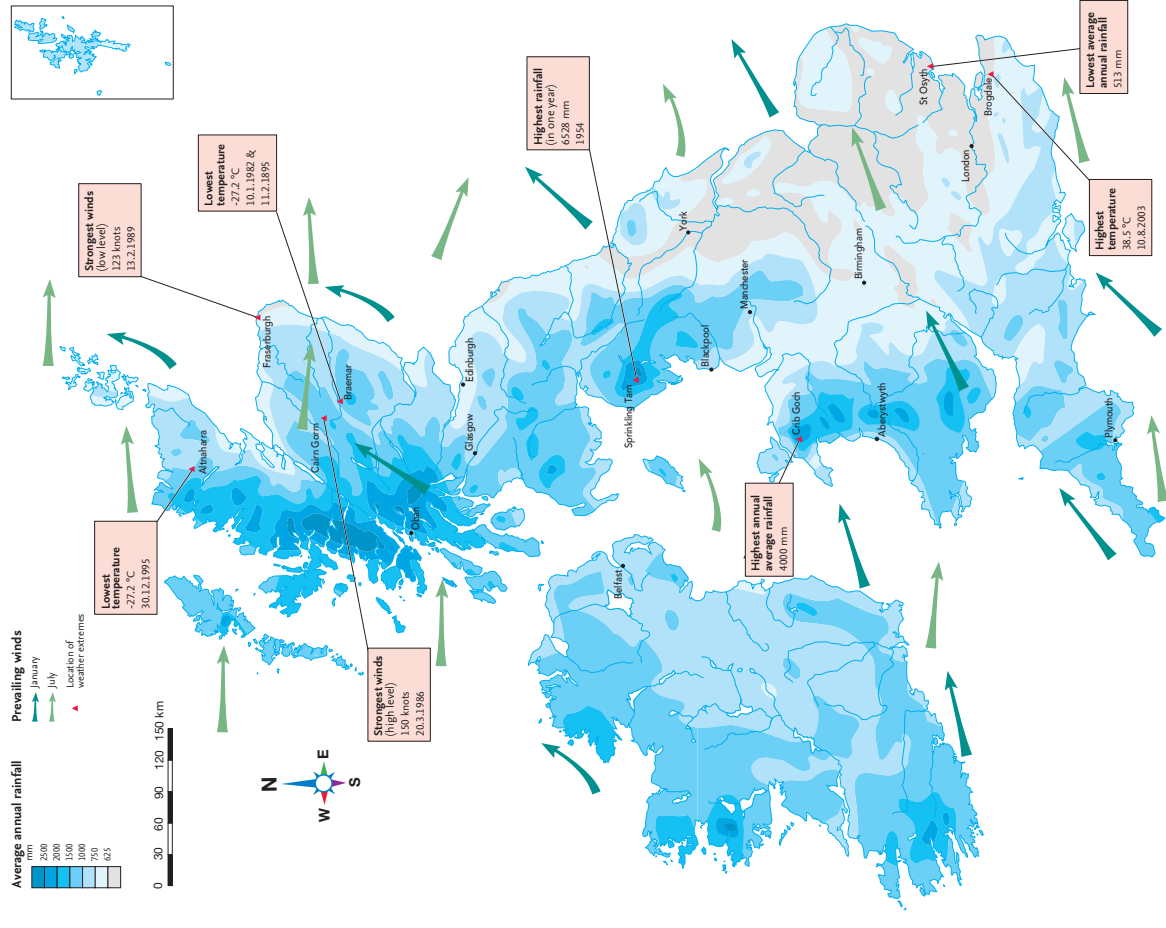
#### January temperatures in the United Kingdom

Name of an area which includes places with an average temperature below 0 °C	
Name of an area which includes places with an average temperature 0–2 °C	
Name of an area which includes places with an average temperature 2–4 °C	
Name of an area which includes places with an average temperature 4–6 °C	
Name of an area which includes places with an average temperature over 6 °C	

#### July temperatures in the United Kingdom

Name of an area which includes places with an average temperature below 10 °C	
Name of an area which includes places with an average temperature 10–12 °C	
Name of an area which includes places with an average temperature 12–14 °C	
Name of an area which includes places with an average temperature 14–16 °C	
Name of an area which includes places with an average temperature over 16 °C	

### Resource 4: UK average annual rainfall



# Resource 5: World landscapes

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# Key Question: Why are jungles so wet and deserts so dry?

## Further reading



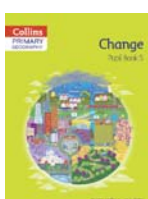



Collins *Big Cat* has books for every child in the classroom with a wide variety of genres, top authors, relevant topics and a range of engaging formats and illustrative styles. Listed below is a selection of from the Big Cat list to support the enquiry topics in Connected Geography for KS1. Find out more at Collins *Big Cat* – [www.collins.co.uk](http://www.collins.co.uk)

ISBN: 978-0-00-812781-7	<i>The Four-Desert Challenge</i>	Rob Alcraft	
ISBN: 978-0-00-812777-0	<i>Spotlight on Brazil</i>	Charlotte Coleman-Smith	

## PRIMARY GEOGRAPHY

Collins *Primary Geography* provides a progressive, skills based scheme for primary school pupils.

ISBN: 978-0-00-756359-3	<i>Primary Geography Pupil Book 3 Investigation</i>	Stephen Scoffham and Colin Bridge	
ISBN: 978-0-00-756360-9	<i>Primary Geography Pupil Book 4 Movement</i>	Stephen Scoffham and Colin Bridge	
ISBN: 978-0-00-756361-6	<i>Primary Geography Pupil Book 5 Change</i>	Stephen Scoffham and Colin Bridge	
ISBN: 978-0-00-756362-3	<i>Primary Geography Pupil Book 6 Issues</i>	Stephen Scoffham and Colin Bridge	
ISBN: 978-0-00-756369-2	<i>Primary Geography Interactive resources 3-6</i>		