



Geography Curriculum Content

Milestone Three

Year 5

Autumn

Spring

Summer

Unit

Mapping

Oceans

Biomes

Geographical Places to Study

Local area – Kimberworth

The Gulf Stream in the Atlantic Ocean

Area around the world that are examples of the ten biomes: tropical rainforest, temperate deciduous forest, desert, tundra, taiga, grassland, savannah, marine, freshwater and ice.

Enquiry Question

What is the four-figure grid reference for Redscope Primary School, 5 places in the countryside around Kimberworth and the centre of Rotherham?

What are the main ocean currents of the world?

What is a Biome?

Learning Experiences/ Hook

Complete orienteering tasks around school.

Knowledge Categories

Fingertip Facts

- Maps have a grid system to help locate places with accuracy. The horizontal lines that divide the map are known as eastings and the vertical lines are known as northings.
- Map scale: A map has to 'shrink' a large area of land to represent it at a much smaller size.
- A grid reference is **a location on a map, which is found using the northing and easting numbered lines**. Grid references are useful for helping a map user to find specific locations.

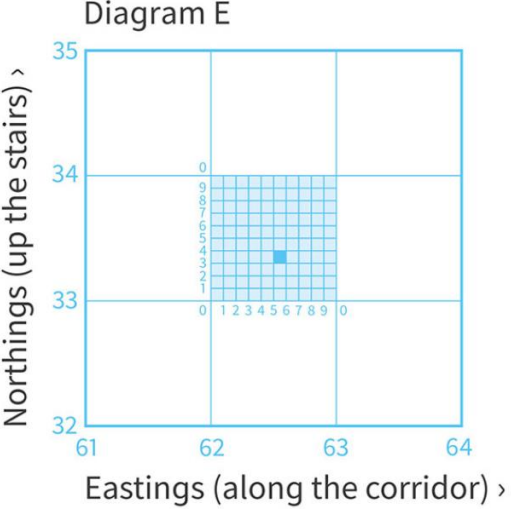
- An ocean current is a continuous movement of ocean water from one place to another
- Ocean currents are created by wind, water temperature, salt content and the gravity of the moon.
- Ocean currents affect weather patterns around the world: they transport warm water to colder areas and cold water to warmer ones.
- Gyres are large systems of circulating ocean currents, kind of like slow-moving whirlpools. There

- Biomes are a way to categorise the Earth's surface – terrestrial and aquatic.
- These categories are based on climate patterns, soil types and the animals and plants that inhabit an area.
- There are ten biomes: tropical rainforest, temperate deciduous forest, desert, tundra, taiga, grassland, savannah, marine, freshwater and ice.
- Earth has seven zones of expected climate: polar, subpolar, temperate, tropical, sub-tropical,

- Four-figure grid references are used to locate a particular grid square on a map. We use the eastings (horizontal number) first and then the northings. You can remember this by saying, 'along the corridor and up the stairs'. Along comes first.
- If you want to pinpoint a more exact place on a map, such as your own house, you will need to use a six-figure grid reference. First find the four-figure grid reference for the square and write it down with a space after each set of numbers, like this: 62_ 33_ Now imagine this square is divided up into 100 tiny squares with 10 squares along each side. Still remembering to go along the corridor and up the stairs, work out the extra numbers you need and put them into your four-figure grid reference like this in diagram E: 625 333.

- are five gyres to be exact—the **North Atlantic Gyre, the South Atlantic Gyre, the North Pacific Gyre, the South Pacific Gyre, and the Indian Ocean Gyre**—that have a significant impact on the ocean.
- Plastic pollution is transported by ocean currents.

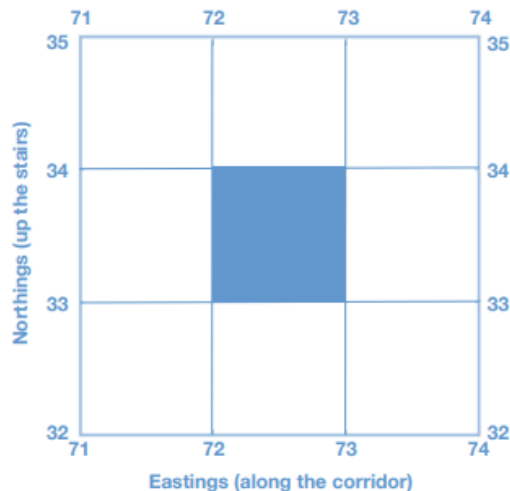
- equatorial and sub-equatorial. Biomes are directly linked to climate zones.
- Temperate biomes are neither very hot or cold.

	<p>Diagram E</p>  <p>Northings (up the stairs) ></p> <p>Eastings (along the corridor) ></p>		
<p>Disciplinary Knowledge (Being a Geographer)</p>	<p><u>Investigate Places</u></p> <ul style="list-style-type: none"> Analyse and give views on the effectiveness of different geographical representations of a location (such as aerial images compared with maps and topological maps – as in London’s Tube map). Name and locate some of the countries and cities of the world and their identifying human and physical characteristics, including hills, mountains, rivers, key topographical features and land-use patterns; and understand how some of these aspects have changed over time. <p><u>Investigate Patterns</u></p> <ul style="list-style-type: none"> Identify and describe the geographical significance of latitude, longitude, equator, northern hemisphere, southern hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, and time zones (including day and night). <p><u>Communicate Geographically</u></p> <ul style="list-style-type: none"> Use the eight points of a compass, four figure grid references, symbols and a key (that uses 	<p><u>Investigate Places</u></p> <ul style="list-style-type: none"> Collect and analyse statistics and other information in order to draw clear conclusions about locations. Identify and describe how the physical features affect the human activity within a location. Use a range of geographical resources to give detailed descriptions and opinions of the characteristic features of a location. <p><u>Investigate Patterns</u></p> <ul style="list-style-type: none"> Describe how locations around the world are changing and explain some of the reasons for change. Describe geographical diversity across the world. Describe how countries and geographical regions are interconnected and interdependent. <p><u>Communicate Geographically</u></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, 	<p><u>Investigate Places</u></p> <ul style="list-style-type: none"> Collect and analyse statistics and other information in order to draw clear conclusions about locations. Identify and describe how the physical features affect the human activity within a location. Use a range of geographical resources to give detailed descriptions and opinions of the characteristic features of a location. Use different types of fieldwork sampling (random and systematic) to observe, measure and record the human and physical features in the local area. Record the results in a range of ways. Name and locate some of the countries and cities of the world and their identifying human and physical characteristics, including hills, mountains, rivers, key topographical features and land-use patterns; and understand how some of these aspects have changed over time. <p><u>Investigate Patterns</u></p>

	<p>standard Ordnance Survey symbols) to communicate knowledge of the United Kingdom and the world.</p>	<p>mountains, volcanoes and earthquakes and the water cycle.</p>	<ul style="list-style-type: none"> • Understand some of the reasons for geographical similarities and differences between countries. • Describe how locations around the world are changing and explain some of the reasons for change. • Describe geographical diversity across the world. • Describe how countries and geographical regions are interconnected and interdependent. <p><u>Communicate Geographically</u></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: settlements, land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals, and water supplies. • Create maps of locations identifying patterns (such as: land use, climate zones, population densities, height of land).
<p>Substantive Knowledge</p>	<p>Maps contain several features that help us to better understand the information presented about a specific place. For instance, a map generally has a title, compass rose, map key and map scale. Some maps also have map insets to represent land that is too small or out of frame. Maps of the world usually show the lines of longitude and latitude.</p> <p>Using maps: four-figure grid references Maps have a grid system to help locate places with accuracy. The horizontal lines that divide the map are known as eastings and the vertical lines are known as northings. All of the eastings and northings are labelled with numbers that can be seen on all four edges of the map. By combining the numbers of the eastings and northings a grid reference is formed. A four-digit grid reference corresponds</p>	<p>An ocean current is a continuous movement of ocean water from one place to another. Ocean currents are created by wind, water temperature, salt content and the gravity of the moon. The currents are called gyres and can flow for thousands of miles. One major example of an ocean current is the Gulf Stream in the Atlantic Ocean. Gyres travel clockwise in the northern hemisphere and anticlockwise in the southern hemisphere. Ocean currents affect weather patterns around the world: they transport warm water to colder areas and cold water to warmer ones. Plastic pollution is also transported by ocean currents.</p> <p>The Great Pacific Garbage Patch is a big area of rubbish in the middle of the northern Pacific Ocean. It is caught in the water currents. It</p>	<p>Biomes are a way to categorise the Earth's surface. These categories are based on climate patterns, soil types and the animals and plants that inhabit an area. There are terrestrial biomes and aquatic biomes. Every part of the Earth's surface is a part of one or more biomes. There are ten biomes: tropical rainforest, temperate deciduous forest, desert, tundra, taiga, grassland, savannah, marine, freshwater and ice. Climate is the average weather expected in a place (weather is the day-to-day conditions in a place). Earth has seven zones of expected climate: polar, subpolar, temperate, tropical, sub-tropical, equatorial and sub-equatorial. Biomes are directly linked to climate zones.</p> <p><u>Tropical rainforest biome</u></p>

to a specific square on the map, allowing you to accurately describe an area on the map.

To find a place using a four-figure grid reference Remember the rule: always go 'along the corridor' before going 'up the stairs'. In this example, you are looking for the grid reference 7233. First use the eastings to go 'along the corridor' until you come to the first two-digit number in the reference (72). Then use the northing to go 'up the stairs' until you find the second two-digit number in the reference (33). The reference takes you to the bottom left-hand corner of the square you are looking for on the map.



Using maps: six-figure grid references

By dividing up the square, a six-digit grid reference can be created that corresponds to a specific location on the map.

To describe a location using a six-figure grid reference First find the four-figure grid reference for the square that the location is in and write it down with a space after each set of numbers: 72_ 33_ Then imagine this square is divided up into 100 smaller squares with 10 squares along

formed because the gyres are circular, which traps rubbish, like floating pieces of plastic.

Tropical rainforests are rainforests that occur in the equatorial and sub-equatorial climate zones, which are in the tropics. They are hot, wet places with high levels of precipitation – sometimes up to 10 metres (33 ft) of rain can fall in a year.

Temperate deciduous forest biome

Temperate deciduous, also known as temperate broad-leaf forests, are forests dominated by trees that lose their leaves each year. They are found in areas with warm, moist summers and cool winters. In England, the term 'Forest' (capital F) refers to an area where the King/Queen has the right to keep deer and to make Forest Laws, so the term 'woodlands' is used instead.

Desert biome

The desert biome is an ecosystem that forms due to the low level of rainfall it receives each year. Deserts cover about 20 per cent of the Earth. There are four major types of desert in this biome: hot and dry, semi-arid, coastal, and cold. They all have plant and animal life that have adapted to survive there. The desert biome is a big tourist attraction. People enjoy rock climbing, cycling and hiking in the desert.

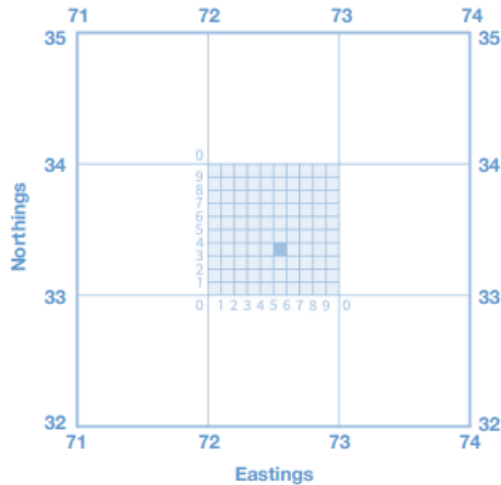
Tundra biome

The tundra biome is a cold and treeless area where harsh conditions make it hard for plants and animals to survive. The word 'tundra' comes from the Finnish word tunturia, which means treeless land. There are two types of tundra: arctic and alpine. The arctic tundra is located within the Arctic Circle, while the alpine tundra is the area high in the mountains above trees. Around 20 per cent of the Earth's land surface is tundra.

Taiga biome

Taiga, also known as coniferous or boreal forest, is the largest terrestrial biome on Earth. The origin of the name 'taiga' is Russian and means land of the little sticks. The Taiga

each side. Still remembering to go along the corridor and up the stairs, work out the numbers to indicate the bottom left-hand corner of the smaller square and put them into your four-figure grid reference: 725 333.



biome is popular with tourists for activities Quick summary such as cycling, hiking and canoeing.

Grassland biome

Grasslands are wide expanses of land filled with low-growing plants such as grasses and wildflowers. The amount of precipitation is not enough to grow tall trees and produce a forest. Across the world, 25 per cent of land is in the grassland biome.

Savannah biome

A savannah is a rolling grassland scattered with shrubs and isolated trees. The savannah biome is an area that has a very dry season and then a very wet season. (In British English it is spelled 'savannah' but in most other English-speaking countries it is spelled 'savanna'). Tourism is popular, especially in areas such as the Serengeti National Park in Tanzania.

Marine biome

The marine biome is the biggest biome in the world. It covers about 70 per cent of the Earth. Marine regions are saline and contain millions of species of plants and animals. The amount of light in the marine biome gives it three zones. Coral reefs are part of the marine biome but some see them as a separate biome. (See Australia: Great Barrier Reef for more information on coral reefs.)

Freshwater biome

The freshwater biome is an ecosystem made up of any body of fresh water (containing less than 1 per cent salt), such as lakes, ponds, streams and rivers. These cover approximately 20 per cent of the Earth's surface and are in various locations spread out all over the world. Most freshwater biomes consist of moving water and contain many types of fish.

Ice biome

			<p>The ice biome is also known as the polar ice cap biome. An ice cap is body of ice in a high latitude region of the Earth. The polar ice caps contain the majority of the fresh water supply on earth.</p>
<p>Vocabulary</p>	<p>Compass rose: A compass rose is a cross-like figure that shows direction. Compass roses display the four cardinal directions – north, east, south and west – as well as the ordinal directions: northeast, southeast, northwest, southwest.</p> <p>Lines of longitude and latitude The meridian lines of longitude and parallels of latitude create a grid on the map. The coordinates, specific numbered points, on this grid make it easier to find an exact place on the map.</p> <p>Key: Most maps use symbols and colours that represent certain things, so they have map keys, also called legends, which tell you what the symbols mean.</p> <p>Map scale: A map has to 'shrink' a large area of land to represent it at a much smaller size. To demonstrate how much they have had to 'shrink' things, cartographers use a map scale. A map scale, which looks like a tiny ruler in the corner of the map, shows the relationship between the distance on the map and the distance in real life.</p>	<p>continuous: happening all of the time without a break</p> <p>gyres: circular movements</p> <p>pollution: a poisonous or dirty substance</p> <p>garbage: American word for rubbish</p>	<p>categorise: to put into groups (categories)</p> <p>inhabit: to live in</p> <p>terrestrial: on land</p> <p>aquatic: in water</p> <p>climate: the average expected weather in a place</p> <p><u>Tropical rainforest biome</u></p> <p>equatorial: at the equator</p> <p>sub-equatorial: close to the equator</p> <p>precipitation: rain, snow, sleet or hail</p> <p>emergents: tall trees growing above the canopy</p> <p>canopy: the thick layer of leaves covering a rainforest</p> <p>under storey: trees just below the canopy</p> <p>deforestation: cutting down large areas of trees</p> <p><u>Temperate deciduous forest biome</u></p> <p>temperate: neither very hot or cold</p> <p>deciduous: losing its leaves in autumn</p> <p>shrubs: small bushes near the floor of a rainforest</p> <p>timber: wood from trees</p> <p>emissions: things, such as gases, released into the atmosphere</p> <p><u>Desert biome</u></p> <p>ecosystem: all the conditions, plants and animals that exist in a particular area</p> <p>arid: dry</p> <p>evaporates: turns from a liquid into a gas</p> <p>vegetation: plants and trees</p> <p>nocturnal: being active at night</p> <p><u>Tundra biome</u></p> <p>permafrost: soil that is permanently frozen</p> <p>hibernate: lie dormant (asleep) through winter</p> <p>migrate: travel to another area</p>

			<p>clusters: groups</p> <p><u>Taiga biome</u> terrestrial: on land uninhabited: not lived in by people</p> <p><u>Grassland biome</u> precipitation: rain, snow, sleet or hail fertile: supports growth well</p> <p><u>Savannah biome</u> sporadic: only in a few places roaming: wandering around grazing: grass-eating desertification: becoming like a desert abundant: more than enough carnivorous: meat-eating predators: animals that hunt other animals</p> <p><u>Marine biome</u> saline: containing salt vertical: with the top directly above the bottom significant: large enough to be important photosynthesis: the way that green plants make their food using sunlight</p> <p><u>Freshwater biome</u> aquifer: an underground area of rock that absorbs and holds water</p> <p><u>Ice biome</u> latitude: the distance of a place from the equator microscopic: extremely small (can only be seen with a microscope)</p>
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