

## Year 4- Amazonia



<b>Term:</b>	Summer 2
<b>Subject focus:</b>	Geography and Design Technology
<b>Non-Fiction:</b>	Persuasion
<b>Fiction:</b>	Narrative including speech

Concepts	
Geography	Design Technology
Change/People and Places/Global Citizenship	Innovate/Technique/Evaluate
<p>Children's knowledge of the Amazon has been touched upon in Year 2's topic of <i>South America</i>. Their understanding of the continent as a whole allows them to dive deeper into the Amazon Rainforest and its surroundings.</p> <p>This topic will focus on the biodiversity of the Amazon Rainforest and the children will learn more about the species of fauna and flora found there.</p> <p>Considering their place as a global citizen, the children will learn about and discuss the impact of deforestation and how this is affecting both the wildlife in the Amazon and the rest of the world. This will build upon their knowledge from their previous topic, <i>Saving Planet Earth</i>.</p> <p>This topic allows children to build on their prior learning of habitats, adaptation and biodiversity. It also prepares them for their future learning where they will look greater at causes of extinction.</p> <p>This D&amp;T unit builds upon the children's textiles skills. In KS1 they learnt a range of stiches and made products for a given purpose. In this unit, children will learn more decorative stiches and use these to create a small image on a patch that can be used in a class tapestry. Inspired by their knowledge of the rainforest, considering the colours, plants and animals they would find there, the children will design and make their contribution. Later on in KS2, children will develop these skills further when they learn to applique and embellish material when they study the topic <i>Evolution</i>.</p>	

## Geography

### National Curriculum

<p><b>Geography</b></p> <p><b>Geographical skills and field work</b></p> <ul style="list-style-type: none"> <li>• I can measure straight line distances using the right scale</li> <li>• I can explore features on OS maps using 6 figure grid references</li> <li>• I can draw accurate maps with more complex keys</li> <li>• I can plan the steps for an enquiry</li> </ul> <p><b>Locational knowledge</b></p> <ul style="list-style-type: none"> <li>• I can recognise the different shapes of continents</li> <li>• I can show I know features nearby and beyond the UK</li> <li>• I can recognise that people have differing quality of life living in different locations and environment</li> <li>• I can explain how the locality is set within a wider geographical context</li> </ul> <p><b>Human and physical geography</b></p> <ul style="list-style-type: none"> <li>• I can describe human features of UK regions, cities and/or counties</li> <li>• I can understand the effect of landscape features on the development of a locality</li> <li>• I can describe how people have been affected by changes in the environment</li> <li>• I can explain about key natural resources e.g. water in the locality</li> <li>• I can explore weather patterns around parts of the world</li> </ul> <p><b>Place Knowledge</b></p> <ul style="list-style-type: none"> <li>• I can show I know about the wider context of places-region, country</li> <li>• I can understand why there are similarities and differences between places</li> </ul>	<p><b>Design Technology</b></p> <ul style="list-style-type: none"> <li>• I can use my knowledge of existing products to design a functional and appealing product for a particular purpose and audience</li> <li>• I can create designs using exploded diagrams</li> <li>• I can use techniques which require more accuracy to cut, shape, join and finish my work</li> <li>• I can use my knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them</li> <li>• I can consider how existing products and my own finished products might be improved and how well they meet the needs of the intended user</li> <li>• I can apply techniques I have learnt to strengthen structures and explore my own ideas</li> </ul>	<p><b>Computing</b></p> <ul style="list-style-type: none"> <li>• I understand that some computers on a network serve particular functions, such as controlling printers or sharing files</li> <li>• I can use different software programs and different types of hardware</li> <li>• I can use a range of programs to complete a task</li> <li>• I understand that what I say or post on the internet might be copied, shared and stored by others</li> <li>• I know what to do if I see anything worrying online</li> <li>• I understand how search engines order their search results</li> </ul>
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## Year 4 Geography Amazonia

### Foundation subject Knowledge and skills

<b>Where in the world?</b>	<ul style="list-style-type: none"> <li>• Know that most of the world's tropical rainforests lie between the Tropic of Cancer and the Tropic of Capricorn</li> <li>• Know that tropical rainforests are found on either side of the equator in South America, Central Africa, South East Asia and Northern Australia</li> <li>• Know that the world's largest tropical rainforest is the Amazon and it is in South America</li> <li>• Locate South America in an atlas and identify the Amazon</li> </ul>
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	<ul style="list-style-type: none"> <li>• Identify the countries that the Amazon is in</li> <li>• Identify the Amazon River and the countries it flows through</li> <li>• Identify the sea which the Amazon River flows into</li> <li>• Know that tropical rainforests cover less than 2 per cent of the planet, but contain an estimated 50 per cent of all life on the earth's land masses</li> <li>• Know that tropical rainforest ecosystems contain more species than any other ecosystem. Brazil's rainforests are thought to contain 59,851 species</li> </ul>
<p><b>What are the physical features?</b></p>	<p><b>Physical characteristics of a tropical rainforest:</b></p> <ul style="list-style-type: none"> <li>• Know that the climate is hot (20-28 degrees Celsius)</li> <li>• Know that the sun is overhead all year round so there is no seasonal variation</li> <li>• know that there is convectional rainfall every day</li> <li>• know that the roots of the plants take up water from the ground</li> <li>• know that rain is intercepted as it falls-much of it, at the canopy level, will evaporate as it heats up to form convectional rainfall</li> <li>• know that the rain washes away nutrients from the soil</li> <li>• know that the soil is not very fertile</li> <li>• know that the humus layer of rotting leaf-fall is very thin as the heat speeds up decomposition</li> <li>• know that most trees in the rainforest are evergreen</li> <li>• know there are five layers: forest floor, shrub layer, under-canopy, canopy and emergent</li> <li>• Know the structure of the rainforest: Emergent layer (50m) the tallest trees; the Canopy (30m) the engine of the rainforest and captures the most sunlight; the Understory (20m) the younger trees; the Shrub layer (2-5m) ferns, bushes etc; the Forest Floor (0m) dark and quiet, where decomposition takes place, sometimes flooded</li> <li>• know that epiphytes (plants that feed off other plants and take moisture from the air e.g. ferns) can be found in the rainforest</li> <li>• know that plant absorb CO2 and release oxygen</li> <li>• know that many species of animals live in the rainforest</li> <li>• know that food is plentiful all year</li> <li>• know that there are hundreds of different types of monkeys, snakes and birds</li> <li>• know that thousands of insect species live in the rainforest</li> <li>• <b>Know about issues relating to biodiversity e.g.</b></li> <li>• Know that habitat loss is the main cause of extinction. Deforestation has been caused by commercial logging, mineral extraction, commercial farming and subsistence farming</li> <li>• Know that many organisms have adapted and evolved to depend on a few species for survival. They may only be found in a very specific area. If something changes, that species will quickly become extinct e.g. golden poison frog</li> <li>• Know that Sumatran orangutans exist only in the Indonesian island of Sumatra. Over the last 75 years, their population has diminished by 80 percent due to human encroachment of their forest habitat, especially for timber and agriculture</li> <li>• <b>Know how plants and animals adapt to tropical rainforests e.g.:</b></li> <li>• Know that trees grow in search of light. Most trees grow to 30m and for the canopy, where most photosynthesis takes place</li> <li>• Know that trees have large buttress roots to support the trunk and to absorb nutrients from the thin leaf layer</li> <li>• Know that trees have thin bark because they do not need to be kept warm</li> <li>• Know that trees have smooth bark so that water can run off easily</li> </ul>

	<ul style="list-style-type: none"> <li>• Know that trees have thick, waxy leaves which repel water</li> <li>• Know that trees have leaves with drip-tips so water can run off easily so leaves do not get too heavy</li> <li>• Know that some plants on the forest floor hardly receive any sunlight and adapt to these conditions.</li> <li>• Know that the forest floor may flood for several months each year, so plants may adapt to survive this too</li> <li>• Know that Epiphytes or air plants start to grow when a seed uses rotting plant debris in the nook of a tree for nutrients.</li> <li>• Know that many animals live in the canopy their entire lives as this is where most fruits and flowers are</li> <li>• Know that some have strong limbs for climbing and leaping e.g. howler monkey</li> <li>• Know that some have suction-cups for climbing e.g. red-eyed frogs</li> <li>• Know that some have flaps of skin for gliding between branches e.g. flying squirrel</li> <li>• Know that some are camouflaged to hide from predators e.g. leaf toad</li> <li>• Know that many animals have adapted by learning to eat a food eaten by no other animals, e.g. toucans have a long, large bill to reach fruit on branches that are too small to support the bird's weight. The bill is also used to cut the fruit from the tree</li> <li>• Know that many animals are nocturnal, when it is cooler</li> <li>• Know that many can swim, allowing them to cross rivers or escape a flood</li> <li>• Know that some animals increase their sense of hearing, smell and even taste to help escape from predators in the dark of the forest floor e.g. carpet python</li> </ul>
<p><b>What are the human features</b></p>	<p><b>Deforestation</b></p> <ul style="list-style-type: none"> <li>• <b>Know the causes of deforestation in the Amazon:</b></li> <li>• Ranching</li> <li>• Logging</li> <li>• Small-scale farming</li> <li>• Large-scale farming e.g. Brazil is the world's second largest soya bean producer</li> <li>• Road building opens up the rainforest to further development</li> <li>• Dam building to produce HEP e.g. Belo Monte dam complex is under construction and will be the world's fourth largest HEP dam complex</li> <li>• Mining e.g. the Carajas complex in Brazil is the world's largest iron min. It produces 109 million tonnes of iron ore a year</li> <li>• <b>Know about the Economic Impact e.g.</b></li> <li>• Know that farming significantly contributes to the economy e.g. ranching earns Brazil over \$6.9 billion a year</li> <li>• Know that logging contributes to the economy, however, it is estimated that 80 per cent of Brazilian hardwood is from illegal logging</li> <li>• Know that mining provides many jobs e.g., the Carajas complex provides up to 3000 jobs</li> <li>• Know what the term 'indigenous people' means</li> <li>• Know who the Awa tribe are</li> <li>• Know what life is like for the Awa tribe</li> <li>• Know the threats that the Awa tribe face</li> <li>• Develop a knowledge and understanding of the indigenous people of Brazil</li> <li>• Understand the similarities and differences between the lives of indigenous people and other people living in Brazil (housing, education, food, entertainment)</li> </ul>

<b>Comparison with the UK</b>	<ul style="list-style-type: none"> <li>• <b>Know about the Environmental Impacts e.g.</b></li> <li>• Know that deforestation of the Amazon could release 100 billion tonnes of carbon, resulting in increased atmospheric CO2 and global warming</li> <li>• Know that deforestation means there are fewer trees to absorb CO2 from the atmosphere, resulting in global warming</li> <li>• Know that mining releases dangerous toxins into the soil and rivers</li> <li>• Know that 80 per cent of land animals live in tropical rainforest ecosystems, so deforestation will reduce the earth's biodiversity</li> <li>• Know that removing tree cover will leave soil exposed to heavy rainfall causing soil erosion. Soya bean farming alone is responsible for the loss of 55 million tons of topsoil each year in Brazil</li> <li>• Know that deforestation could affect the water cycle, causing changes to weather patterns</li> <li>• Compare similarities and differences between British woodland and the rainforest, in relation to the wildlife</li> <li>• Understand the effects of deforestation on the world and what can be done to help prevent global warming</li> <li>• Know what actions they can take to help prevent further damage to the environment</li> </ul>
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### Design Technology

#### Year 4

#### Design Technology- Textiles

<b>Year 4</b>	<ul style="list-style-type: none"> <li>• Research patchwork designer Ann West and know that her patchwork is used to tell a story/recount what life was like at that time</li> <li>• Look at images from the rainforest and create sketches, explore the colours used</li> <li>• Recap on previous sewing skills and practise a range of stiches, including back stitch and blanket stitch</li> <li>• Design a square for a class patchwork tapestry, inspired by the rainforest</li> <li>• Consider a contrasting design, showing the deforestation</li> <li>• Consider materials and stitching needed to create a square for the tapestry</li> <li>• Use a range of materials and stitches to create a square for a patchwork tapestry</li> <li>• Evaluate end product</li> </ul>
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### Writing Outcomes

#### Non-Fiction

#### Fiction

A persuasive piece to visit the Amazon Rainforest

Text: The Vanishing Rainforest by Richard Platt  
Narrative including the use of direct and reported speech