



Year 8 Geography: Ecosystems and Tropical Rainforests

Learning Outcomes	Students will develop a comprehensive understanding of the intricate concept of an ecosystem, gaining the ability to identify and differentiate between biotic components—such as plants, animals, and microorganisms—and abiotic factors like climate, soil, and water. They will delve into the dynamic relationships within ecosystems by interpreting and constructing detailed food chains and complex food webs, thereby uncovering the pathways through which energy flows and sustains life. To deepen their practical skills, students will engage in hands-on fieldwork, mastering techniques such as creating and annotating detailed field sketches in woodland and tropical environments, fostering a direct connection with the natural world. As part of this course we visit the gardens at RHS Wisley. The outdoor learning opportunity enables students to put their classroom learning into context and strengthens their understanding of plant adaptations. As the unit unfolds, students will expand their geographical knowledge by describing and critically evaluating the defining characteristics of global biomes, with a particular emphasis on the lush and biologically rich Tropical Rainforest. They will investigate the remarkable adaptations of plants and animals that enable survival in this unique and often challenging environment. Furthermore, students will explore the multifaceted issue of deforestation, analysing its root causes, far-reaching environmental and socio-economic impacts, and contemporary management strategies. Through engaging with current debates, they will learn to consider and articulate multiple perspectives on this pressing global concern. Throughout the course, students will also enhance their academic skills, honing effective revision strategies and examination techniques. This will be achieved through consistent retrieval practice, tackling a variety of short-answer questions, and developing extended writing responses, equipping them with the confidence and proficiency needed to excel.
Key Questions	1. What is an ecosystem? 2. How do food chains and food webs show the movement of energy? 3. What are biomes and where are they located? 4. How are tropical rainforests adapted to their environment? 5. What are the causes and consequences of deforestation? 6. How can deforestation be sustainably managed? 7. Should rainforests be deforested for economic purposes such as mining?
Knowledge	Key Concepts • Definition and components of ecosystems (biotic & abiotic factors) • Food chains and food webs; energy flow in ecosystems • Fieldwork skills: observing, sketching, and annotating natural environments • Characteristics of global biomes, focusing on tropical rainforests • Adaptations of plants and animals in tropical rainforests • Causes, impacts, and management of deforestation



- Human-environment interactions and sustainability debates
- Map skills and geographical analysis of rainforests
- Oracy- debating and persuasive writing skills
- Exam preparation: retrieval practice, short-answer, and extended writing tasks

Key Skills:

- **Observation and Fieldwork:** Creating and annotating field sketches; recording data accurately
- **Identification and Classification:** Recognizing biotic and abiotic elements; categorizing organisms in food chains/webs
- **Map Skills:** Using atlases and maps to locate biomes and interpret spatial data
- **Analytical Thinking:** Interpreting food chains/webs; analyzing causes and impacts of deforestation
- **Critical Evaluation:** Weighing different perspectives in environmental debates
- **Research and Inquiry:** Gathering information from various sources; asking geographical questions
- **Communication:** Writing clear explanations, short answers, and extended responses
- **Exam Techniques:** Retrieval practice, time management, and structured answers

Key Words:

Ecosystem	Consumer	Energy flow	Biome
Biotic	Decomposer	Adaptation	Climate
Abiotic	Food chain	Biodiversity	Deforestation
Producer	Food web	Tropical rainforest	Conservation

Ongoing Assessment

Formative assessment is an integral part of every lesson and includes a re-cap of prior knowledge, discussion of new concepts and terminology and modelling of successful writing. Students also prepare and complete a range of short and long exam-style questions throughout the course with the focus carefully chosen to reflect new learning in each lesson. Assessment is commonly done in class. There are opportunities to challenge misconceptions through Assessment for Learning (AfL) embedded within every lesson. Retrieval questions are at the beginning of each lesson to recap on prior learning but also to link learning together.

Key Assessment

Key Assessment 1: This assessment is on ecosystems and worth 29 marks to be completed in 35 minutes. This consists of a mid-unit multiple-choice questions, and a longer 4 mark question. As this will be the first assessment since year 7, students will revisit the skills needed to answer a 4 mark question.

Key Assessment 2: This assessment is on tropical rainforests and is worth 30 marks to be completed in 40 minutes. Students will tackle multiple choice questions, a variety of 2, 3 and 4 mark questions. We have allowed students more time than usual in this assessment as new skill will be tested as they have to complete an extended writing piece in the format of a 6-mark question. This is part of our assessment design.

NHSG Key Stage 3 Year 8 Geography: Autumn Overview



Sequencing	The unit begins with an introduction to ecosystems, moving on to food chains, food webs and the transfer of energy within them. Students then develop their fieldwork skills, including sketching techniques, before being introduced to global biomes through group ICT research and presentations. After this, they consolidate their learning through revision and complete their first assessment. We also make cross curricular links to Biology and any links from Key Stage 2 learning. The focus then shifts to a detailed case study of the tropical rainforest, exploring its climate, vegetation and the adaptations of plants and animals. Students go on to investigate the causes and consequences of deforestation, as well as strategies for sustainable management and the contemporary debates surrounding this issue. Towards the end of the unit, students revise and complete a second assessment before engaging in a debate and persuasive writing task that allows them to apply their knowledge and consider multiple perspectives.
Links to Careers	In this Year 8 Geography unit, students are introduced to a range of career pathways that connect directly to their learning about ecosystems and the environment. They explore how environmental scientists and ecologists study the interactions between living things and their surroundings, and how conservationists and those working with NGOs play a vital role in protecting threatened habitats such as the rainforest. The unit also highlights the work of GIS analysts and cartographers, who use digital mapping and spatial data to understand and present geographical patterns. Students consider the role of climate change researchers in tackling one of the most urgent global issues, as well as careers in forestry and land management, where sustainable practices are essential for balancing human needs with environmental protection.
Diversity and Inclusion	The unit incorporates case studies from diverse global locations, including the Amazon rainforest and various global biomes, providing students with a broad understanding of different ecosystems. It highlights the work of environmental activist Farwiza Farhan as an inspiring role model in discussions about sustainable management. Additionally, the curriculum encourages group collaboration tasks that promote inclusive discussion and debate, fostering teamwork and the exchange of diverse perspectives among students.
Support	The unit includes scaffolded retrieval practice questions to support students' recall and understanding of key concepts. A variety of engaging activities, such as mix-and-match tasks and the use of visual aids like climate graphs and diagrams, help reinforce learning. Students receive step-by-step guidance for creating detailed field sketches, while sentence starters and writing frames are provided to support their extended writing tasks, ensuring all learners can confidently express their ideas.
Challenge	Blue challenge activities are integrated into all our geography lessons to stretch the more able students, alongside a wide range of extension activities offered throughout the course. These enrichment opportunities include wider reading, watching relevant news reports, articles, films, and documentaries, as well as targeted research assignments. All activities are shared with students through lesson resource packs, with additional challenge provided through extension questions during retrieval practice. Students also engage in debate and extended writing tasks that require evaluating multiple perspectives, tackle higher-order questions linking climate change, globalization, and sustainability, and undertake independent research projects focused on global biomes and animal adaptations. • National Geographic Kids — kids.nationalgeographic.com Great for engaging articles, videos, and facts about rainforests, ecosystems, and wildlife. • BBC Bitesize – Geography: Ecosystems — bbc.co.uk/bitesize



- Clear, curriculum-aligned explanations, quizzes, and revision materials on ecosystems and biomes.
- **Rainforest Alliance** — rainforest-alliance.org
Information on tropical rainforests, conservation efforts, and sustainable management practices.
- **World Wildlife Fund (WWF) – Tropical Rainforests** — wwf.org.uk
- In-depth resources on rainforest biodiversity, threats like deforestation, and global conservation campaigns.

We also encourage all students to watch, read or listen to the news to bring real stories into class to add to their learning.

Year 8 are invited to 'The Geographical Society' which is lead by the Year 12 Geography students where they have the opportunity to write articles for our magazine, the 'Nonsuch Geographic' and to take part in geography games and competitions.