

The Living World

Ecosystems & Tropical Rainforests



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Using this booklet

Welcome to the Internet Geography Work Booklet for the Living World – Ecosystems and Tropical Rainforest. There are a range of resources on Internet Geography to support you studying this unit. Head over to www.internetgeography.net/aqa-gcse-geography/the-living-world/ to access them.

As well as the resources in this booklet, there are a number of online quizzes to check your learning as you work your way through this booklet.

 This icon lets you know when you should attempt the online quizzes developed to support your learning and check your knowledge. Your scores should be recorded on the tracking table at the back of this booklet. It is useful to revisit the quizzes to help your learning stick.

QR codes are included throughout the booklet to support you in researching the information you need to complete the activities. You will need to download a free QR code scanner to your mobile phone or tablet. Just go to your app store and search for “QR Code scanner” and download a free one.

After each section in this booklet there is a summary page for you to record the main points for each sub-topic. We recommend you use dual coding for this. Dual coding sounds a bit complicated, however, it’s not. It simply involves combining text and images when you are studying. There are many ways you can present text and images, such as with infographics, timelines, cartoon strips, diagrams, and graphic organisers. We’ve pulled together a guide to help you do this with examples on Internet Geography. Either go to <https://www.internetgeography.net/dual-coding/> or scan the QR code below.



Introduction to ecosystems

There are a number of key words you need to know about ecosystems. Complete the key terms list below by adding the correct definitions.



Ecosystem	
Biome	
Biotic components	
Abiotic components	
Producers	
Consumers	
Decomposers	
Food chain	
Food web	
Nutrient cycle	
Carnivore	
Herbivore	
Omnivore	



Check your learning

Head over to www.internetgeography.net/wb1 and complete the key word quiz. Add your score for quiz 1 on the recording sheet.

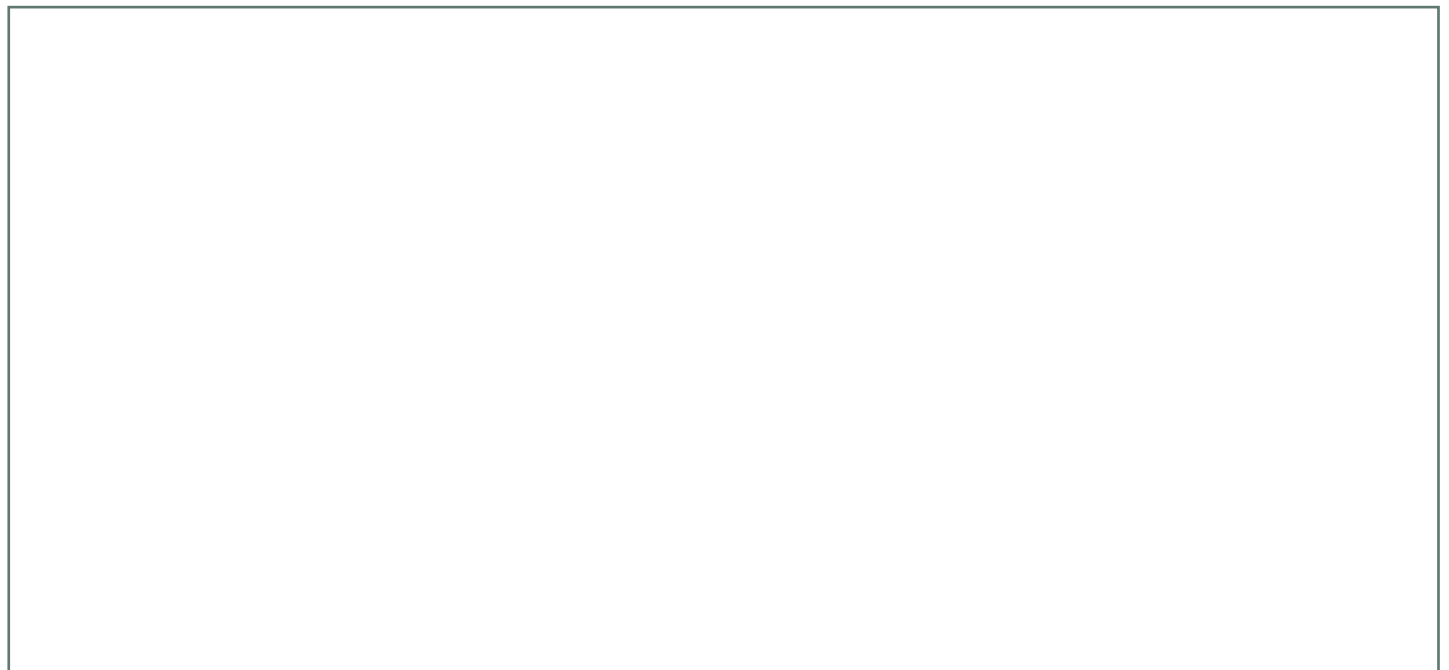
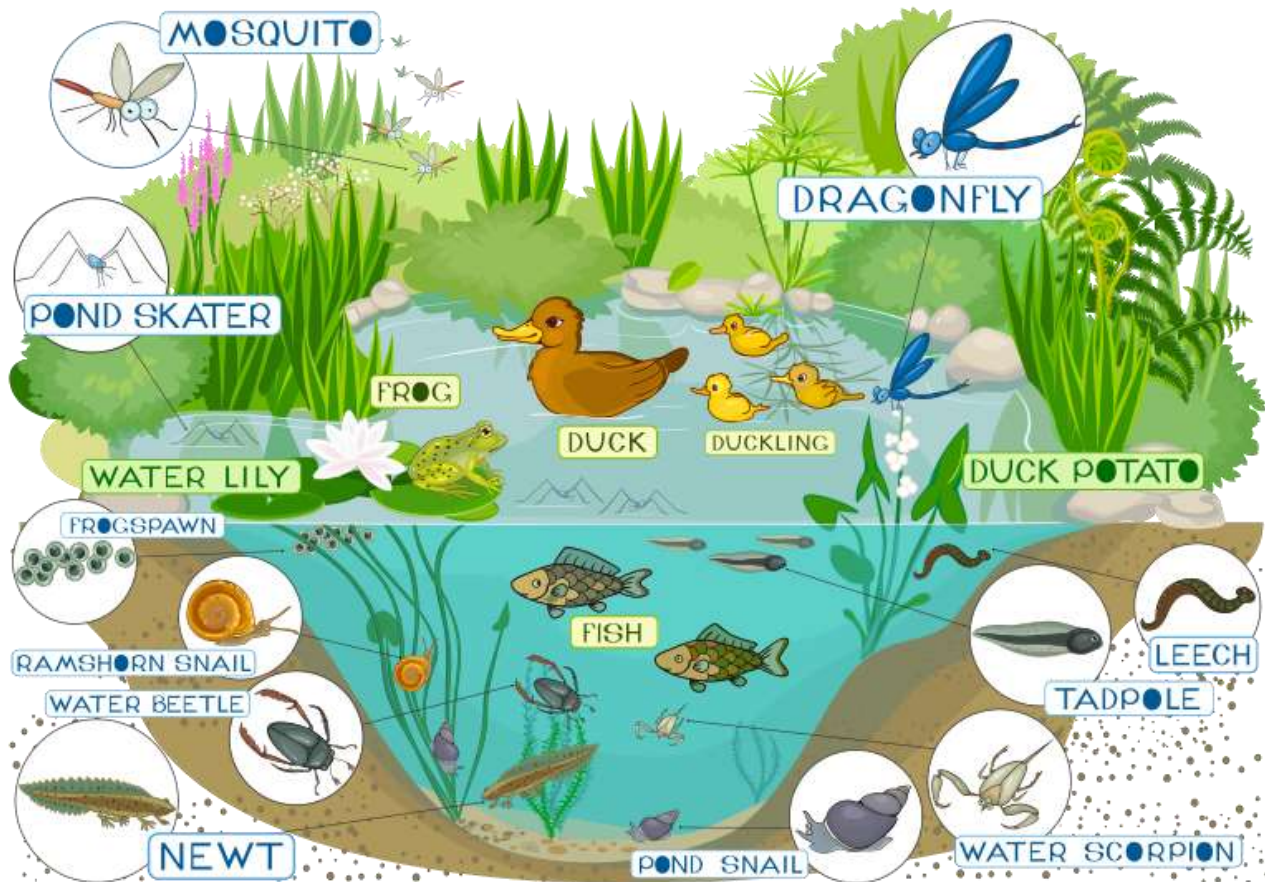
Food chains

Draw a simple food chain to show the flow of energy from a producer to a tertiary consumer.

A large, empty rectangular box with a thin black border, intended for drawing a food chain.

Food webs

Draw a food web to summarise the ecosystem below.



Check your learning

Head over to www.internetgeography.net/wb2 and complete the quiz. Add your score for quiz 2 on the recording sheet.

<https://www.internetgeography.net/aqa-gcse-geography/the-living-world/>

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Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at <https://www.internetgeography.net/dual-coding/> if you need help with this.

An example of a small-scale UK ecosystem

You need to study an example of a small-scale ecosystem in the UK. Your case study could be a pond or forest or any other small-scale ecosystem. If you need a case study take a look at Epping Forest: www.internetgeography.net/topics/epping-forest-case-study/



Name of case study: _____

Brief description of the small-scale ecosystem including location:

Producers within the ecosystem	
Primary consumers	
Secondary consumers	
Tertiary consumers	

Draw a simple food chain to show the flow of energy from a producer to a tertiary consume within your small-scale ecosystem.

Draw a food web to summarise your small-scale ecosystem

Draw a diagram below to show how the ecosystem you have studied is interdependent.



Explain how the nutrient cycle works in your example.

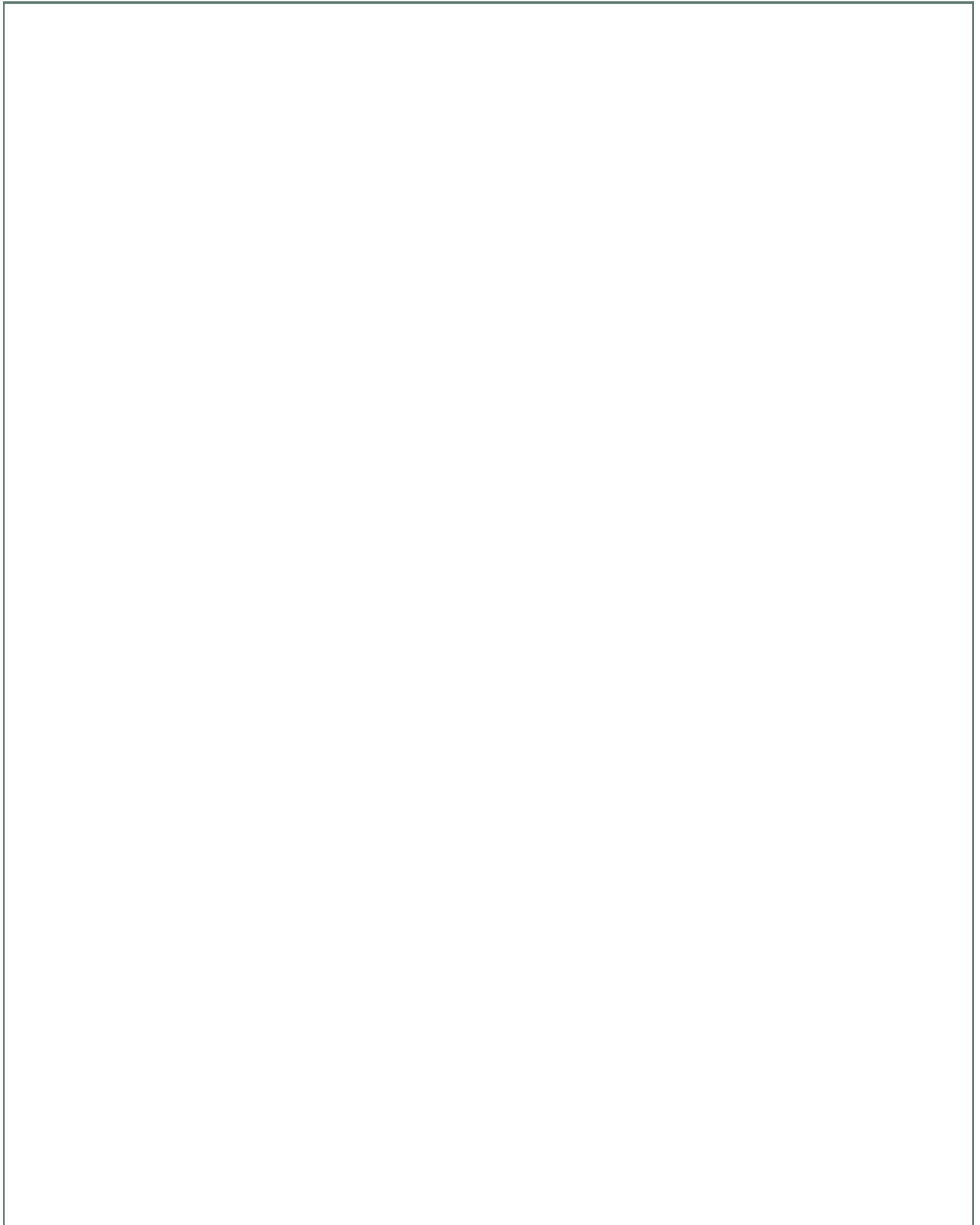
How is your example of a small-scale ecosystem being managed sustainably?

Explain how changes to once component in your ecosystem can have an impact on the ecosystem.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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Ecosystem balance

Ecosystems are fragile environments and changes to one component can have a knock-on effect on the rest of the ecosystem. The impacts can be both positive and negative. A classic example of this is the re-introduction of wolves to Yellowstone National Park in the USA. There is a good video summarising the impact here: <https://youtu.be/ysa5OBhXz-Q>



Complete the table below to identify natural changes that can affect an ecosystem along the changes due to human activities.

Natural causes of changes in ecosystems	Human causes of changes in ecosystems

How can changes affect ecosystems? Below are two scenarios for changes in ecosystems. Discuss the impact of the changes.

Change 1 – Deforestation occurs in a small woodland ecosystem. What will be the impact of this?

Change 2 – More trout (predators) are added to a pond.



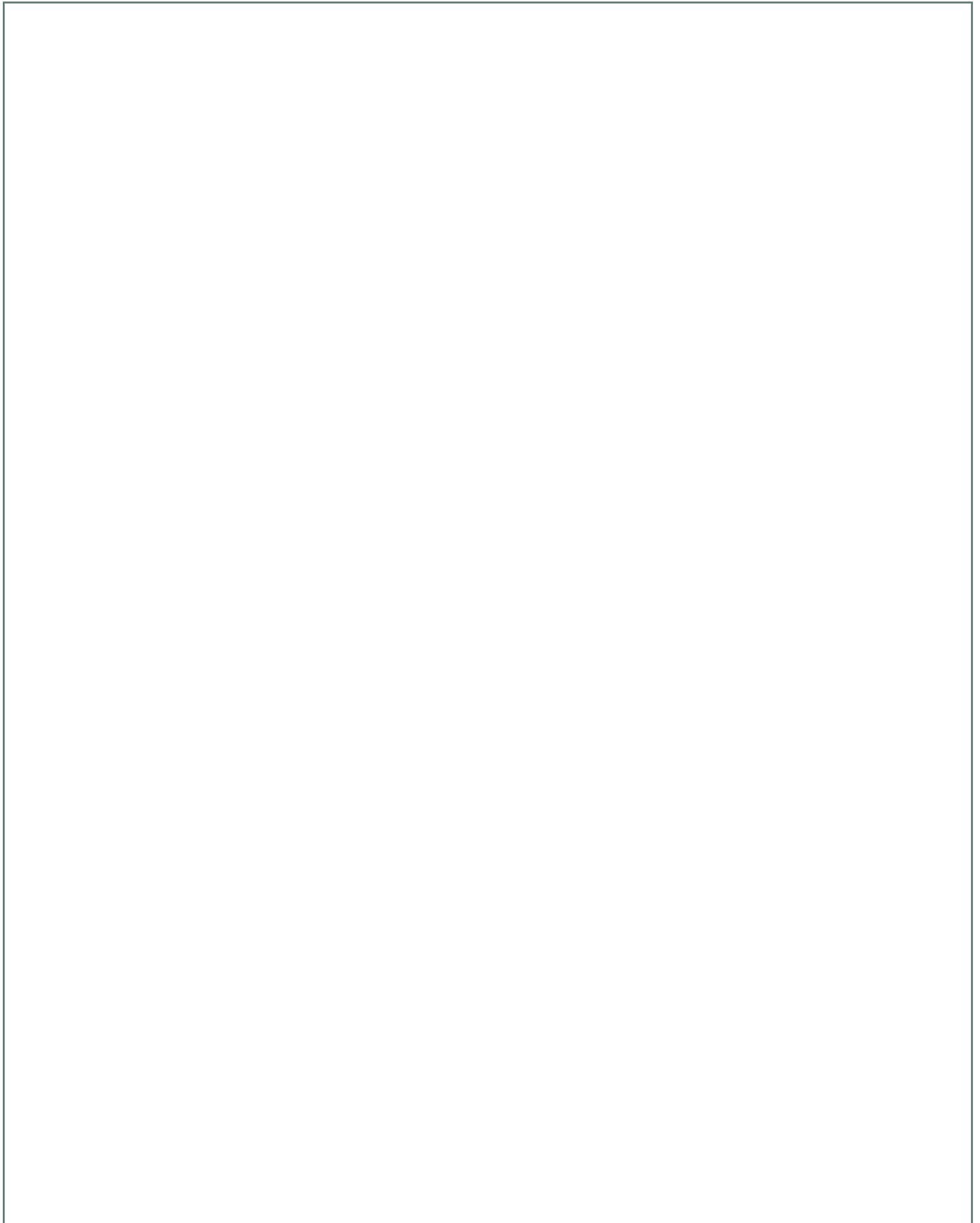
Check your learning

Head over to www.internetgeography.net/wb3 and complete the quiz. Add your score for quiz 3 on the recording sheet.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

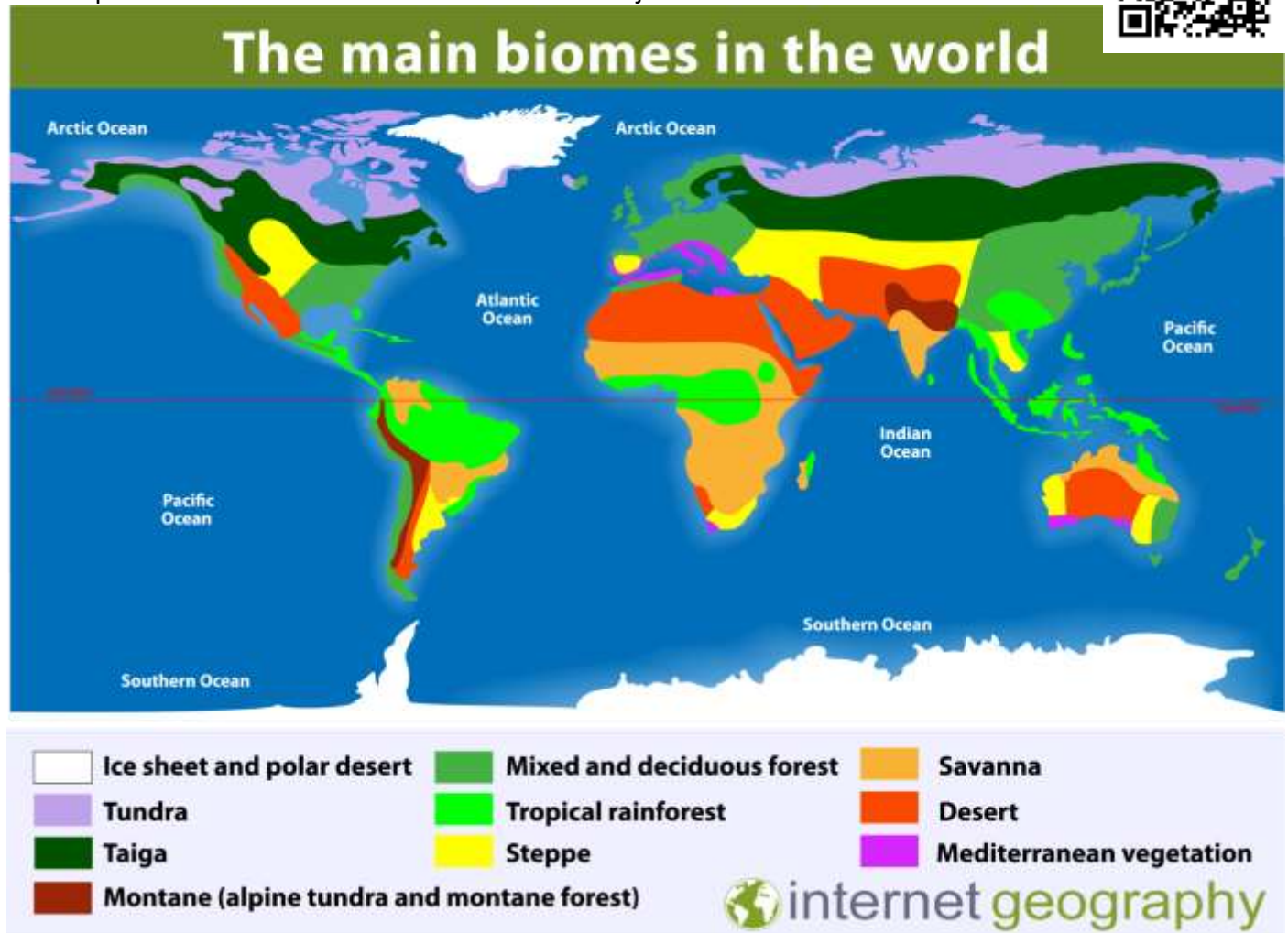
<https://www.internetgeography.net/dual-coding/>

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Where are global ecosystems (biomes) located?



The map below shows the location of the world's major biomes.



Describe the distribution of the tropical rainforest biome.

Complete the table below to provide an outline of the location and characteristics of each biome.

Biome	Location	Characteristics
Tundra		
Tropical rainforest		
Ice sheet and polar desert		
Desert		

Explain why ecosystems tend to be located in broad belts across the world, from east to west, almost parallel to lines of latitude.



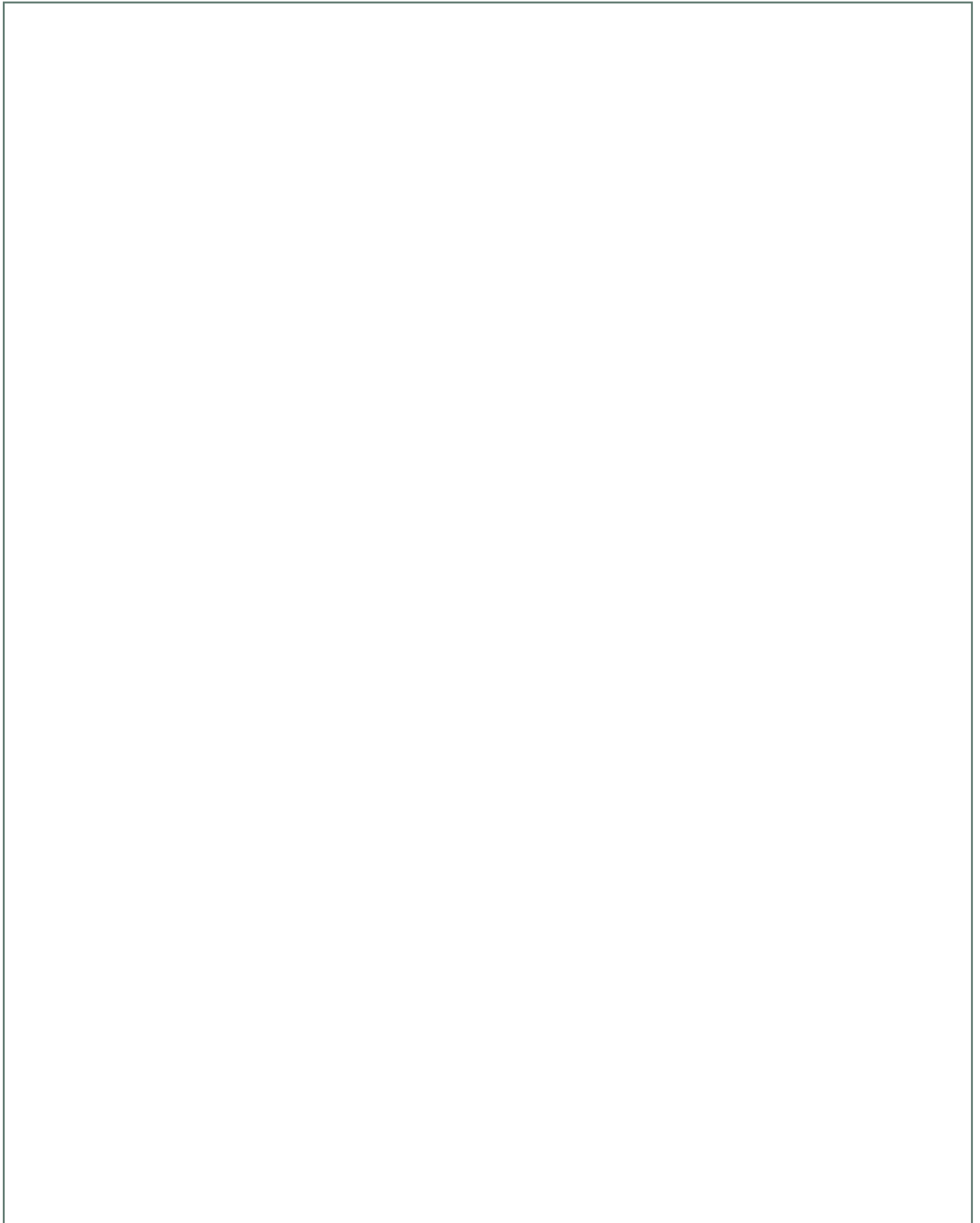
Check your learning

Head over to www.internetgeography.net/wb4 and complete the quiz. Add your score for quiz 4 on the recording sheet.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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The physical characteristics of a tropical rainforest



What is a tropical rainforest?

Describe the location of the tropical rainforest biome.

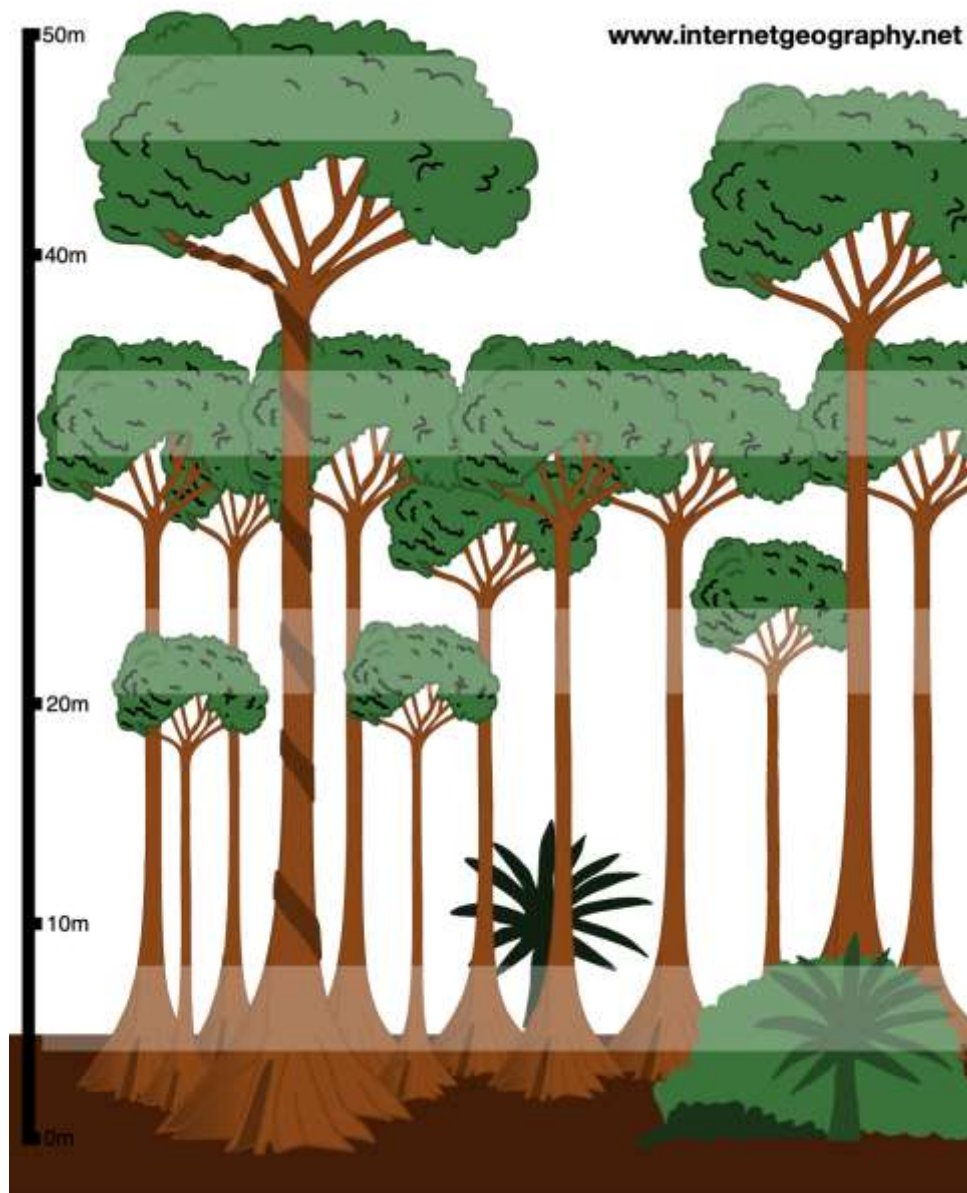
Describe the climate of the tropical rainforest.



Explain why the tropical rainforest experiences high levels of rainfall.

Why is soil in the tropical rainforest infertile?

Annotate the diagram below to show the characteristics of vegetation in the rainforest.



Check your learning

Head over to www.internetgeography.net/wb5 and complete the quiz. Add your score for quiz 5 on the recording sheet.

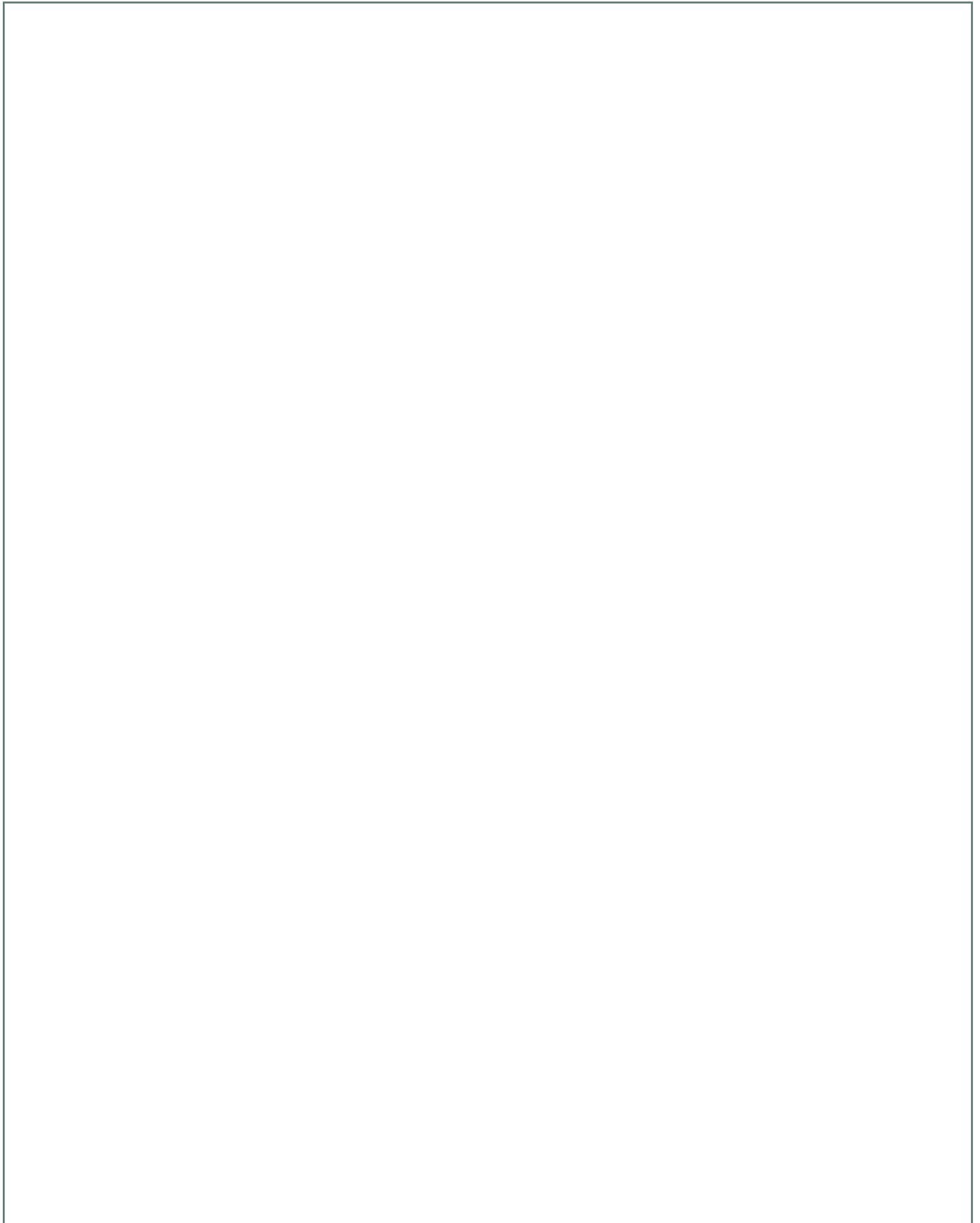
<https://www.internetgeography.net/aqa-gcse-geography/the-living-world/>

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Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

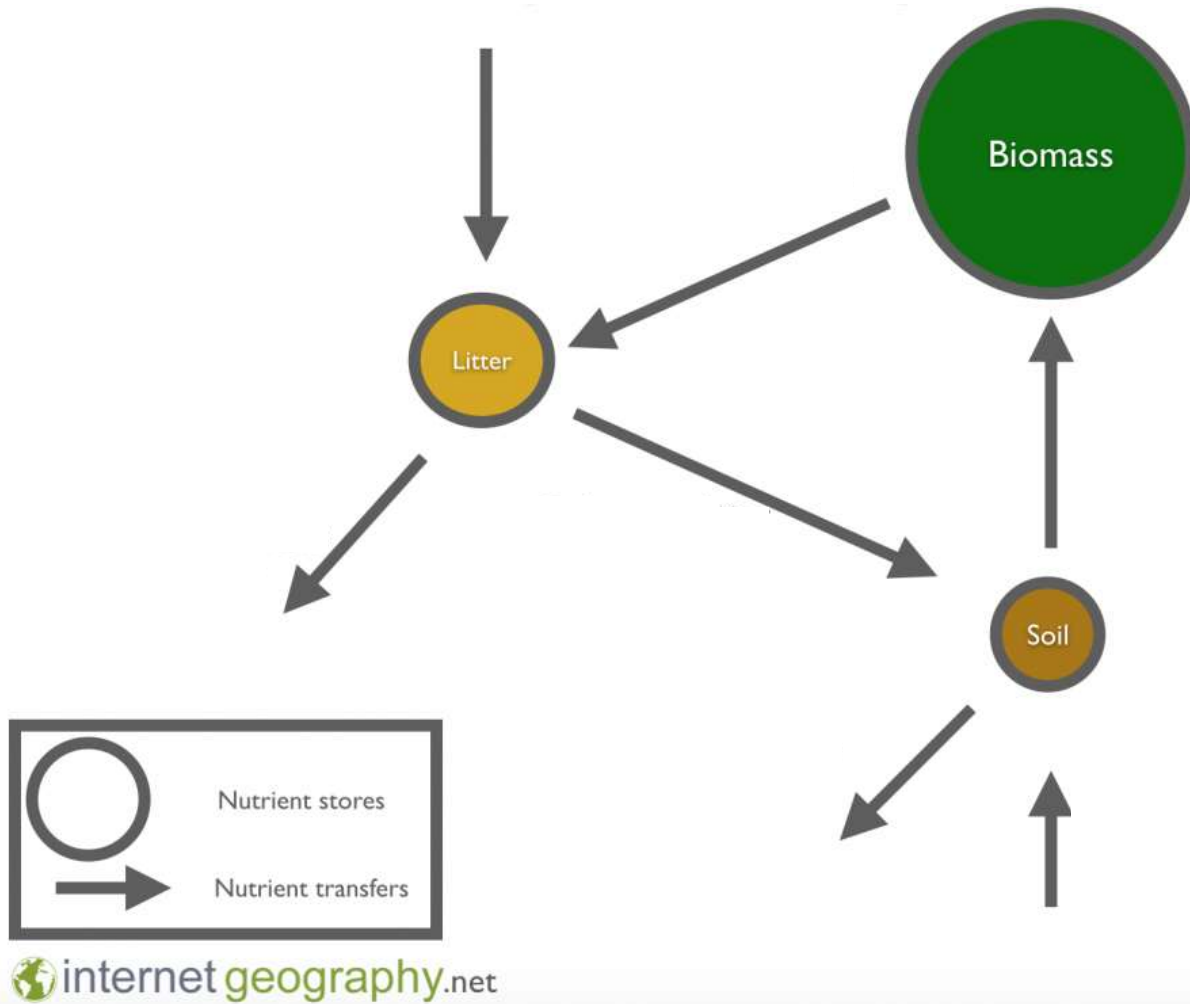
<https://www.internetgeography.net/dual-coding/>

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Interdependence in the tropical rainforest

The nutrient cycle in the rainforest is an excellent example of interdependence.

Complete the diagram below to explain interdependence in the tropical rainforest.



Give another example of interdependence within the tropical rainforest ecosystem

Explain how in tropical rainforest ecosystems, climate, water, soils, plants, animals and people are **interdependent**.



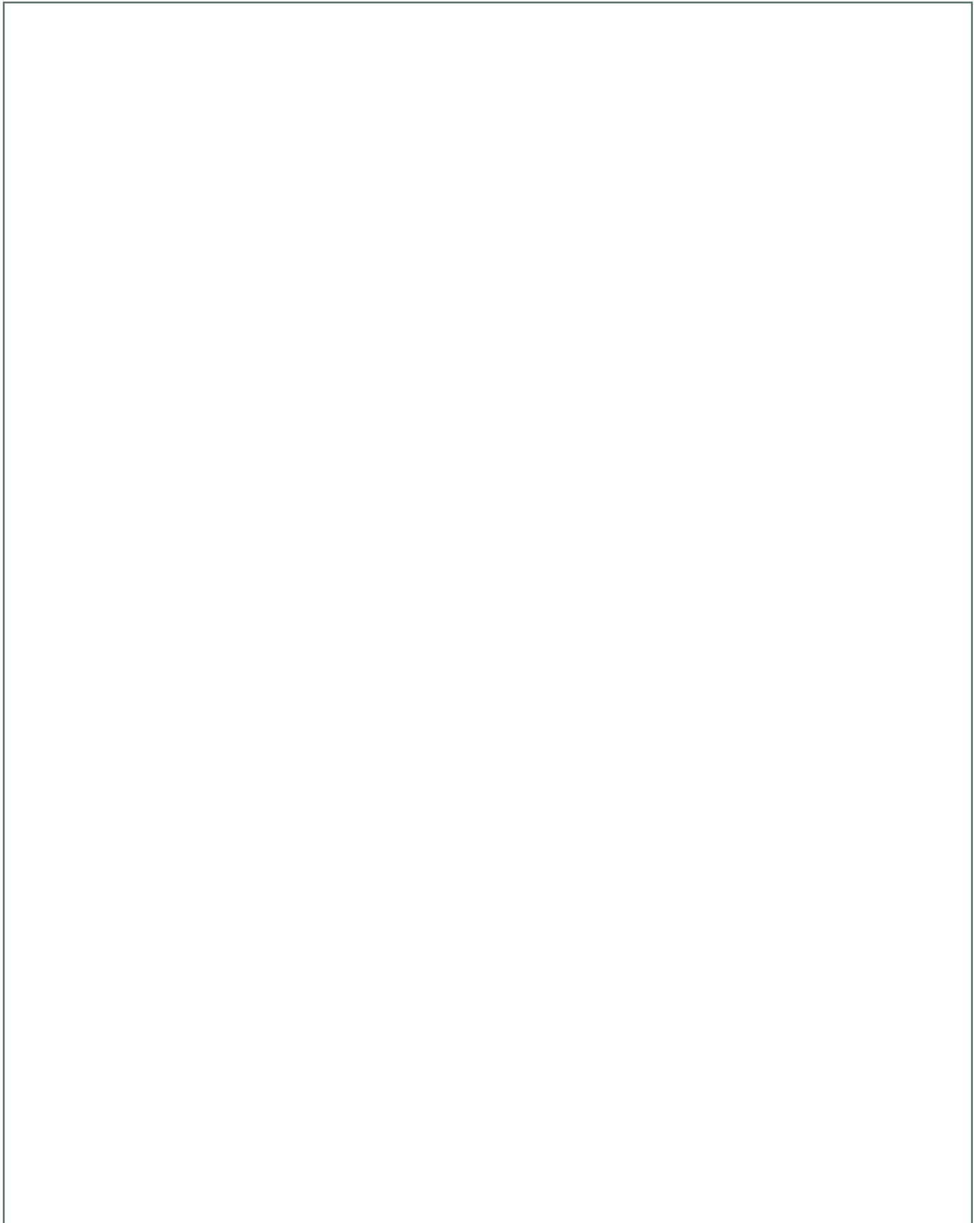
Check your learning

Head over to www.internetgeography.net/wb6 and complete the quiz. Add your score for quiz 6 on the recording sheet.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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How do plants and animals adapt to physical conditions?

Annotate the image below to explain how vegetation has adapted to the rainforest environment.



Explain three animal adaptations to the rainforest environment



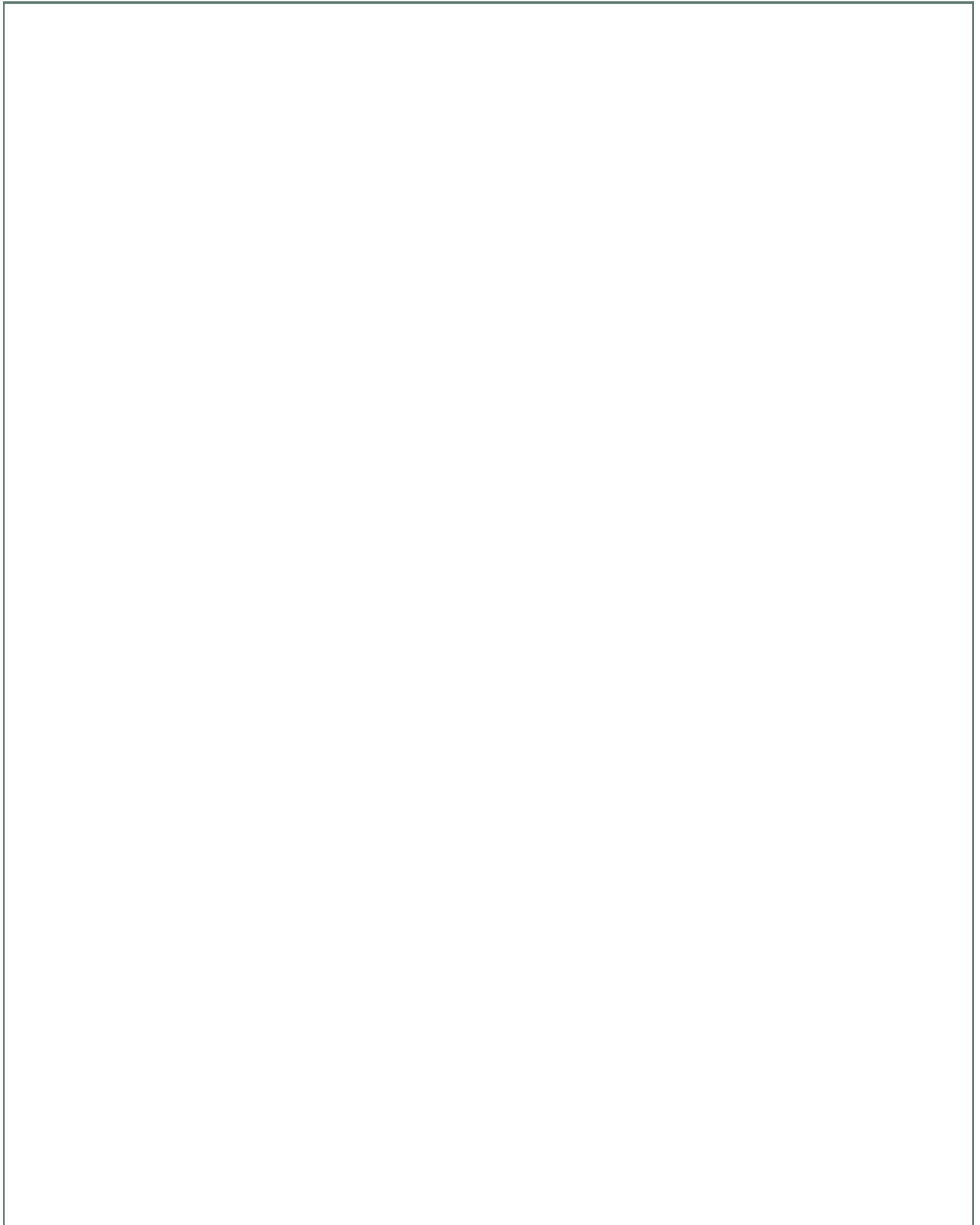
Check your learning

Head over to www.internetgeography.net/wb7 and complete the quiz. Add your score for quiz 7 on the recording sheet.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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Issues related to biodiversity

Define biodiversity.



Tropical rainforests are the most biodiverse ecosystems in the world. Give three pieces of evidence to support this statement.

Why are there high levels of biodiversity in tropical rainforests?

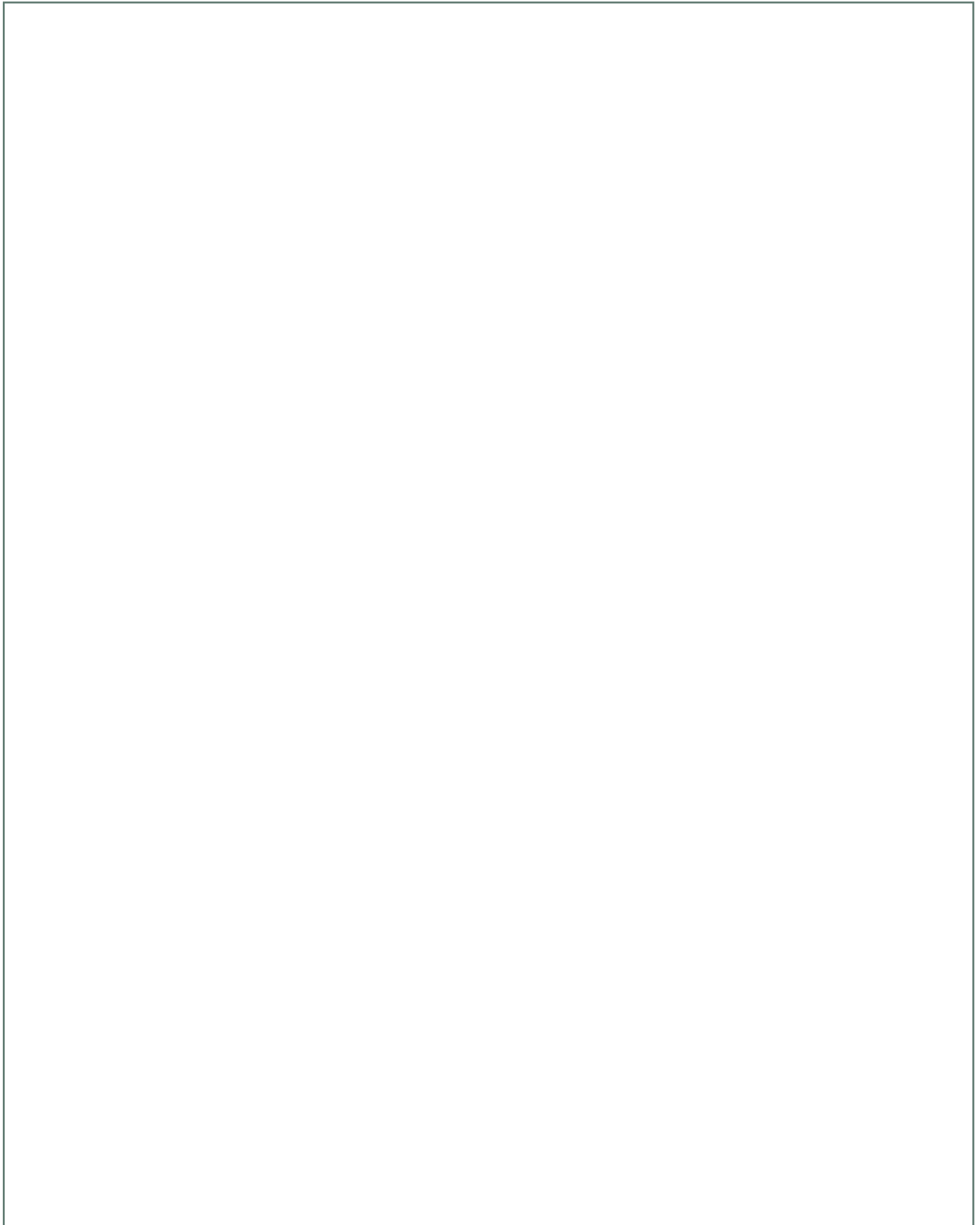
What are the main threats to biodiversity in the tropical rainforests?

Give three impacts of biodiversity decline in the tropical rainforest.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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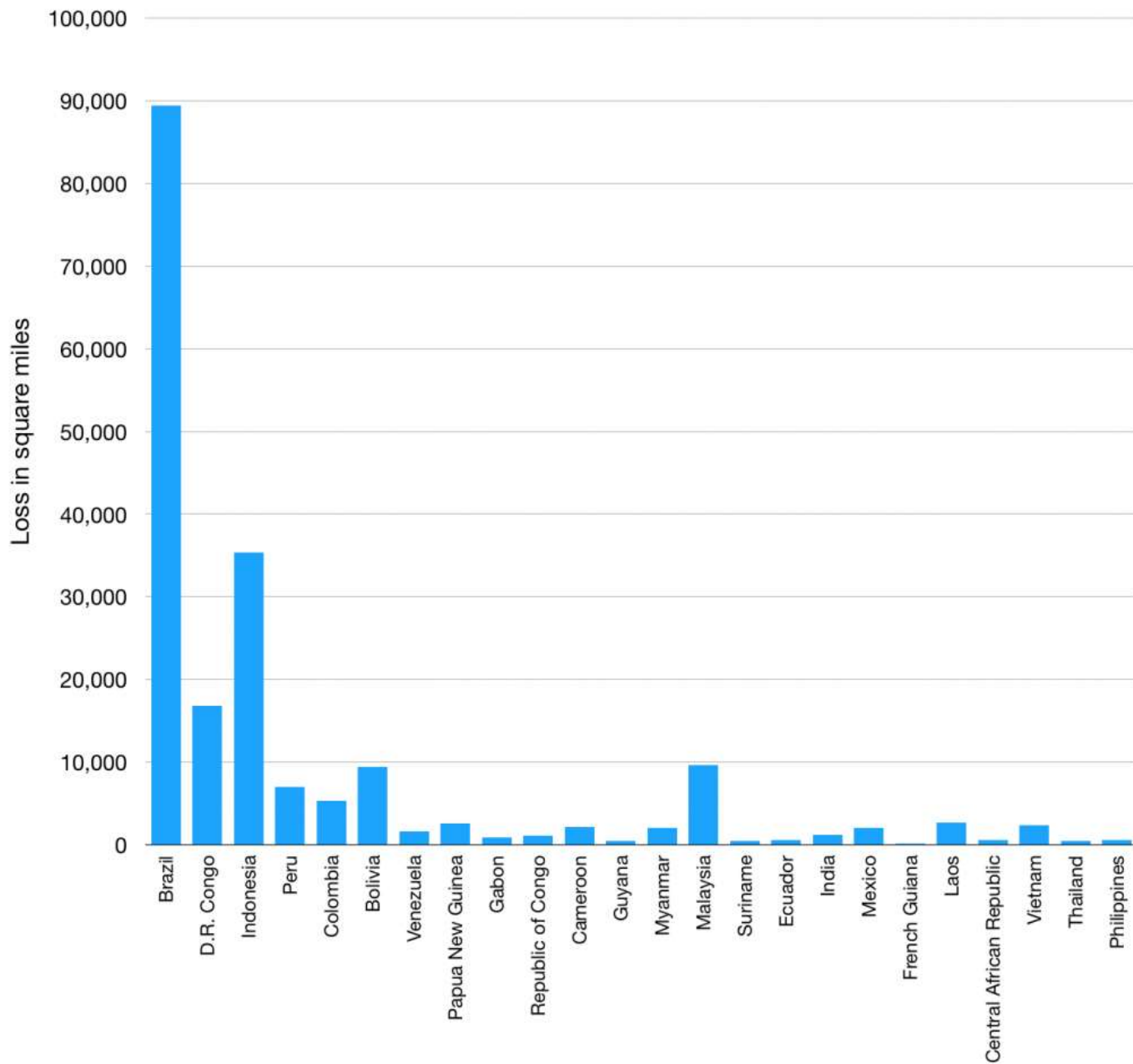
Changing rates of deforestation



The graph below shows the loss of rainforest between 2001 and 2018. Describe the global pattern of rainforest deforestation.

internet geography

Loss of rainforest between 2001 and 2018



Why do you think rates of rainforest deforestation are increasing in some areas and decreasing in others?



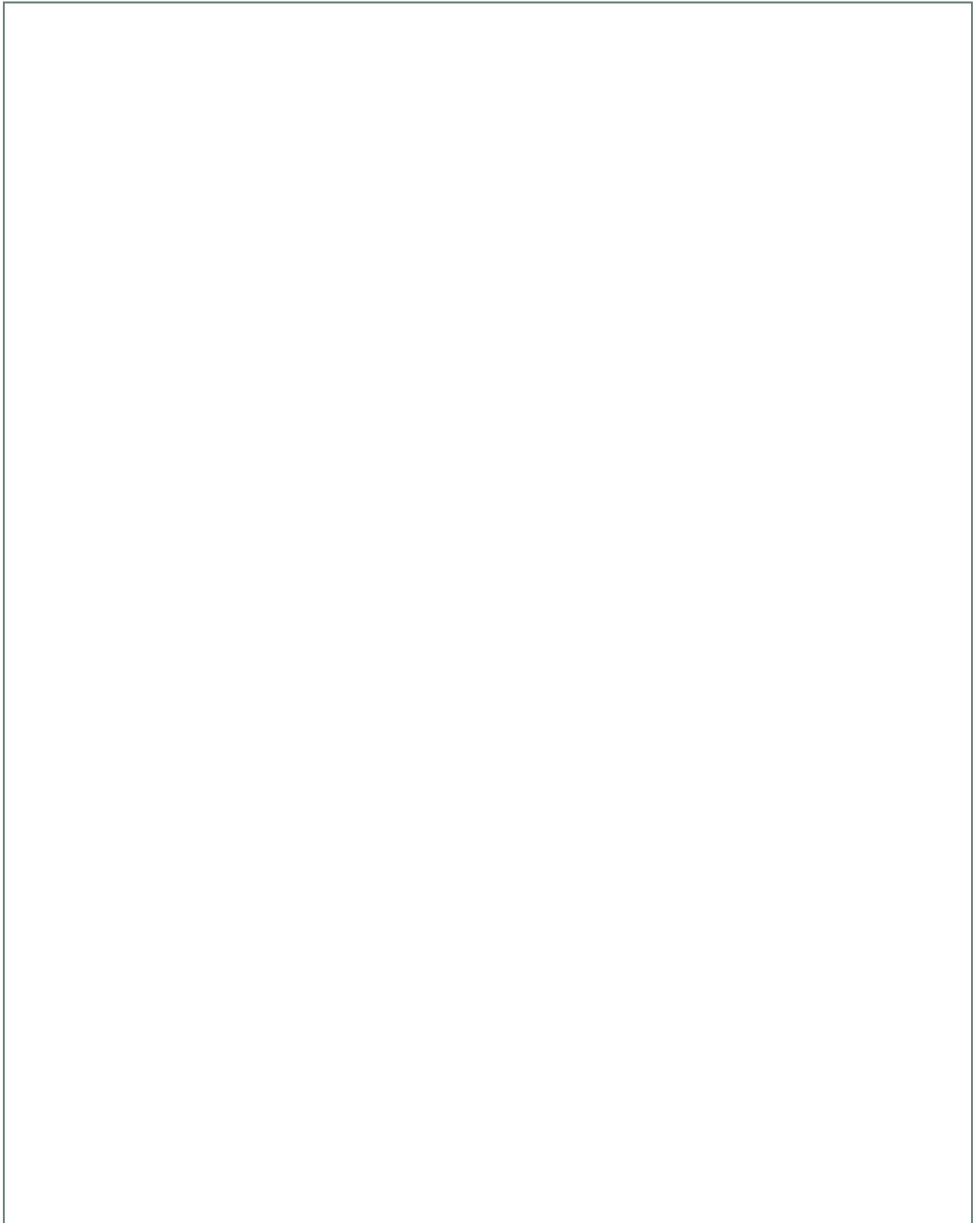
Check your learning

Head over to www.internetgeography.net/wb8 and complete the quiz. Add your score for quiz 8 on the recording sheet.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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A case study of the causes and impacts of deforestation



Case study: _____

Describe the location of the tropical rainforest case study you have identified above.

Produce a detailed spider diagram to describe the causes of deforestation in your case study location.



Produce a detailed spider diagram to show the local impacts of deforestation in your case study location.



Produce a detailed spider diagram to show the national impacts of deforestation in your case study location.



Produce a detailed spider diagram to show the global impacts of deforestation in your case study location.



Check your learning

Head over to www.internetgeography.net/wb9 and complete the quiz. Add your score for quiz 9 on the recording sheet.

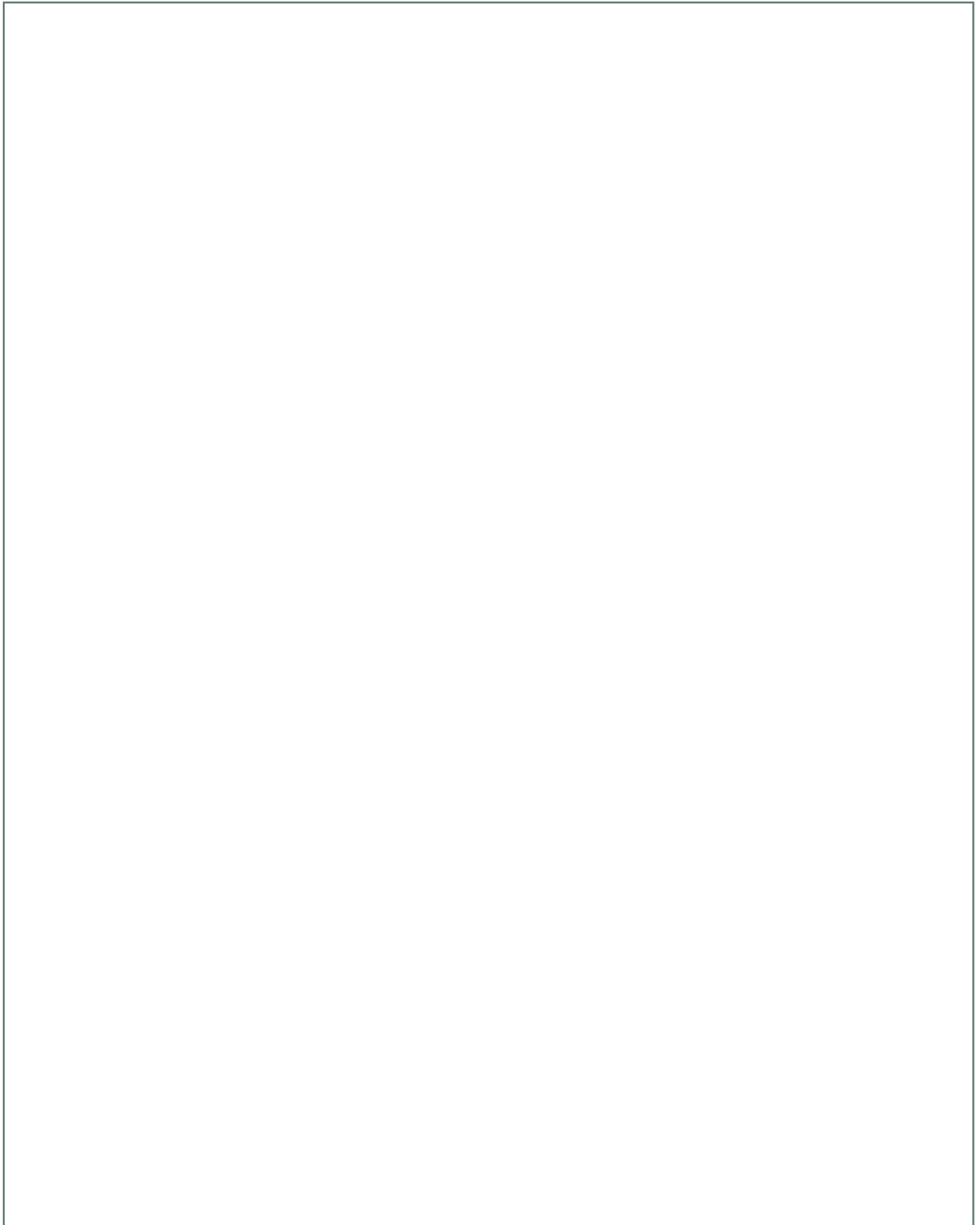
<https://www.internetgeography.net/aqa-gcse-geography/the-living-world/>

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Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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The value of tropical rainforests

Why is it important to protect the tropical rainforest?



Complete the table below to show the value of tropical rainforest to people and the environment.

Value to people	Value to the environment

Complete the table below to show how deforestation can have both economic gains and economic losses:

Economic gains for the country	Economic losses for the country



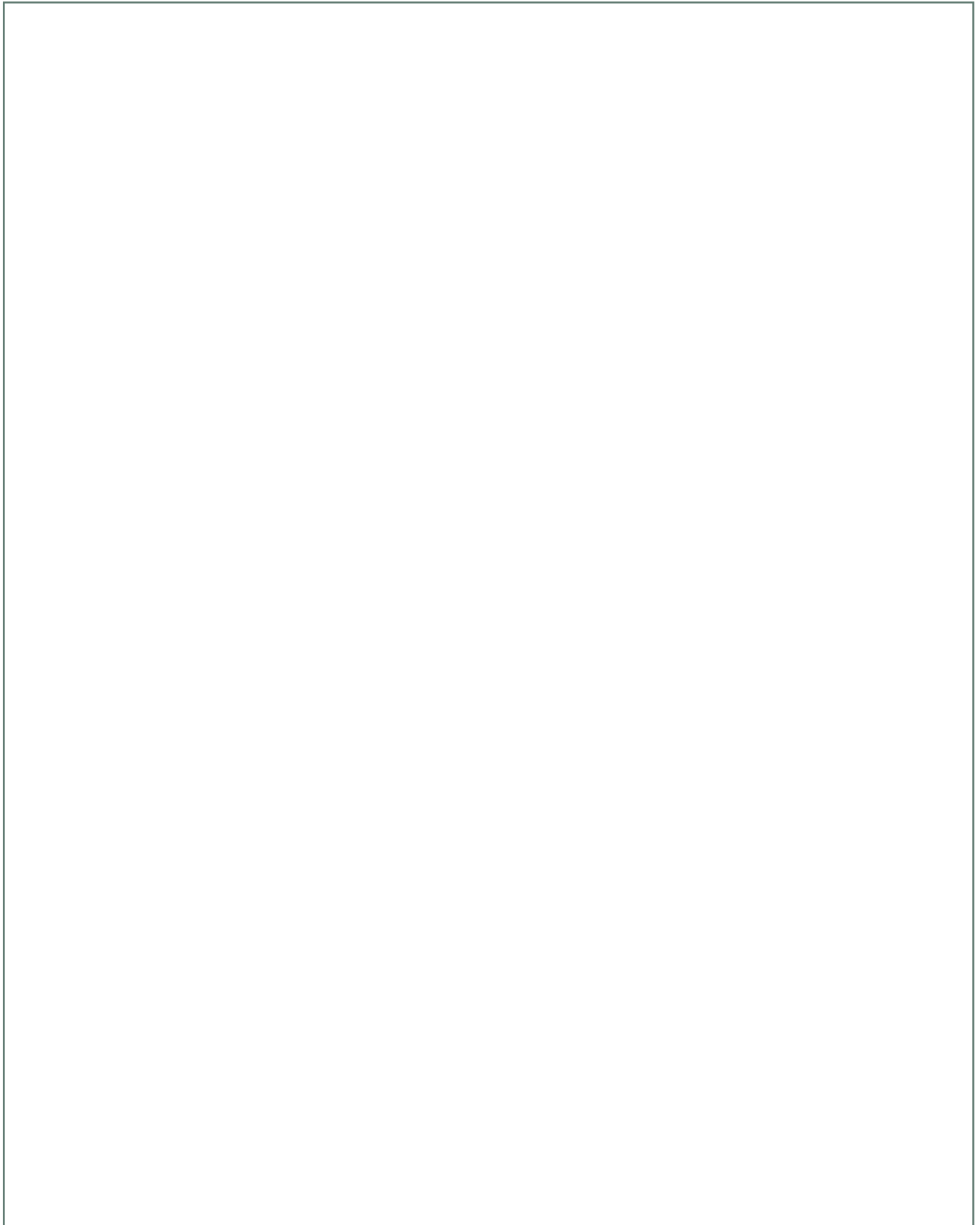
Check your learning

Head over to www.internetgeography.net/wb10 and complete the quiz. Add your score for quiz 10 on the recording sheet.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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Sustainable management of tropical rainforests



Complete the table below to explain international approaches to sustainable management of the tropical rainforest.

Debt reduction programmes	
International agreements	
Other:	

Complete the table below to explain national approaches to sustainable management of the tropical rainforest.

Education	
Forest reserves	
Monitoring	

Complete the table below to explain local approaches to sustainable management of the tropical rainforest.

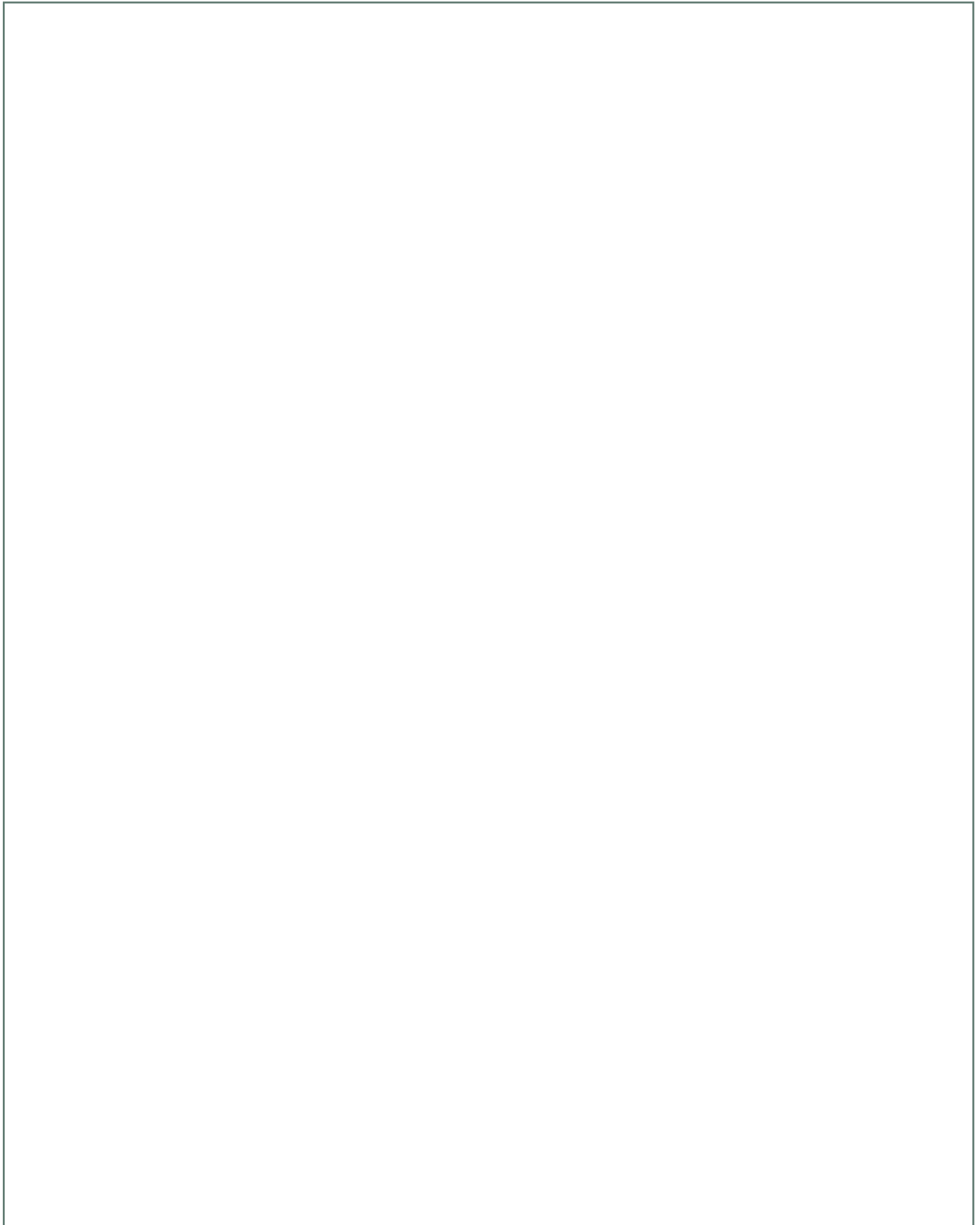
Afforestation	
Shifting cultivation	
Selective logging	
Agroforestry	

Why do tropical rainforests need to be **managed**? Your answer should outline their **importance** to people and the environment.

Dual coding

Use dual coding to summarise what you have studied in this section. Take a look at

<https://www.internetgeography.net/dual-coding/>

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Check your learning recording table

	Attempt 1	Attempt 2	Attempt 3
Quiz 1 www.internetgeography.net/wb1/	/13	/13	/13
Quiz 2 www.internetgeography.net/wb2/	/10	/10	/10
Quiz 3 www.internetgeography.net/wb3/	/10	/10	/10
Quiz 4 www.internetgeography.net/wb4/	/10	/10	/10
Quiz 5 www.internetgeography.net/wb5/	/10	/10	/10
Quiz 6 www.internetgeography.net/wb6/	/10	/10	/10
Quiz 7 www.internetgeography.net/wb7/	/10	/10	/10
Quiz 8 www.internetgeography.net/wb8/	/5	/5	/5
Quiz 9 www.internetgeography.net/wb9/	/11	/11	/11
Quiz 10 www.internetgeography.net/wb10/	/10	/10	/10
Quiz 11 www.internetgeography.net/wb11/	/8	/8	/8