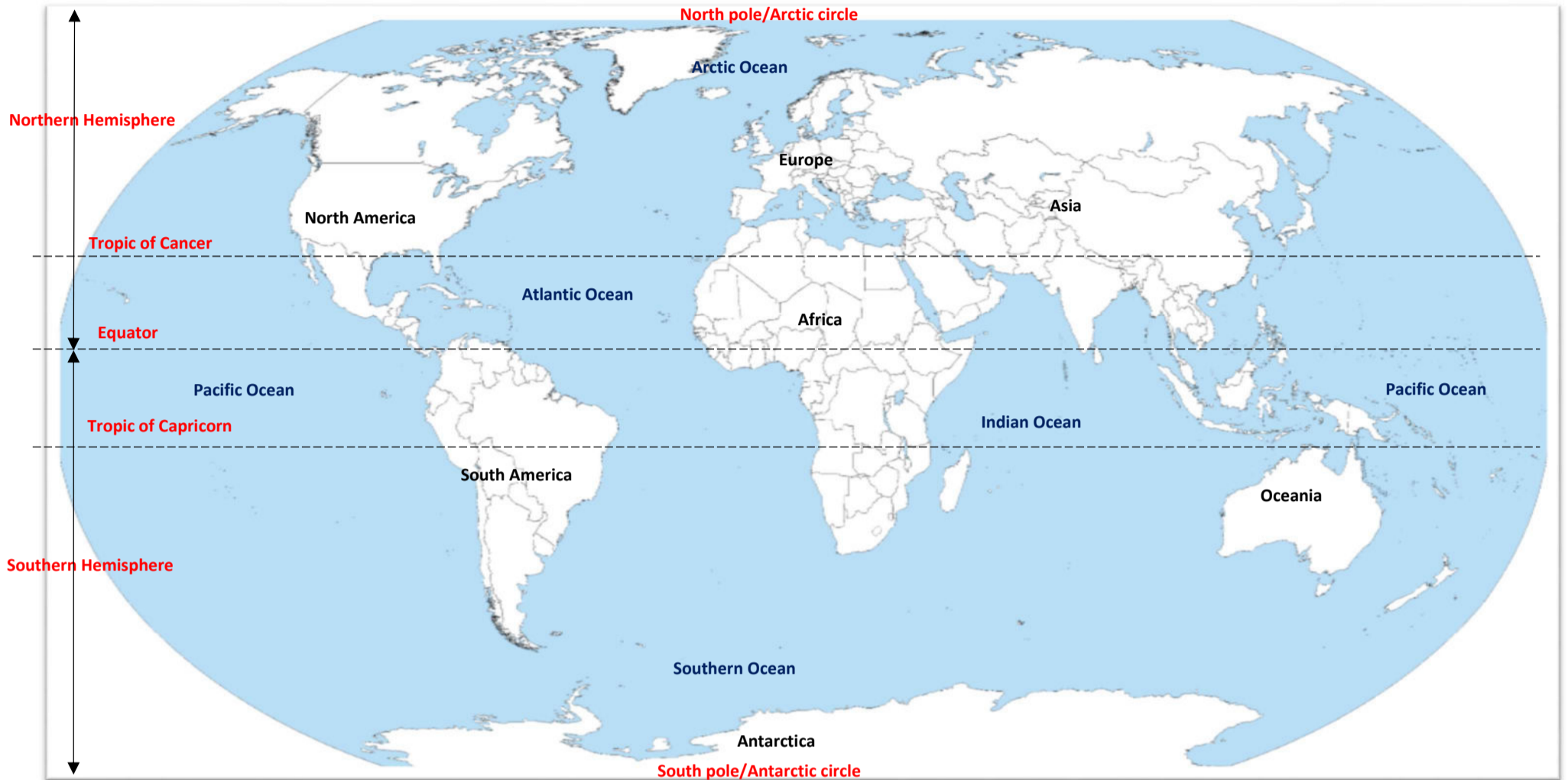


# YEAR 5: AUTUMN 1 – DESTINATION SOUTH AMERICA

## GEOGRAPHY: LOCATIONAL KNOWLEDGE – SOUTH AMERICA

### LOCATIONAL KNOWLEDGE - RECALL AND NAME:

The 7 continents:	Europe	Asia	Africa	Oceania	North America	South America	Antarctica
The 5 Oceans:	Pacific Ocean		Arctic Ocean	Atlantic Ocean	Indian Ocean		Southern Ocean
The 2 poles/circles:	North Pole/ Arctic Circle			South Pole/ Antarctic Circle			
Lines of Latitude and Hemispheres:	The Equator	The Tropic of Cancer		The Tropic of Capricorn	Northern Hemisphere		Southern Hemisphere
The 4 major climate zones of the World	Tropical Climate Zone		Subtropical Climate Zone		Temperate Climate Zones		Polar Climate Zones



The largest mountain ranges	The Andes, South America	The Rockies, North America	The Alps, Europe	The Himalayas, Asia	The Great Dividing Range, Oceania	The Ural Mountains, Asia
The largest rivers	Nile, Africa		Amazon, South America	Yangtze, Asia		Mississippi, North America
Examples of major biomes	Aquatic biome: Great Barrier Reef, Oceania		Desert biome: Sahara Desert, Africa	Forest biome: Amazon Rainforest, South America	Grassland biome: The South American Pampas, South America	Tundra biome: The Arctic circle
The countries of South America and their capital cities	Brazil Brasilia	Chile Santiago	Bolivia La Paz	Uruguay Montevideo	Ecuador Quito	Guyana Georgetown
	Argentina Buenos Aires	Peru Lima	Colombia Bogota	Paraguay Asuncion	Venezuela Caracas	Suriname Paramaribo



#### THINKING POINT:

#### Locational knowledge: The World

From memory, name the seven continents of the world.

From memory, name the five oceans of the world.

From memory, name the three major lines of latitude, two hemispheres and two circles/poles.

From memory, name the four major climate zones.

From memory, name some major mountain ranges of the world.

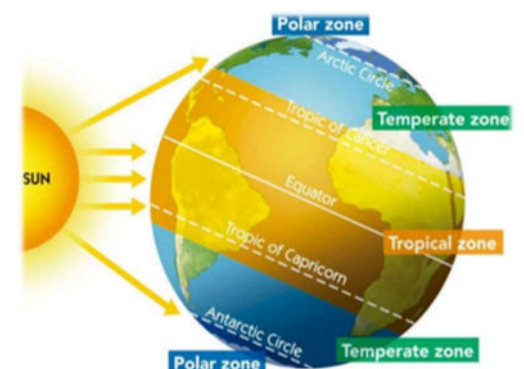
From memory, name some examples of major biomes of the world.



From memory, name the largest rivers of the world.

#### Locational knowledge: South America

From memory, name the major countries and their capital cities of South America.



### EXIT ASSESSMENT: LOCATIONAL KNOWLEDGE AND UNDERSTANDING

#### EXS:

Can you locate \_\_\_\_\_ using an atlas using a 6-point grid reference?  
Can you name and locate the major countries and capital cities of S America?

#### GDS:

What is the locational difference between Brazil and UK?  
How do countries differ based on their location on the globe? Why?

# YEAR 5: AUTUMN 1 – DESTINATION SOUTH AMERICA

## GEOGRAPHY: PHYSICAL – BIOMES, CLIMATE ZONES AND RAINFORESTS

### UNDERSTAND, DESCRIBE AND EXPLAIN: BIOMES: TROPICAL RAINFORESTS

**Physical Geography:**  
Understanding the physical development and features of tropical rainforests:  
The Amazon

<i>Biome</i>	<i>Ecosystem</i>	<i>Temperate forest</i>	<i>Tropical rainforest</i>	<i>Alpine forest</i>	<i>Grassland</i>	<i>Tundra</i>	<i>Desert</i>
<i>Aquatic</i>	<i>Freshwater</i>	<i>Marine</i>	<i>Coral reef</i>	<i>Weather/Climate</i>	<i>Animals</i>	<i>Plants</i>	
<i>Climate Zones</i>	<i>Polar climate Zone</i>	<i>Tropical Climate Zone</i>	<i>Temperate Climate Zone</i>	<i>Equator</i>	<i>Tropic of Capricorn</i>	<i>Tropic of Cancer</i>	
<i>Amazon Rainforest</i>	<i>Forest Floor</i>	<i>Understory</i>	<i>Canopy</i>	<i>Emergent</i>	<i>Environment</i>	<i>Adaptation</i>	

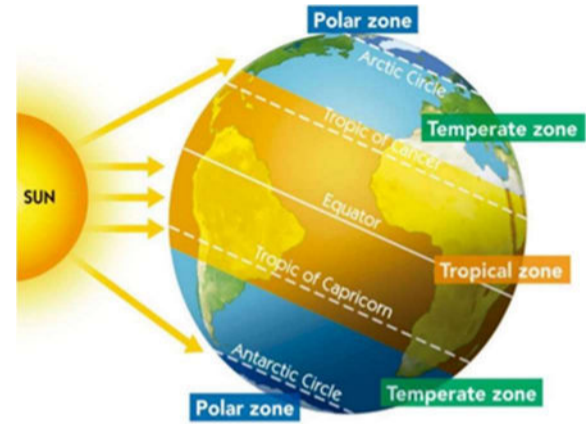
**Ecosystems:**

Each individual plant and animal **could not exist by itself** on planet Earth.  
All **living organisms** need millions of other living organisms to **survive**.  
How these organisms **interact** with the **sun, soil, water, air and each other** in a **specific area** is called an **ecosystem**.

**Biomes:**

A **biome** is a way to describe a **large group** of similar **ecosystems**. **Biomes** have **similar weather, rainfall, animals and plants**.  
The **plants and animals** of each **biome** have **traits** that help them to **survive** in their particular **biome**.  
There are different types of biome on planet Earth including:

- Temperate forest – E.g. The New Forest, Hampshire, UK
- Tropical rainforest – E.g. The Amazon rainforest, Brazil
- Alpine forest - E.g. The alpine forests of the Andes mountains, South America
- Grassland - E.g. The South American Pampas, South America
- Tundra - E.g. The Arctic Circle
- Desert - E.g. The Sahara desert, Africa
- Aquatic: Coral reef – E.g. The Great Barrier Reef, Oceania
- Aquatic: Marine (saltwater) - E.g. The Pacific ocean
- Aquatic: Freshwater – E.g. The Amazon River, South America



**Climate zones:**

What a **biome** is like, depends on: how **warm or cold** it is; how **dry or wet** it is; and how **fertile the soil** is.  
**What a biome is like** will be **determined** by the **climate zone** it lies within.

There are **3 major climate zones**:

- **Polar** climate zone (cold)
- **Temperate** climate zone (mild)
- **Tropical** climate zone (hot).

**THINKING POINT:**

What causes each biome to be so different?

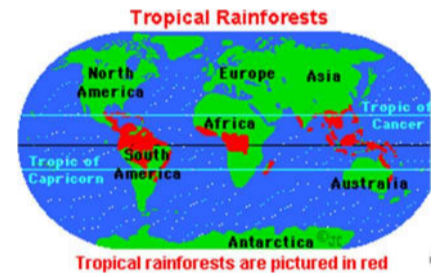


**Tropical Rainforests:**

**Tropical rainforests** are found in the **Tropical climate zone**.

The **Tropical Climate Zone** is at the **centre** of the Earth **between** the **Tropic of Cancer** and **Tropic of Capricorn** and centre of the **Equator**.

This is the **hottest, most humid** part of Earth. All **tropical rainforests** lie **within** the **Tropical Climate Zone**.



**THINKING POINT:**

Why do you think the world's tropical rainforests are all within the tropical climate zone?



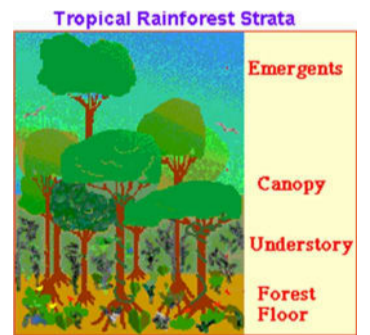
**The Strata of the Rainforest:**

Different **animals** and **plants** live in different parts of the rainforest.

**Scientists divide** the **rainforest** into **strata (zones)** based on the living **environment**.

Starting at the top, the **strata** are:

1. **The emergents:** **Giant trees** (between 60m-80m) that are much **higher** than the average **canopy** height. It **houses** many **birds and insects**.
2. **The canopy:** The **upper parts** of the **trees** (between 20m-60m). This **leafy environment** is **full of life** in a tropical rainforest and **includes:** insects, birds, reptiles and mammals.  
Due to the **thickness of the canopy**, the **Amazon floor** is in **permanent darkness**.  
In fact, it's so thick that when it **rains**, it takes around **ten minutes** for the **water** to **reach the ground**.
3. **The understory:** A **dark, cool** environment under the leaves but over the ground. Most of the **understory** of a rainforest has so little light that **plant growth** is **limited**. There are short, leafy, mostly non-flowering shrubs, small trees, ferns, and vines (lianas) that have **adapted** to **filtered light** and **poor soil**. **Animals** in the **understory** include insects, arachnids, snakes, lizards and small mammals.
4. **The forest floor:** Teeming with **animal life**, especially **insects** and **arachnids**. The **largest animals** in the rainforest generally live here including gorillas, anteaters, wild boars, tapirs, jaguars and humans.



**THINKING POINT:**

Can you describe the strata of a tropical rainforest to a partner?





**The Amazon Rainforest:**

The **largest tropical rainforest** is the **Amazon** in **South America**.  
 The **Amazon Rainforest** is located in **9 different countries** but the majority of it (around **60%**) is located in **Brazil**.  
 The rest of it can be found in Peru, Colombia, Ecuador, Bolivia, Venezuela, Guyana, Suriname and French Guiana.  
 Being the **largest rainforest on the planet** (and home to **one of the largest river systems**), it should come as no surprise that the **Amazon** covers a hefty chunk of **South America**.  
 This gigantic patch of **natural beauty** stretches itself over a staggering **2.1 million square miles**.  
 The **Amazon** is referred to as '**the lungs of the Earth**'. This is because the **rich vegetation** takes **carbon dioxide** out of the air, and **releases oxygen** back in.  
 In fact, **more than 20%** of the **world's oxygen** is produced by the **Amazon**.


















**THINKING POINT:**

What is the Amazon rainforest referred to and why?



**Amazon wildlife:**

The **Amazon** has an incredibly **rich ecosystem** – there are around **40,000 plant** species, **1,300 bird** species, **3,000 fish** species, **430 mammals** and a whopping **2.5 million** different **insects**.  
 Some **creatures** that can be found in the **Amazon Rainforest** include:

<b>Jaguar</b> 	<b>Capybara</b> 	<b>Giant Anteater</b> 	<b>Green Iguana</b> 	<b>Harpy Eagle</b> 
<b>Sloth</b> 	<b>Macaw</b> 	<b>Kinkajou</b> 	<b>Puma</b> 	<b>Ocelot</b> 
<b>Anaconda snake</b> 	<b>Poison Dart Frog</b> 	<b>Golden Lion Tamarin</b> 	<b>Toucan</b> 	<b>Tarantula</b> 

**KEY ASSESSMENT QUESTIONS AND SCENARIOS:**

**EXS:**

How does the climate in Brazil and the UK differ? Why is this?  
 Explain the difference between a rainforest and our forests in the UK.









**GDS:**

How does the climate in Brazil and the UK differ? Why is this?  
 How could you survive in the rainforest?

**FIELDWORK IN THE LOCAL AREA – OBSERVE, MEASURE, RECORD AND PRESENT:**

<b>Climate and weather survey:</b> Report on the climate and weather conditions of Poole	Design a format to collect answers systematically and accurately	Collect and measure data of temperature and rainfall accurately over time	Represent the data and find answers (tables, graphs)	Present the findings to others and how this impacts the local area (tourism, agriculture)	Plan for action – what good can be used from these findings?
<b>Rainforest resources survey:</b> Report the number of UK foods containing palm oil	Design a format to collect answers systematically and accurately	Collect evidence samples (food packaging) from a range of sources and record data	Represent the data and find answers (tables, graphs)	Present the findings to others and how this impacts the world (sustainability)	Plan for action – how can we implement change?

**LOCATIONAL KNOWLEDGE – USE RESOURCES TO LOCATE:**

<b>Globe:</b>	<i>The 7 continents</i>	<i>The 5 Oceans</i>	<i>Major seas</i>	<i>2 poles</i>	<i>The Equator</i>	<i>The Tropics</i>		
<b>Atlas:</b> (6 point grid reference)	<i>Locate the countries of South America and their capital cities</i>	<i>Locate Brazil and its major cities</i>	<i>Locate major physical landmarks/areas of interest (rivers, seas, mountains, volcanoes etc) of South America</i>		<i>Locate major human/manmade landmarks/areas of interest of South America</i>			
<b>OS Map (Dorset):</b> (6 point grid reference)	<i>Locate towns and villages of Dorset</i>	<i>Plan a trip around Dorset to see local heritage sites and areas of interest</i>		<i>Use the key and OS symbols to locate areas of interest and heritage sites in Dorset</i>	<i>Locate human and physical features of interest in Dorset and write their 6-point grid reference</i>			
								
	<b>Viewpoint</b>	<b>Museum</b>	<b>Country park</b>	<b>National Trust property</b>	<b>Nature reserve</b>	<b>Castle/fort</b>	<b>Building of historic interest</b>	<b>English heritage site</b>

**Compass:**

Use **N, NE, E, SE, S, SW, W, NW** and compass bearings to **45°** to give and follow directions to reach a chosen destination in the local area.  
 Confidently use the '**direction of travel arrow**' and '**rotating dial**' to follow directions given to a **45°** level of accuracy using accurate, standardised measures (E.g. Using a trundle wheel, travel for 30 metres at 225°/South West)





# YEAR 5: AUTUMN 1 – DESTINATION SOUTH AMERICA

## GEOGRAPHY: HUMAN – LAND-USE, RESOURCES AND DEFORESTATION

### UNDERSTAND, DESCRIBE AND EXPLAIN: DEFORESTATION

**Human Geography:**  
Understanding the human impact on the Amazon rainforest and deforestation

**Learning links:**

**Geography:**

**Y4: Naples**  
Land-use/Sustainable/Agriculture/Fertile soil/Minerals

**Learning Links:**

**Science:**

**Y3: Plants**  
Photosynthesis/Absorb/Carbon Dioxide/Nutrients

<i>Deforestation</i>	<i>Timber</i>	<i>Agriculture</i>	<i>Grazing</i>	<i>Extraction</i>	<i>Road construction</i>	<i>Climate change</i>	<i>Droughts</i>
<i>Forest fires</i>	<i>Logging</i>	<i>Acre</i>	<i>Carbon dioxide</i>	<i>Atmosphere</i>	<i>Global warming</i>	<i>Indigenous</i>	<i>Habitat</i>

**Deforestation:** Every year, an area of rainforest the size of Wales is cut down and destroyed. The plants and animals that used to live in these forests either die or must find a new forest to call their home.

**Why are rainforests being destroyed?**

**Humans** are the main cause of rainforest **deforestation**.

We are cutting down **rainforests** for many reasons:

- **Wood** for both timber and making fires;
- **Space** for **agriculture** for both small and large farms;
- **Land** for farmers who don't have anywhere else to live;
- **Grazing** land for **cattle**;
- **Pulp** for making **paper**;
- **Road** construction; and
- Extraction of **minerals** and **energy**.



**Rainforests** are also **threatened** by **climate change**, which is contributing to **droughts** in parts of the **Amazon** and **Southeast Asia**.

**Drought** causes **die-offs** of **trees** and **dries out leaf litter**, increasing the **risk** of **forest fires**, which are often **set** by land developers, ranchers, plantation owners, and loggers.

In **2005** and **2010**, the **Amazon** experienced the **worst droughts** ever recorded. **Rivers dried up**, isolating communities, and **millions of acres burned**. The **smoke** caused **widespread health problems**, interfered with **transportation**, and **blocked** the **formation of rain clouds**, while the **burning** contributed huge amounts of **carbon dioxide** to the **atmosphere**, **worsening** the effects of **climate change**.

**THINKING POINT:**

Can you name 3 reasons why we are cutting down rainforests?



**What is the problem?**

### Deforestation in the Amazon rainforest

Deforestation: The destruction of trees or forests on a massive scale.

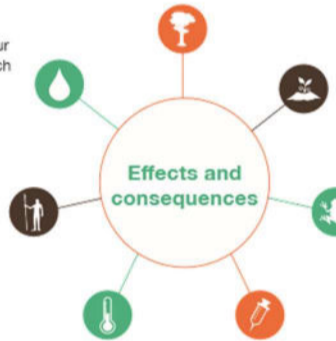
**Methods of clearing the rainforest:**

- **Slash and burn** - trees are cleared and vegetation is burnt
- **Clear cutting** - complete removal of all trees in an area
- **Selective logging** - targeting specific valuable trees but leaving the rainforest intact



**Water cycle** - trees help return water vapour to the atmosphere which then falls as rain.

**Carbon emissions** - trees store carbon in their trunks, branches and roots which is released when they are cut down.



**Indigenous people** - the rainforest was once home to one million indigenous people. Now only 200,000 remain.

**Climate change** - deforestation contributes to global warming because trees are releasing carbon instead of storing it.

**Medicine** - scientists have discovered that rainforest plants are sources for medicines to treat diseases like diabetes.

**Soil erosion** - without trees to protect it, soil in the rainforest is easily eroded. The soil loses its nutrients especially when it rains heavily.

**Loss of habitat** for millions of species like insects, birds, snakes, frogs and lizards.

### Why are rainforest trees important for our climate?

If rainforest trees are cut down the air becomes drier. There is less rain in the forest and less water vapour evaporates into the atmosphere. This would lead to less rain around the world and more problems with drought.



Trees store carbon in their trunks, branches and roots. When trees are chopped down, burnt or die, they give off carbon dioxide. About one fifth of all carbon dioxide being released into the atmosphere comes from dying trees.



If all the Amazon rainforest was destroyed, 77 billion tonnes of carbon dioxide would be released into the atmosphere. This would mix with other dangerous 'greenhouse gases' and contribute to global warming.



**How to solve the problem:**

**GROWING TREES AND CROPS AT THE SAME TIME**

Different crops and trees are planted together. This helps prevent soil erosion and keeps the soil fertile.

**PRICE RISE**

Selling products from the rainforest at higher prices, especially those produced in a rainforest-friendly way.

**'SPECIAL OPS'**

Train special Environment Agents who know and understand the rainforest and can track illegal loggers.

**SELECTIVE LOGGING**

Only cut down trees when they reach a certain height.

**NATIONAL FOREST PARKS**

Create more wildlife reserves which generate money for Brazil through responsible tourism.

**EYE SPY**

Use hi-tech satellites to take photos of people cutting down trees illegally.

Activati  
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### KEY ASSESSMENT QUESTIONS AND SCENARIOS:

**EXS:**

If humans know that deforestation is harmful to our planet, why do we still need to do it?

**GDS:**

How will deforestation affect our planet? What will planet Earth be like if we continue?