

## Key Vocabulary...

Ecosystem	An ecosystem is a system in which organisms interact with each other and with their environment.
Biome	Large scale ecosystem controlled by the climate.
Deforestation	The cutting down of trees and forests
Food Web	A complex system showing how plants and animals depend on each other for survival
Abiotic	Anything that is not alive e.g. Sunlight, Oxygen
Biotic	Anything that is alive e.g. plants, animals, fungi
Adaptation	A change that enables better survival in an environment

The UK is in a deciduous temperate forest biome. The latitude of the UK is 55° N. This means we have four seasons causing the climate to range from mild, wet winters to warm, wet summers. The majority of trees in the UK are deciduous and lose their leaves in the winter months.

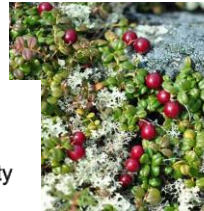
### Tundra Biome

Found in Northern Russia and Canada the Tundra is cold and windy all year round with very little rain. Plants and animals have to be adapted to survive the harsh conditions.



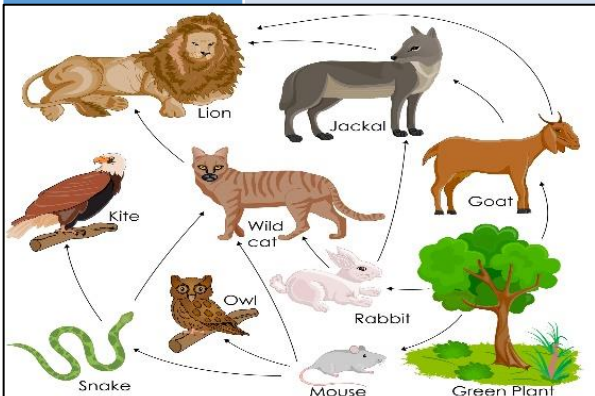
#### Caribou adaptations:

- The hooves' pads are also covered with hair
- Thick fur
- Caribou migrate looking for food.



Very low growing (5-15cm off the ground) to enable it to survive strong polar winds.

Stems have a thick bark for stability in the windy conditions.



### Food Web and Chains

Simple **food chains** are useful in explaining the basic principles behind ecosystems. They show only one species at a particular trophic level. **Food webs** however consists of a network of many food chains interconnected together.

## Why is the tundra at risk?



### Air Pollution

A recent study found that Arctic clouds are particularly sensitive to air pollution, which spurs cloud formation and has a blanketing effect. This increases temperatures causing more permafrost to melt.

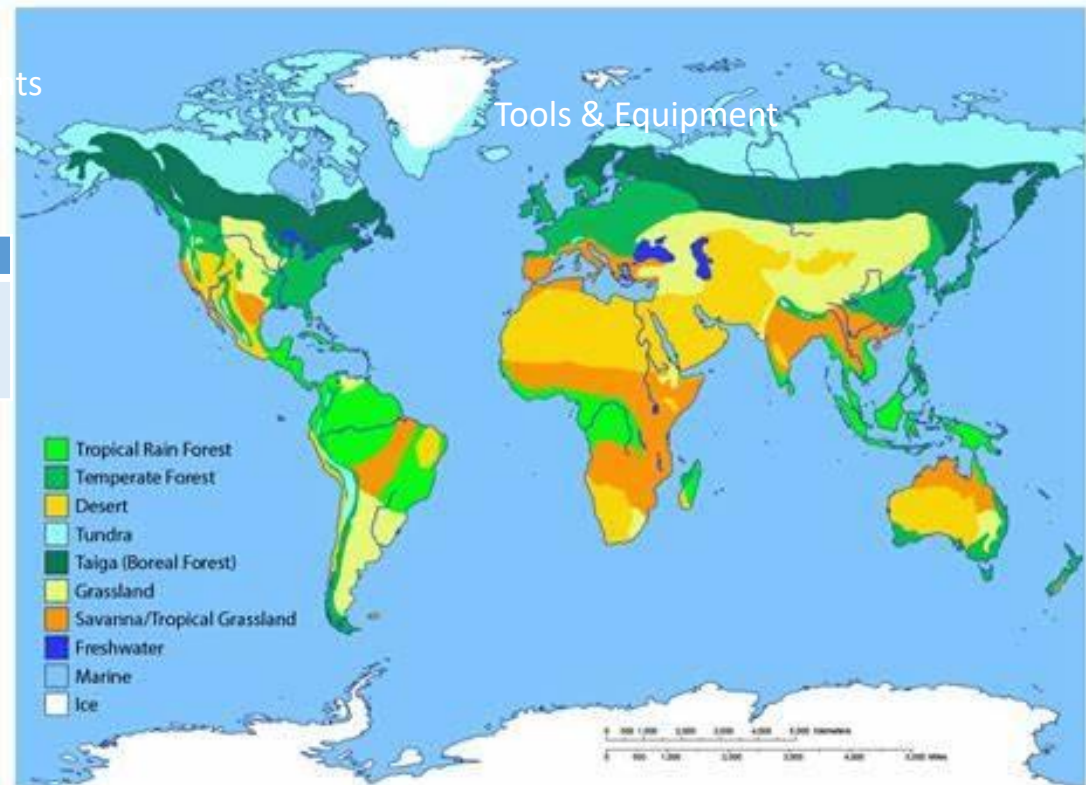
### Climate Change

The warmer temperatures and earlier spring is causing the permafrost to melt.



### Industrial Activity

The oil, gas, and mining industries can disrupt fragile tundra habitats.



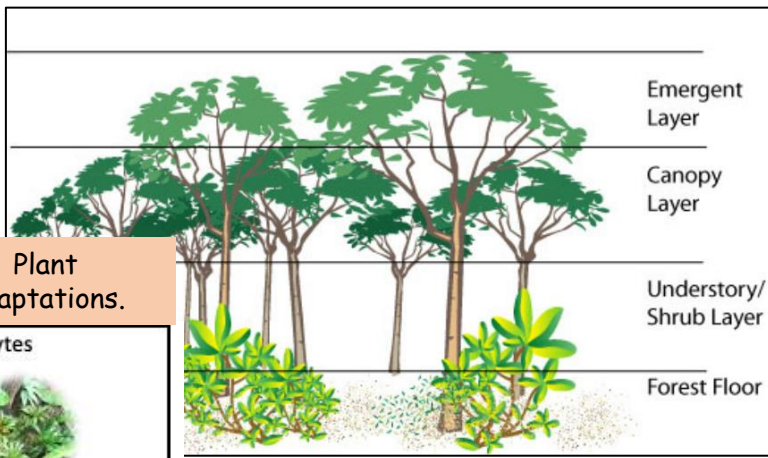
### Tropical Rainforest Biome

Tropical rainforest cover about **2 per cent** of the Earth's surface yet they are home to **over half of the world's plant and animals**. They are found along the equator in South America, Africa, Oceania and Asia.

### Climate of Tropical Rainforests

- Evening temperatures rarely fall below **22°C**.
- Due to the **presence of clouds**, temperatures rarely rise above **32°C**.
- Most afternoons have heavy showers.
- At night with no clouds insulating, temperature drops.

The Amazon is the world's largest tropical rainforest. Covering over 5.5 million square kilometers, it's so big that the UK and Ireland would fit into it 17 times!



Layers of the Rainforest	
<b>Emergent</b>	Highest layer with trees reaching <b>50 metres</b> .
<b>Canopy</b>	80% of life is found here as It receives <b>most of the sunlight and rainfall</b> .
<b>Understory</b>	Consists of trees that reach <b>20 metres high</b> .
<b>Shrub Layer</b>	Lowest layer with <b>small trees</b> that have adapted to living in the <b>shade</b> .

**Task...**  
 Describe the distribution of the tundra and the tropical rainforests.  
 What biome do we live in?  
 Compare the climate in the tropical rainforests and the tundra?  
 Explain the main causes of deforestation.

- Plant adaptations.**
- Epiphytes
  - Buttress roots and Stilt roots
  - Thin, smooth bark
  - Leaf Angling
  - Drip Tips
  - Vines

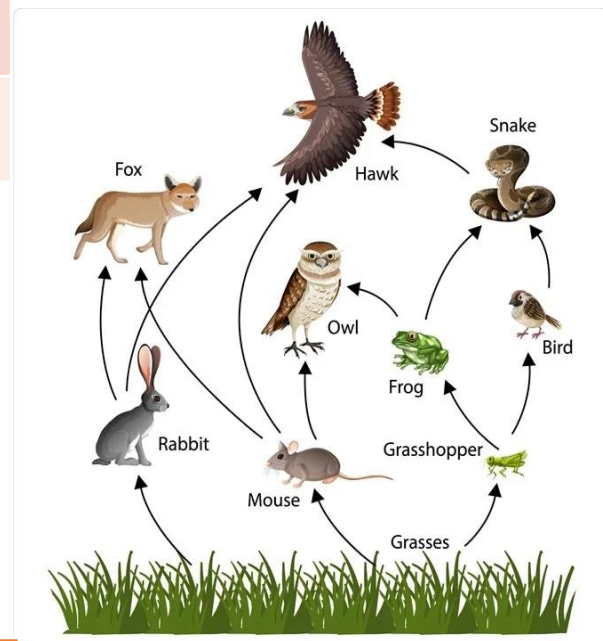
**Mimicry** - looking like another animal in order to protect themselves e.g. the same colourings as poisonous frogs

The toucan has a **long, large bill** to allow it to **reach** and **cut fruit** from branches that are too weak to support its weight

The **sloth** uses **camouflage** and moves very slowly to make it difficult for **predators** to spot.

**Animal adaptations**

**Strong and long limbs** - to be able to climb through the trees e.g. orangutan



**Task...**

1. What would happen to the number of frogs if the snakes went extinct?
2. What would happen to the numbers of snakes if the frog and bird went extinct?
3. Explain how a decrease in owl numbers could impact the number of foxes.
4. Explain how a decrease in numbers of grasshoppers could impact the number of hawks?

What are the causes of deforestation?	
<b>Logging</b>	<b>Agriculture</b>
<ul style="list-style-type: none"> <li>• Most widely reported cause of destructions to biodiversity.</li> <li>• Timber is harvested to create <b>commercial items</b> such as furniture and paper.</li> </ul>	<ul style="list-style-type: none"> <li>• Large areas are cut down to make space for cattle farming or for palm oil.</li> </ul>
<b>Mineral Extraction</b>	<b>Tourism</b>
<ul style="list-style-type: none"> <li>• <b>Precious metals</b> are found in the rainforest.</li> <li>• Areas <b>mined</b> can experience <b>soil and water contamination</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Mass tourism</b> is resulting in the building of hotels in extremely <b>vulnerable areas</b>.</li> </ul>
<b>Energy Development</b>	<b>Road Building</b>
<ul style="list-style-type: none"> <li>• The <b>high rainfall</b> creates ideal conditions for <b>hydro-electric power (HEP)</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Roads</b> are needed to bring supplies and <b>provide access</b> to new mining areas, settlements and energy projects.</li> </ul>

**Question: Describe the climate conditions in a biome you have studied and explain how organisms are adapted to these**

1. **BUG** the question by boxing the command word and underlining the content you need to write about.
2. List the key vocabulary you will use.
3. Create a plan of what you would write in each paragraph.
4. Practice writing your answer from memory.

**Homework Project:** Research and create a model of the rainforest. Show the layers, plants and animals that live in it. You can make this out of anything you have at home - rubbish, cardboard, lego - whatever you have at home.