

Welcome to GCSE Geography



Where will it take us today?

TOPIC 4- SUSTAINING ECOSYSTEMS

BY THE END OF THIS UNIT, YOU WILL KNOW THE FOLLOWING

WHY SHOULD TROPICAL RAINFORESTS MATTER TO US?

- 1. WHAT BIODIVERSITY EXISTS IN THE TROPICAL RAINFOREST (TRF)*
- 2. WHAT THE DISTINCTIVE FEATURES OF THE TRF BIOME ARE*
- 3. WHY THE TROPICAL RAINFORESTS ARE BEING 'EXPLOITED' AND HOW THIS CAN THIS BE MANAGED MORE SUSTAINABLY*
- 4. CASE STUDY: sustainable rainforest management*



Topic 4: Sustaining Ecosystems

The link between human wellbeing and ecosystem wellbeing is vital.

**This is what we will be exploring in this session:
nutrient, energy and water transfer in TRFs**



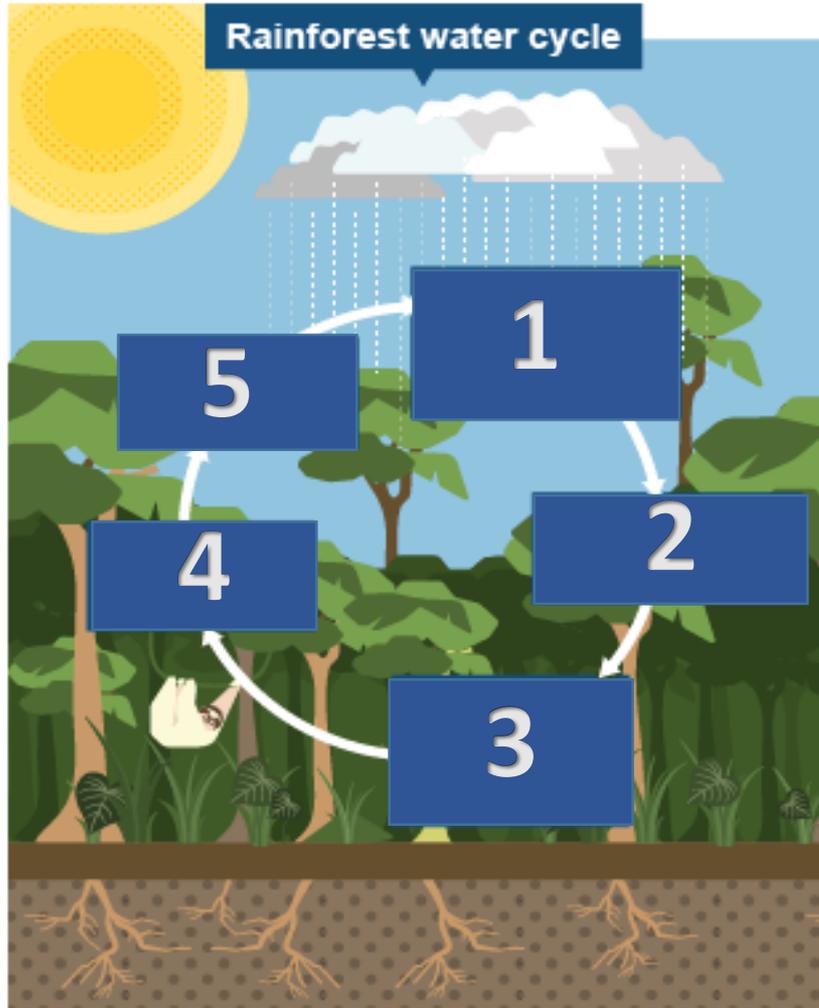
Know

What the nutrient, energy and water cycles in a rainforest ecosystem are like

Understand

Why they are like this and what the future might hold

TRF water cycle



Trees intercept the rain

Water evaporates

Trees take up water

Some rain reaches the ground

Heavy daily convective rainfall

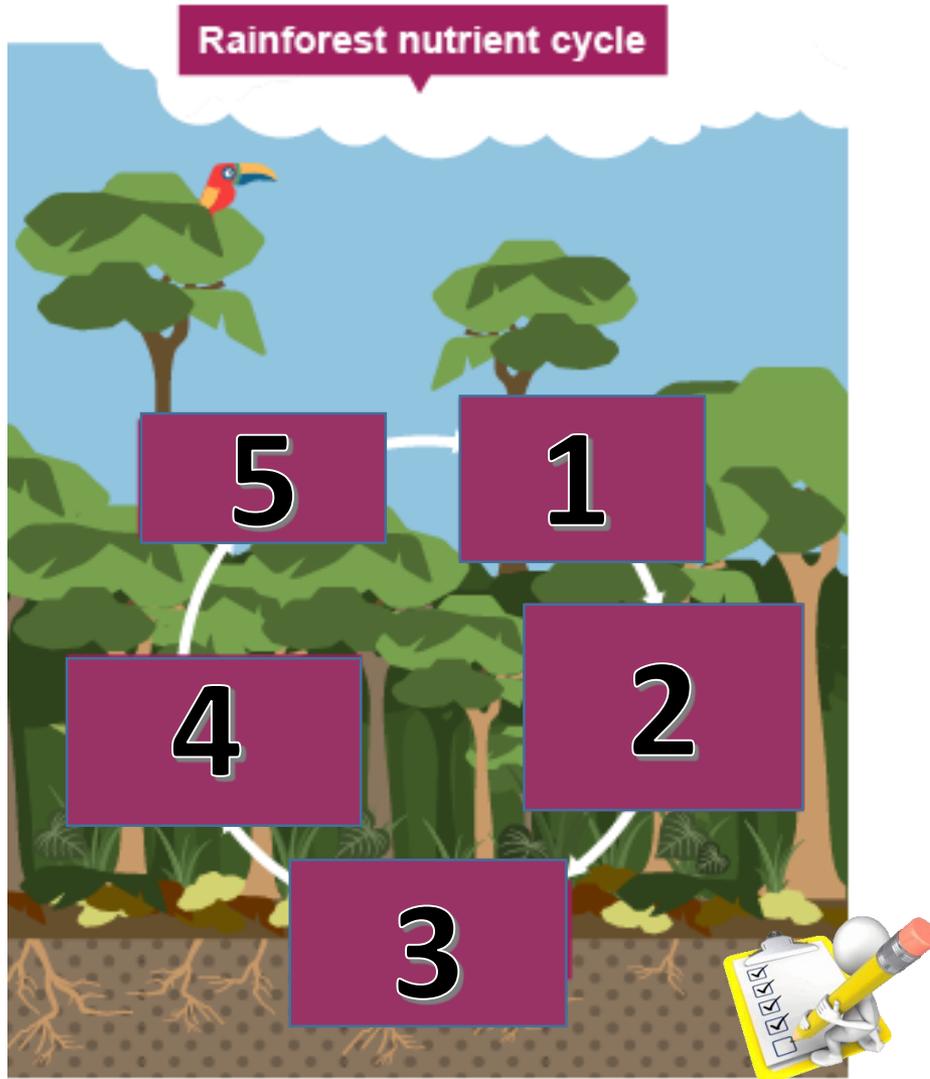
1. Why does it rain so much?
2. What sort of rainfall does this bring?
3. How is this helpful to the ecosystem?
4. How is this potentially harmful to the ecosystem?

Know How the water cycle in a rainforest operates
Understand Why this is

come
get it!



TRF nutrient cycle



Nutrients enter the soil

Trees grow rapidly

Decaying vegetation decomposes rapidly

Trees shed leaves all year round

Shallow roots take up the nutrients

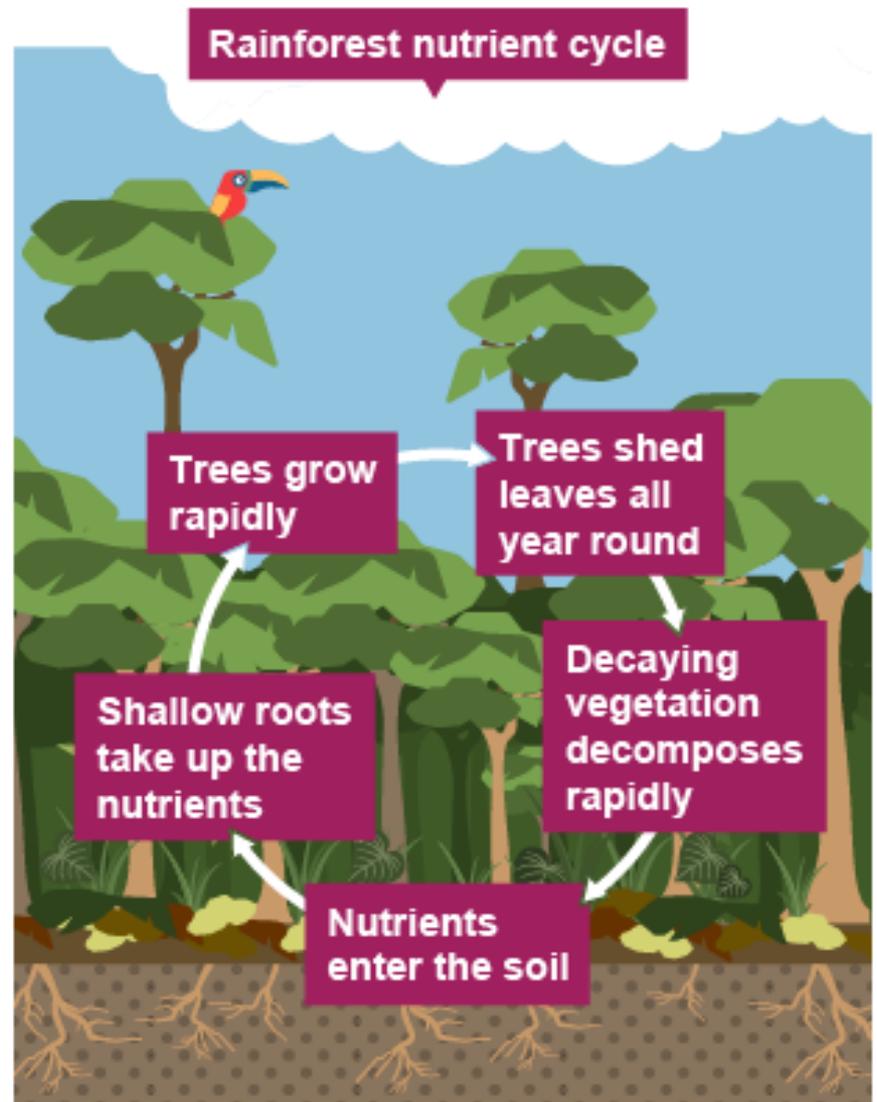
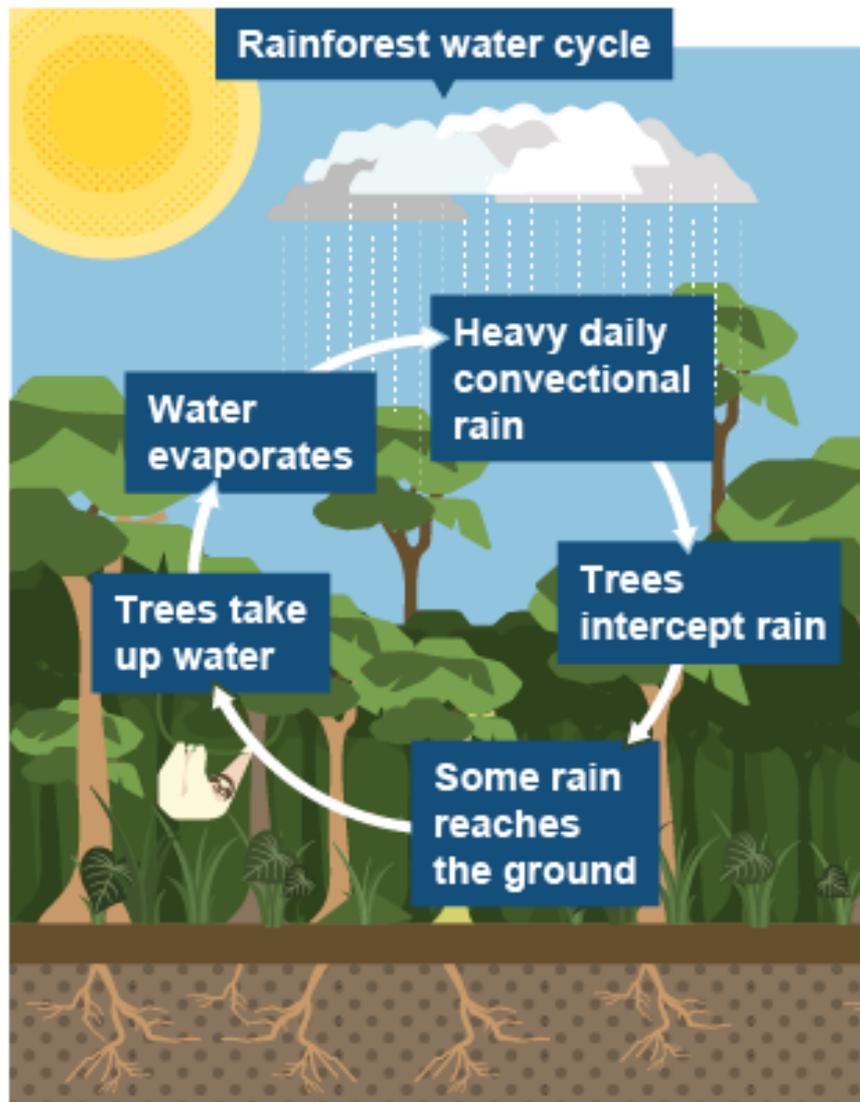
come
get it!



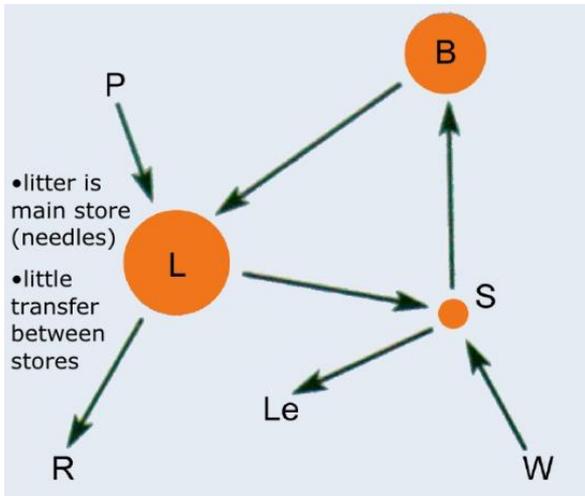
Know How the nutrient cycle in a rainforest operates

Understand Why this is

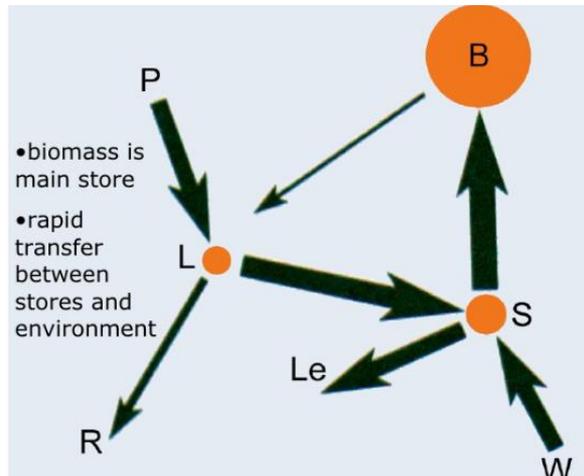
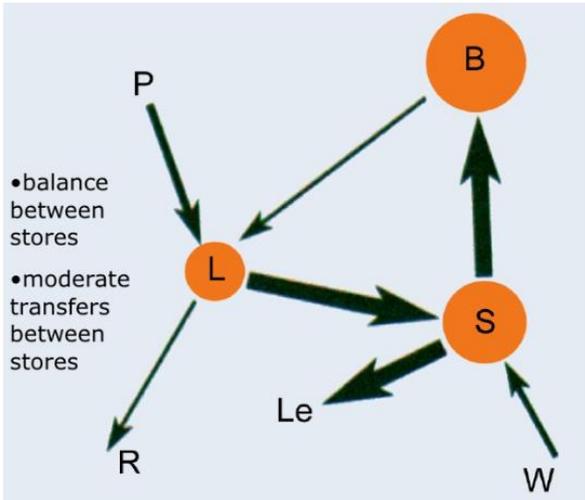
The Answers!!!!



TRF: Nutrient Cycling – which of these is the nutrient cycle of the tropical rainforest biome?



Can you match these nutrient cycles to the correct forest biomes?



Choices: temperate; boreal (coniferous) and tropical rainforest

come get it!

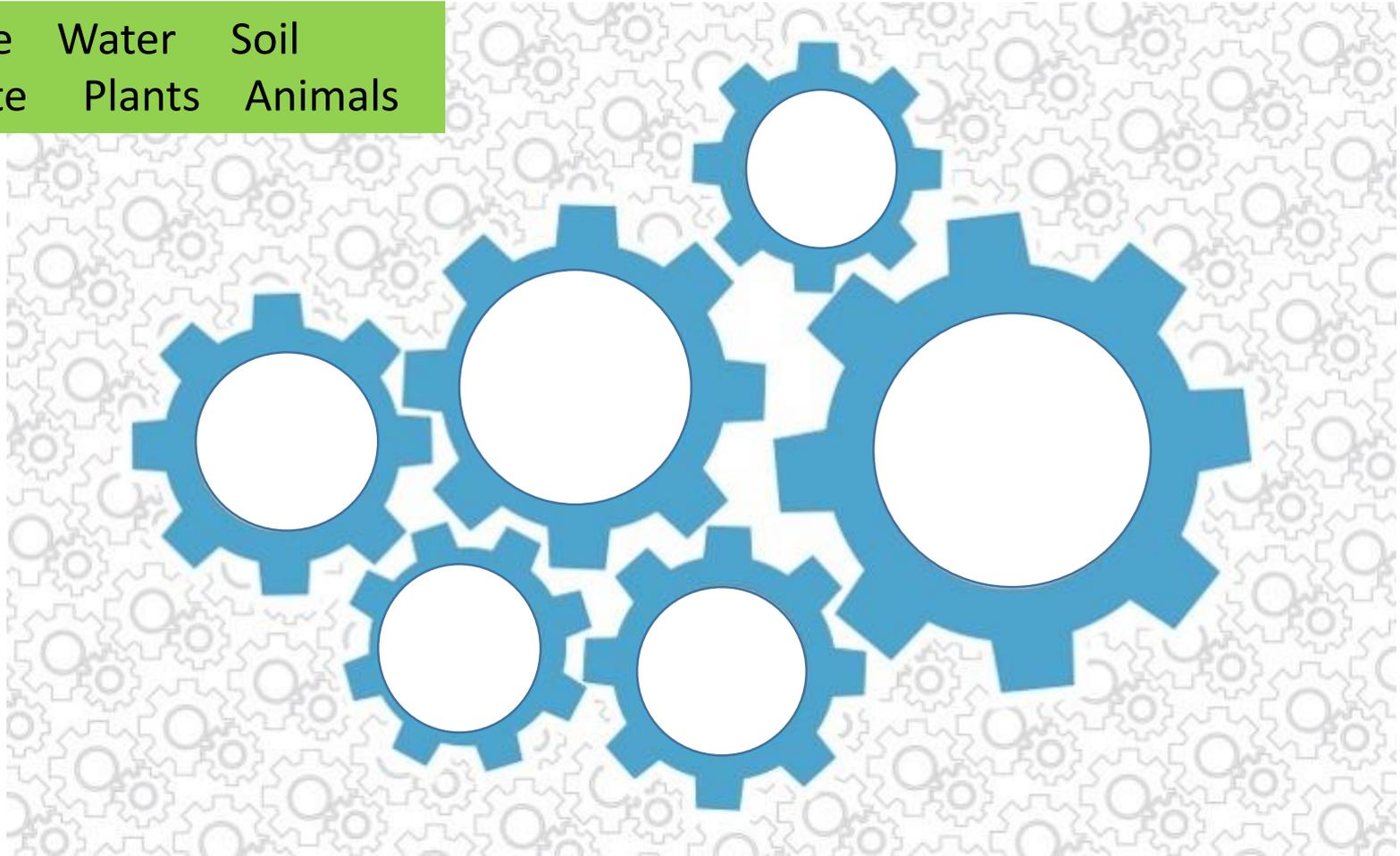
What might the desert and the polar nutrient cycle look like?

Know How the nutrient cycle in a rainforest is different to other forest biomes
Understand Why this is



Biome futures depend upon the workings of all the parts

People Water Soil
Climate Plants Animals



MUST: Label the cogs – clue – size is relative to importance

SHOULD: Explain your thinking

Consolidation

EASY:

Identify 2 inputs

Identify 2 outputs

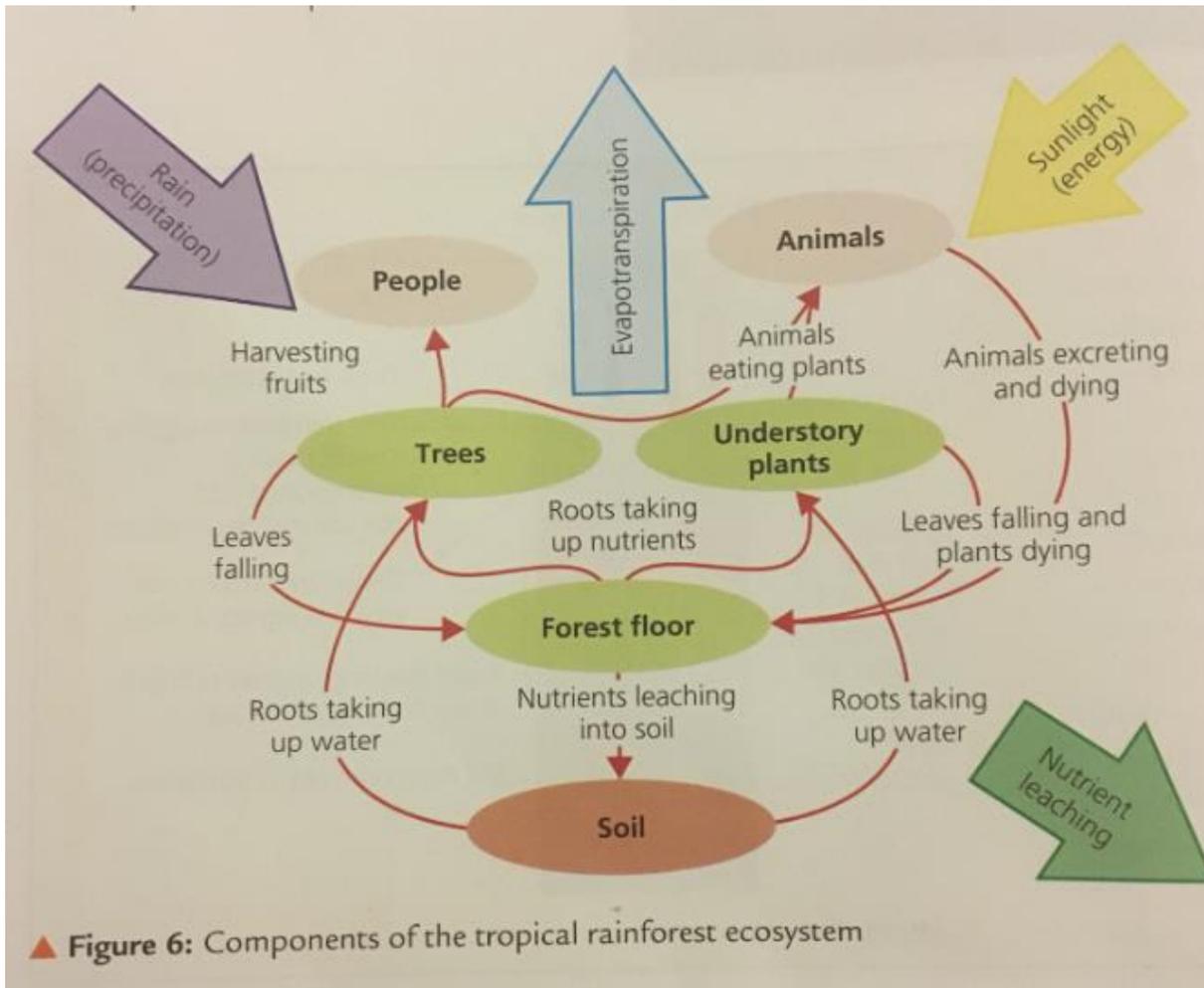
TEASER:

What 'I' is shown by this diagram?

CHALLENGE!!

What if

a) Half the trees were removed?



<p>What name is given to the plants that use trees for support eg they grow in the tops of the branches? a) epiphyte</p>	<p>How long is the growing season of the TRF? a) 12 months</p>
<p>What type of rainfall does the TRF get? a) convection</p>	<p>What name is given to a plant that clings on to other plants and lives off them a) parasites</p>
<p>What are the tallest trees called and what layer do they stick out of? a) emergent; canopy</p>	<p>Not many shrubs/small trees grow in the under storey because there isn't enough a) light</p>
<p>Chopping the trees down in a rainforest causes soil erosion and flooding – T or F? a) True</p>	<p>What 'b' describes the roots of the tallest rainforest trees? a) buttress</p>
<p>Why don't trees put their roots down into the soil? a) They want to grab the nutrients before other trees do and the soil isn't very fertile</p>	<p>What does the canopy protect the soil from? a) Leaching and baking</p>
<p>How tall do trees grow to in the TRF? a) 50metres plus, some get to 85m!</p>	<p>What are the temperatures like in the rainforest? a) 26 degrees+; pretty constant</p>