

Welcome to GCSE Geography



Where will it take us today?

Topic 4: Sustaining Ecosystems

Life on Earth is supported by global ecosystems and the link between human wellbeing and ecosystem wellbeing is vital.

This is what we will be exploring in this topic



- the distribution and characteristics of the Earth's ecological wonders.
- two contrasting ecosystems - tropical rainforests and polar environments
- physical cycles and processes that make these ecosystems distinctive
- the threats posed to the existence of these ecosystems
- How humans are attempting to manage them for a more sustainable future.

Over To You

Study the images carefully (A-L)

Describe each one (say what you see), using the headings below

Use your headings to draft a definition of what an ecosystem is

| Picture | climate | soil | water | plants | animals |
|---------|---------|------|-------|--------|---------|
| A | | | | | |
| | | | | | |
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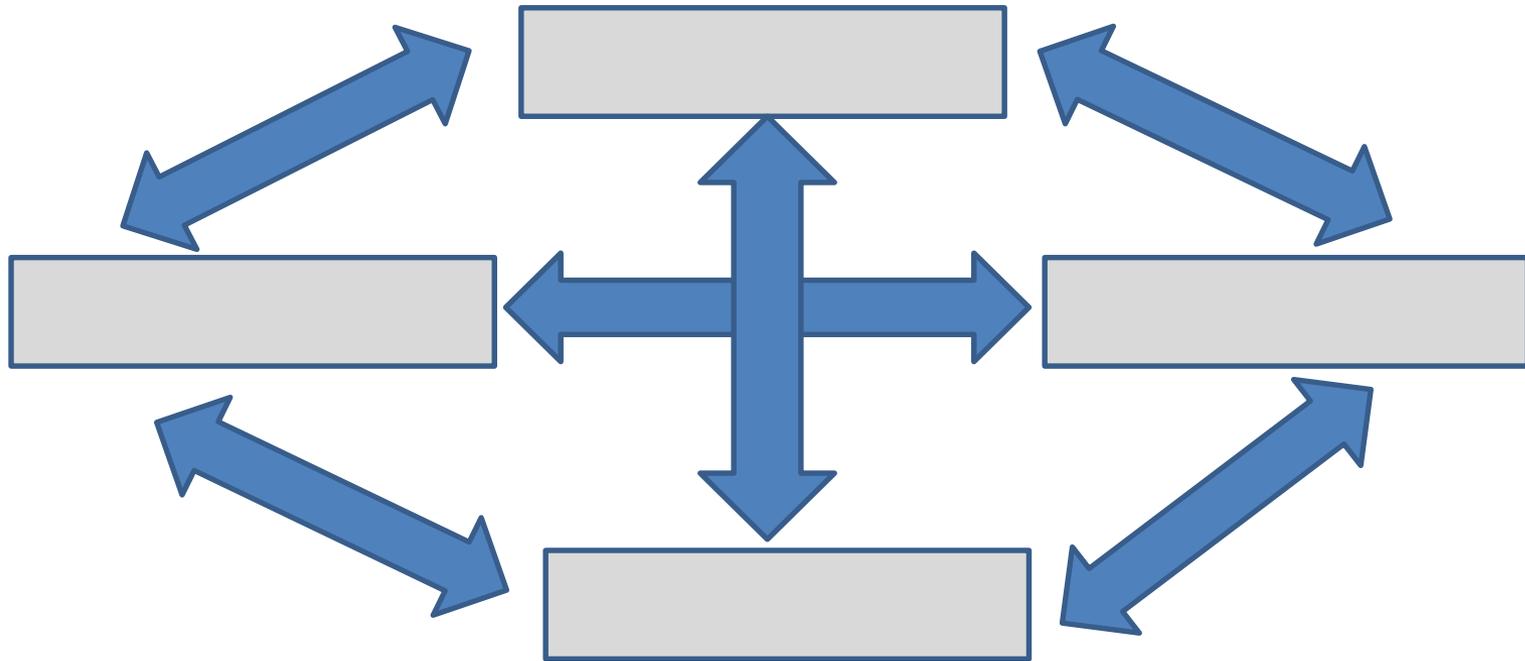
Know

what an ecosystem is
 what the components of an ecosystem are
 the names of at least six different global scale ecosystems

come
get it!



The components of an ecosystem



Over To You:

1. Add labels to the component boxes. Shade the boxes to show which components are living and non living. Add a key to the diagram
2. Add labels to the arrows to show linkages between the components



Understand

that the components of an ecosystem are interlinked
that some ecosystems are more natural than others

come
get it!



Healthy ecosystems need three a day!

1. What are the 'three a day' that keep an ecosystem going?
2. These three are either 's' or 'f' – what do the 's' and 'f' stand for?
3. What are nutrients?
4. How do these nutrients
 - a) get into the ecosystem?
 - b) move around the ecosystem?
 - c) get 'lost' from the system?

come
get it!

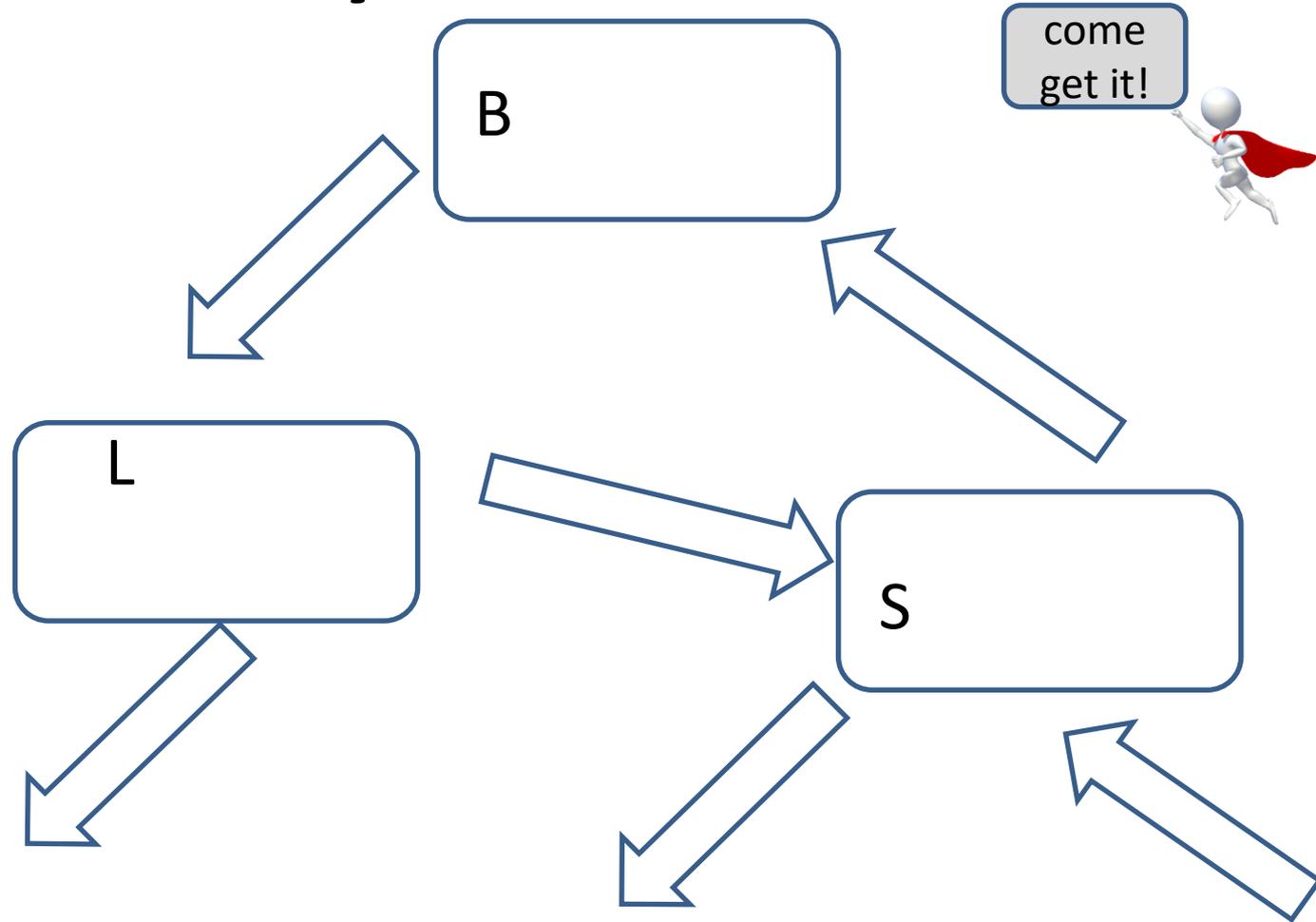


Understand

that there are stores and flows and cycles operating within an ecosystem to keep it functioning correctly

The Nutrient cycle

- Over To You**
1. Add a key to show you know the difference between stores and flows
 2. Colour code the arrows to show you know the difference between inputs, outputs and flows



Understand

1. that there are stores and flows and cycles operating within an ecosystem to keep it functioning correctly.
2. how nutrients can be lost from the system

**Struggling with nutrient cycles,
inputs, stores, flows and
outputs?**



Powered by?



Not quite, even if you do get rabbits (albeit not pink fluffy ones) in some ecosystems



How do these link together?

producers
primary consumers
carnivores
tertiary consumers

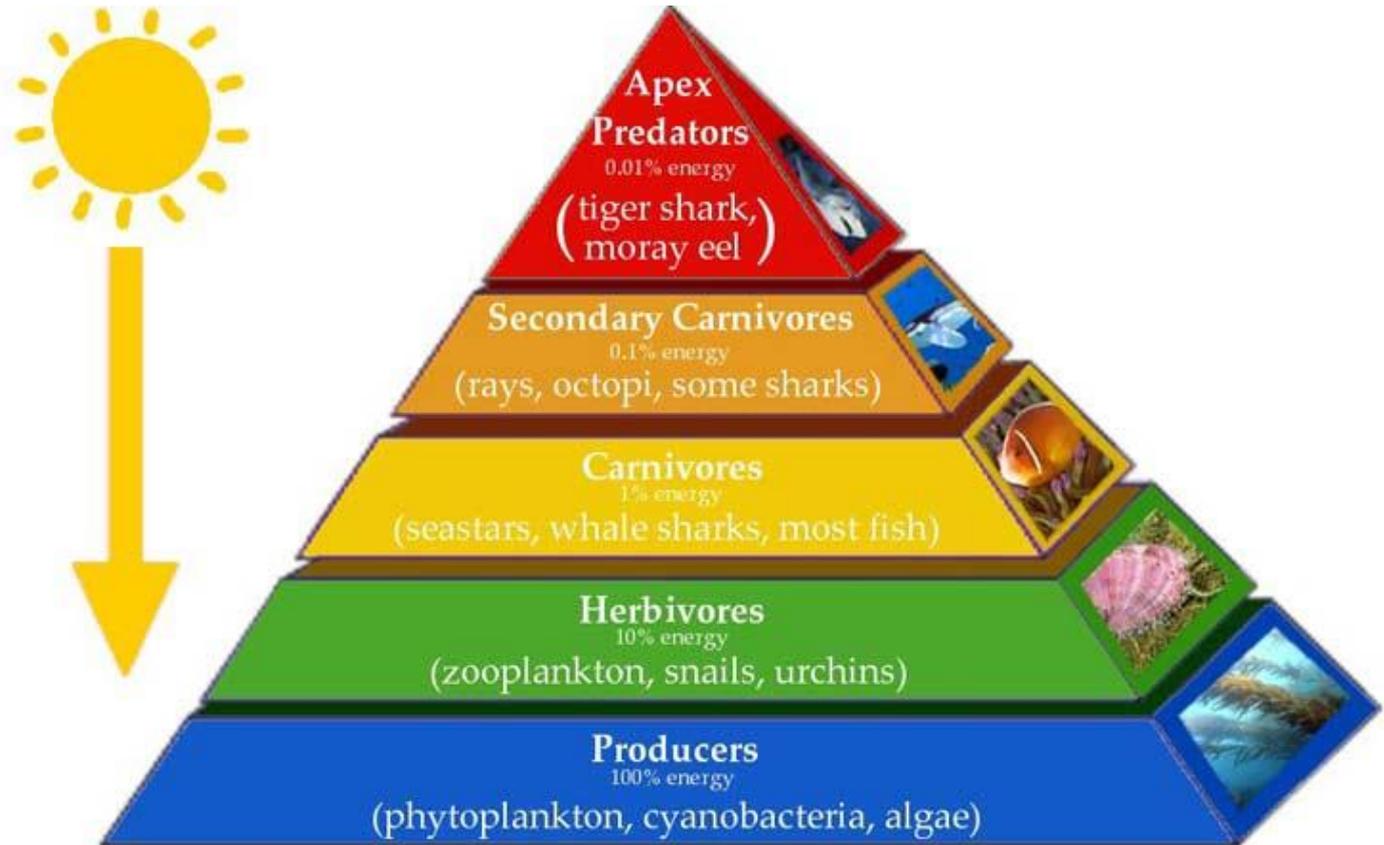
predators
herbivores
secondary consumers
top predators



Understand

1. What powers the ecosystem
2. How energy is transferred

How is energy transferred.....?



What happens to the amount of energy as it transfers from level to level? Why?



Understand

How energy is transferred and what happens along the way

come
get it!



Add more flow arrows to the diagram below to show how the 8 components of an ecosystem influence each other

