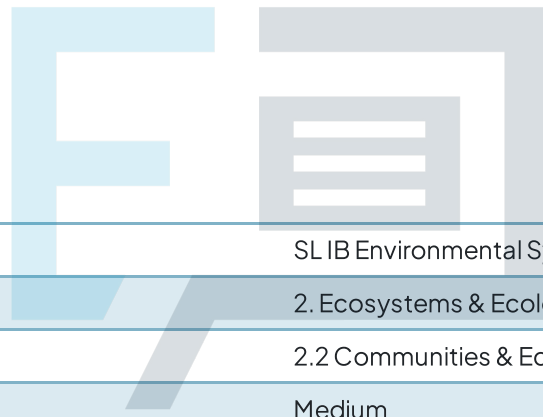




2.2 Communities & Ecosystems

Question Paper



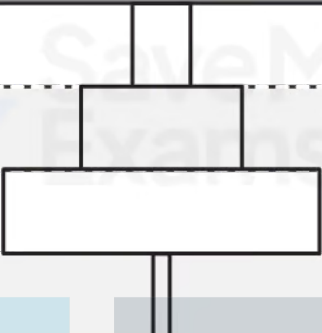
Course	SL IB Environmental Systems & Societies (ESS)
Section	2. Ecosystems & Ecology
Topic	2.2 Communities & Ecosystems
Difficulty	Medium

Exam Papers Practice

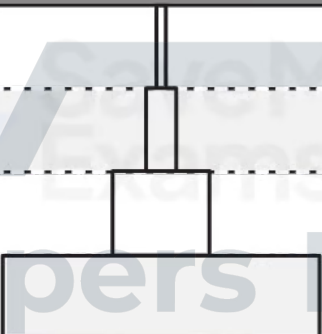
To be used by all students preparing for
SL IB Environmental Systems & Societies (ESS)
Students of other boards may also find this useful

Question 1a

The figures below show a pyramid of numbers and a pyramid of biomass for a tropical rainforest ecosystem.

Number of individuals per km ²	Pyramid of numbers	Trophic level
20		Tertiary consumer
70		Secondary consumer
200		Primary consumer
6		Producer

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Biomass / kJ km ⁻²	Pyramid of biomass	Trophic level
50		Tertiary consumer
400		Secondary consumer
3000		Primary consumer
10000		Producer

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i) Explain how the pyramid of numbers shown above can have fewer producers than consumers.

[1]

ii) State **one** other type of ecological pyramid that can be used to demonstrate trophic levels within ecosystems.

[1]

[2 marks]

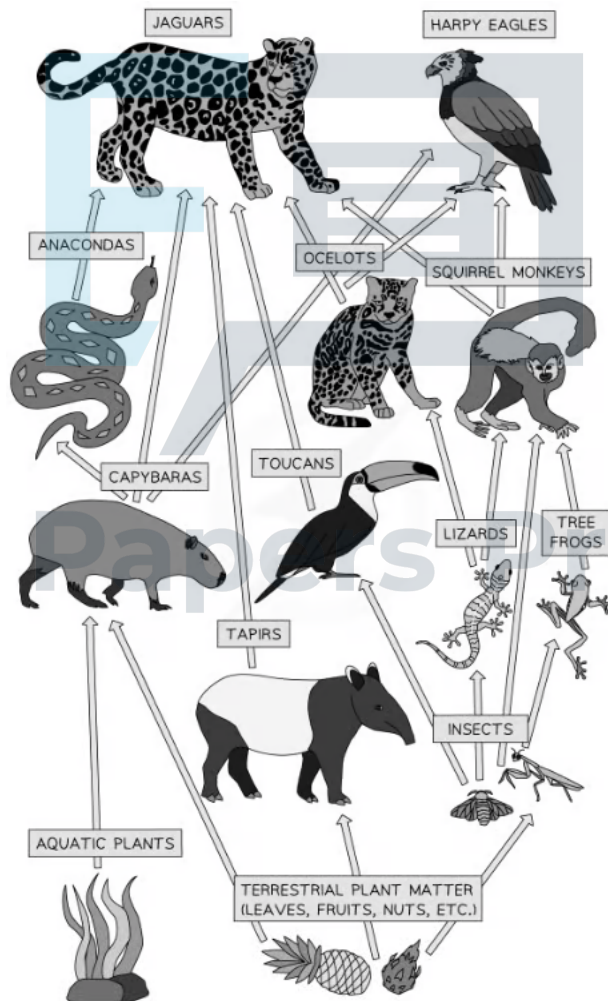
Question 1b

Evaluate pyramids of numbers as a method of representing trophic levels within ecosystems.

[2 marks]

Question 2a

Use the figure below to produce a food chain that includes exactly **four** trophic levels.



[2 marks]

Question 2b

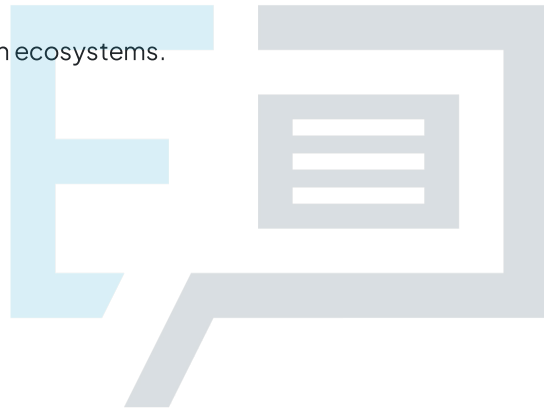
Outline how **two named** human activities can alter the pyramid structure of the trophic levels within a tropical rainforest ecosystem.

[2 marks]

Question 3a

Outline the role of primary producers in ecosystems.

[4 marks]



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Question 3b

Explain the vulnerability of top carnivores to non-biodegradable toxins.

[4 marks]

Question 4

Define the term *ecosystem*.

[2 marks]



Exam Papers Practice