

Edexcel (A) Biology A-level

5.10 to 5.11 - Energy and Ecosystems

Flashcards

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Define net primary productivity (NPP).



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Total **chemical energy** available for plant **growth**, plant **reproduction** and energy transfer to **other trophic levels** after **respiratory losses**.



Define gross primary production (GPP).



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Total chemical energy in plant biomass within a given volume or area.



Give the mathematical relationship
between GPP and NPP.



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$$\text{NPP} = \text{GPP} - R$$

Where R represents respiratory losses from plants.



What is biomass?



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Total dry mass of tissue or mass of carbon measured over a given time in a specific area.



Suggest the units for biomass.



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When an area is being sampled: gm^{-2} .

When a volume (e.g. a pond) is being sampled: gm^{-3} .



Why does biomass decrease at each trophic level?



Why does biomass decrease at each trophic level?

- Energy lost in nitrogenous waste (urine) & faeces.
- Some of the organism is not consumed.
- Energy lost to surroundings as heat.



Give a general equation for % efficiency.



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energy converted to a useful form (J) x 100

total energy supplied (J)

