



Introduction to Ecosystems

Ecosystem

_____ :

Population

_____ :

_____ :

Community

_____ :

_____ :

Habitat

_____ _____ :

e.g.

Niche

Rock Pool

→
Playing Field

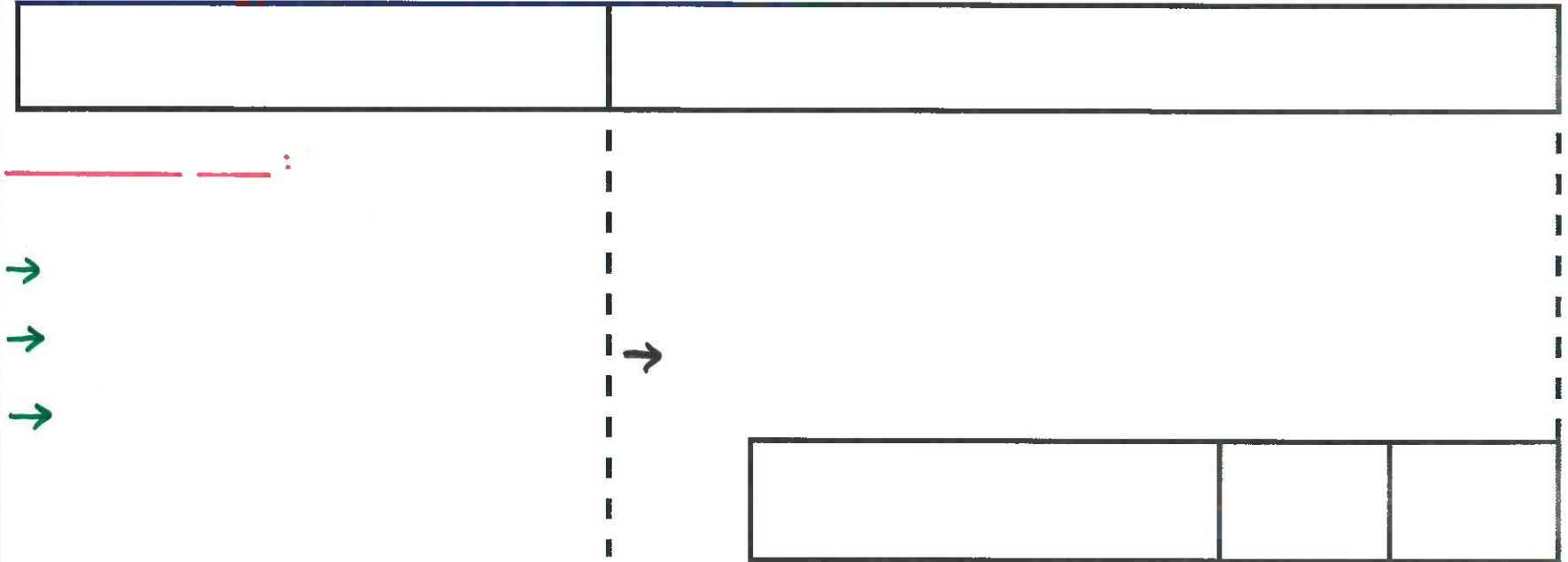
→
Large Tree

Tropic Level



Respiratory loss

Productivity



Calculating Energy Transfer Efficiency

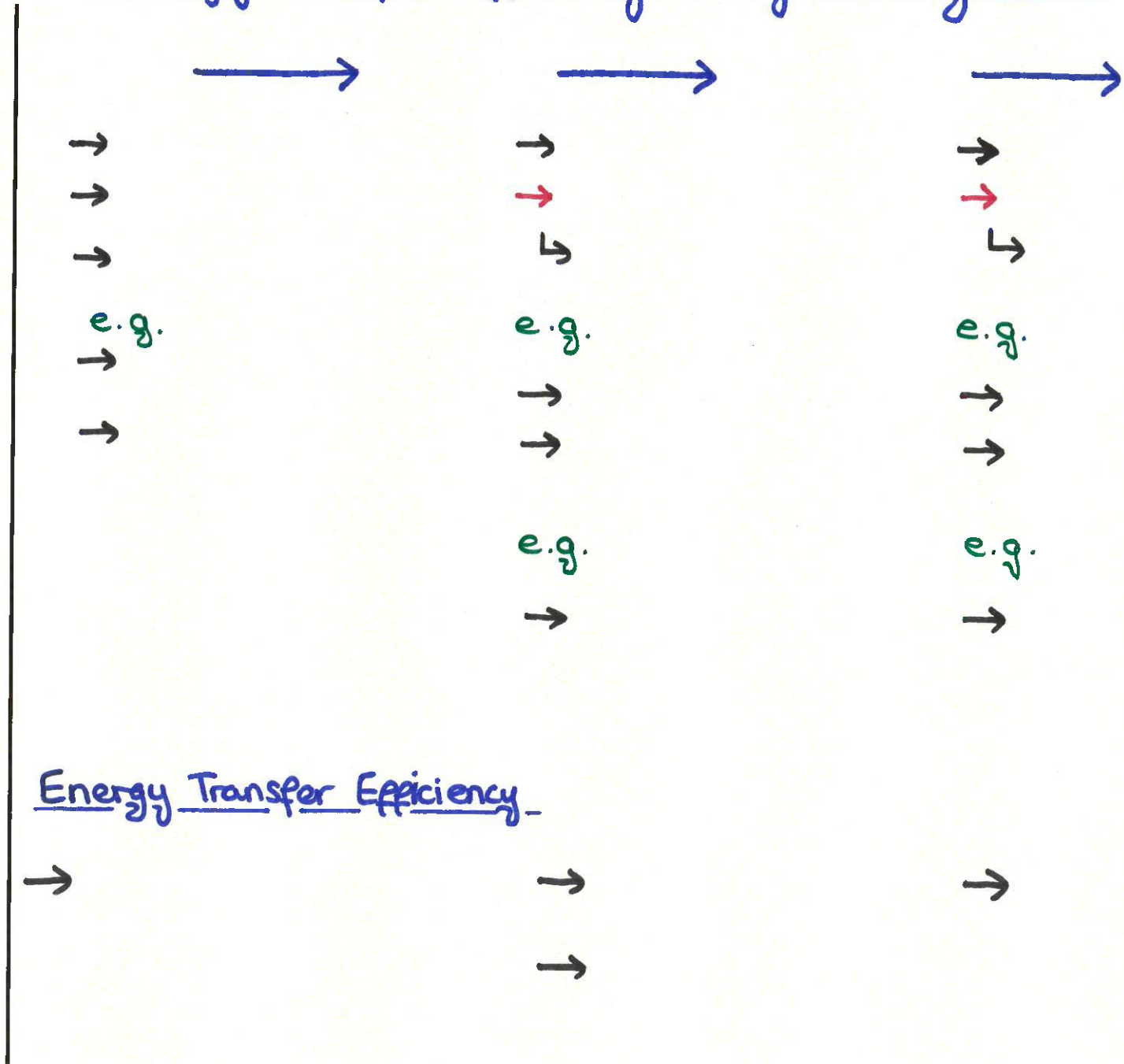
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$$N =$$



Energy Transfer Efficiency Through Ecosystems

- 1
- 2
- 3
- 4
- 5





Increasing Energy Transfer Efficiency

Plant Crops

①



②

Animals / Livestock

③



④

⑤

⑥

⑦

Both Plants + Animals:



Calorimetry

Measuring Biomass

① Dry Biomass

-
-
-
-
-
-

② Mass of Carbon

-
-
-
-
-

Calculating Energy Stored in Biomass

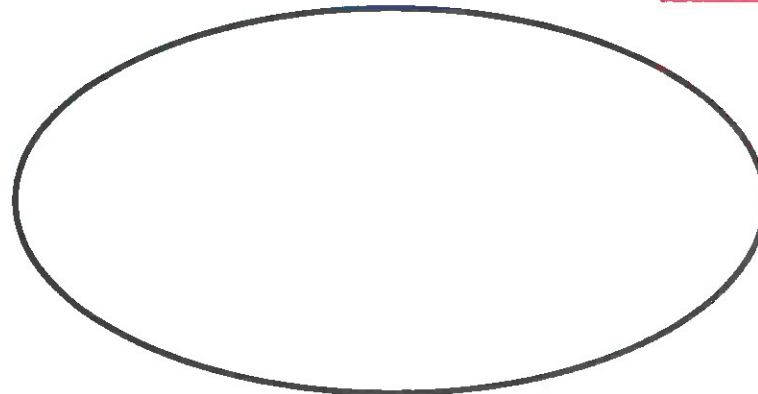
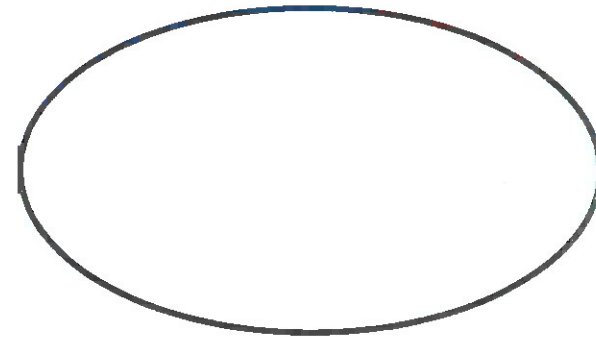
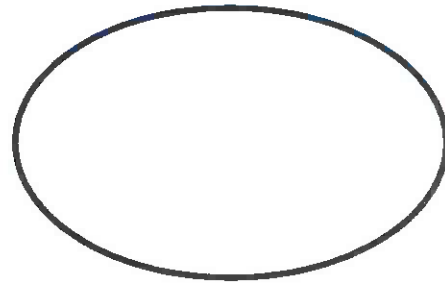
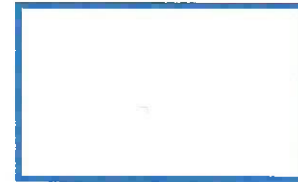
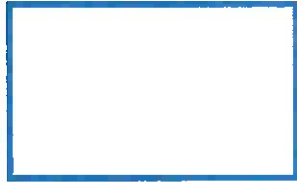
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Saprobiontic
Nutrition

The Nitrogen Cycle

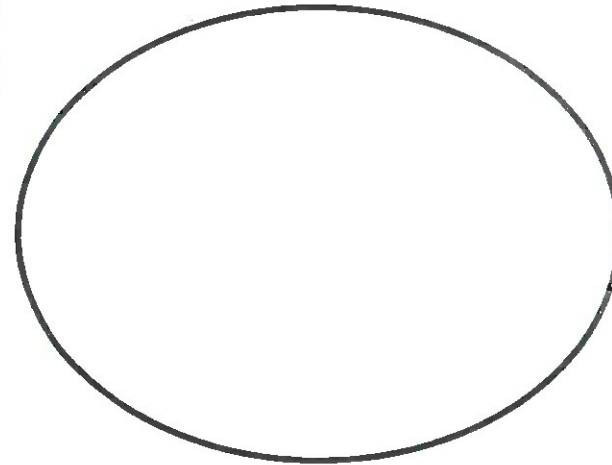
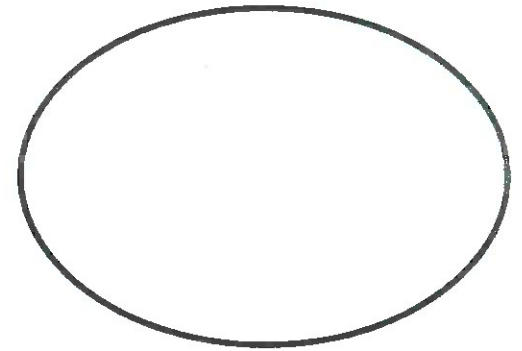
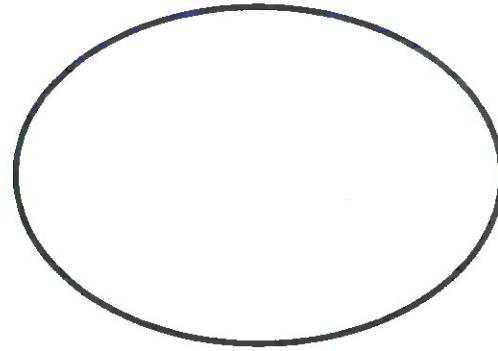
1 2 3 4 5





The Phosphorous Cycle

- 1
- 2
- 3
- 4
- 5



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Microorganisms & Nutrient Cycles

Saprobionts

Recycling Nutrients



Saprobiontic
Nutrition



Mycorrhizae



e.g.





Fertilisers, Leaching & Eutrophication

Natural Fertilisers

_____:



Benefits: →
→
→

_____:

Artificial Fertilisers

Leaching: →
→

Harvesting Crops / Livestock



Eutrophication:

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)