**Productivity**

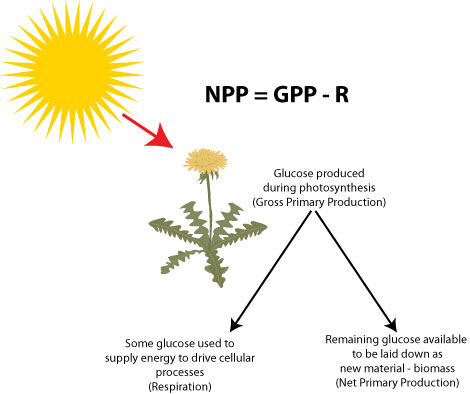
1. Define the following terms:

***Primary productivity****:*

***Secondary productivity:***

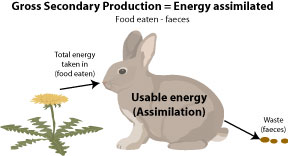
***Gross productivity:***

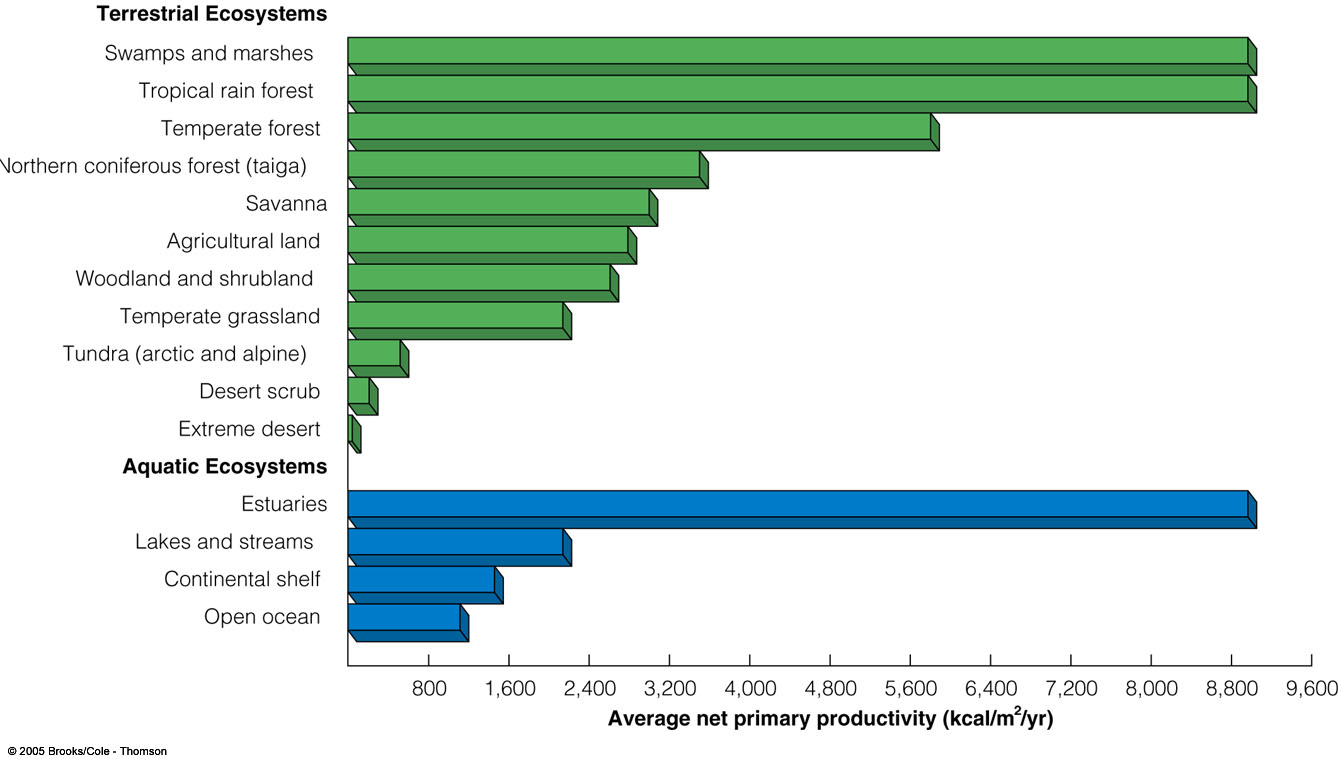
***Net productivity:***

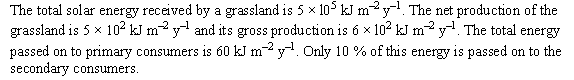


***Biomass:***

1. What can you see happening in the diagram? How would you calculate GPP, NPP and respiration (write calculations)?
2. Explain why gross primary productivity is always higher than net primary productivity.
3. What can you see happening in this diagram? How would you calculate GSP, NSP and respiration (write calculations)?

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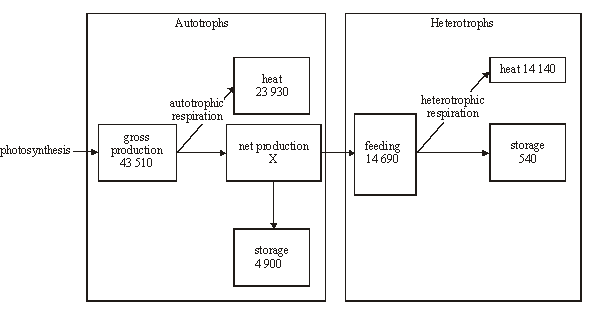
1. Look at the chart of net primary productivity and list the areas that produce the most and the least NPP.
2. The following passage outlines some of the energy flow in an ecosystem.



From the IB QuestionBank CDRom

Calculate the efficiency (in %) of the conversion of light energy into gross production.

1. Study the energy flow diagram below.



From the IB QuestionBank CDRom

1. Calculate the *net primary* *productivity of the autotrophs*.
2. Calculate the percentage of energy lost as heat in:
3. **Autotrophs**
4. **Heterotrophs**
5. Suggest reasons for the differences in energy loss as heat between autotrophs and heterotrophs.