

Nutrition

All organisms need the following compounds to survive.

1. Water
2. Oxygen
3. Carbohydrates
4. Proteins
5. Lipids
6. Vitamins and Minerals

Types of Organisms

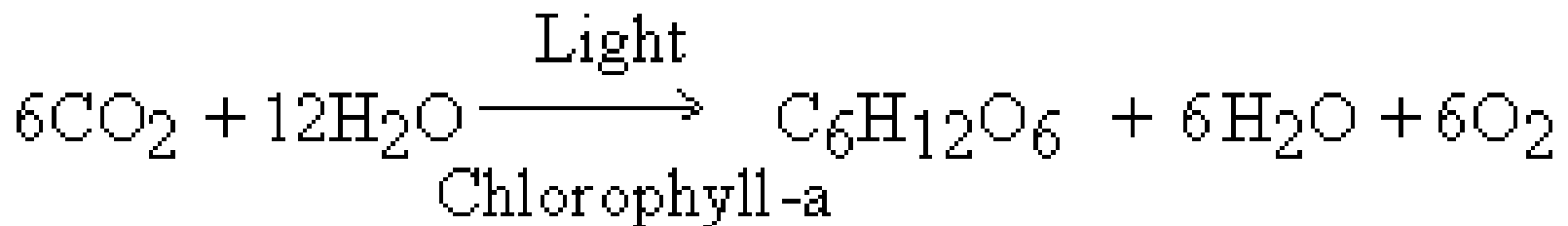
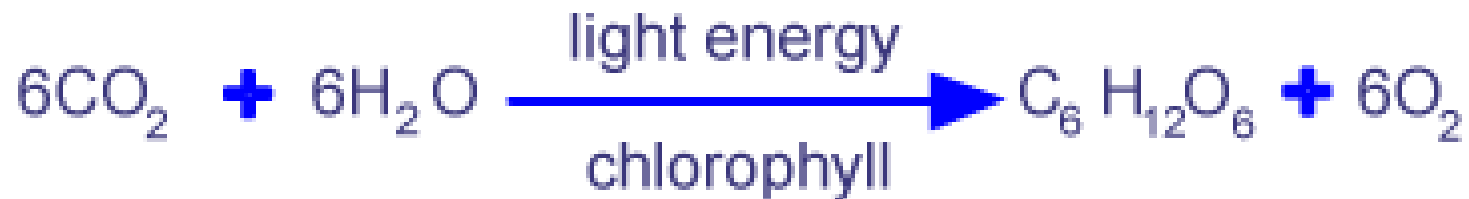
1. Autotrophs (self feeders) – these organisms produce their own organic compounds by photosynthesis.
Examples.....



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Autotroph Nutrition

Autotrophs (green plants) obtain carbohydrates through the process of photosynthesis.

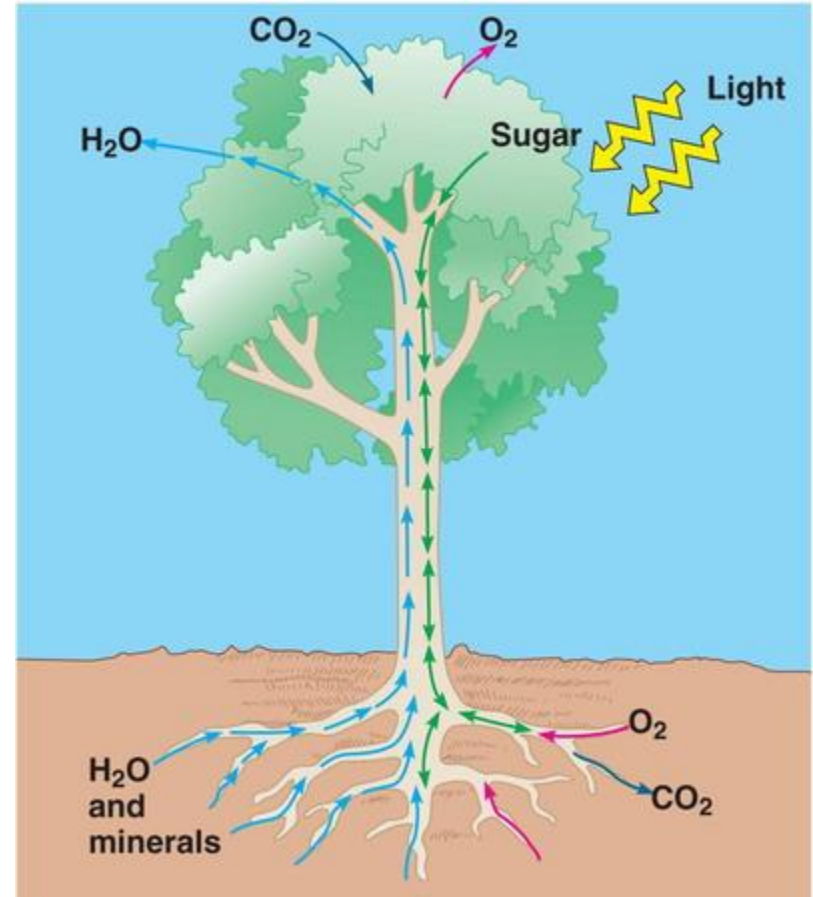


How do plants make proteins and other organic compounds

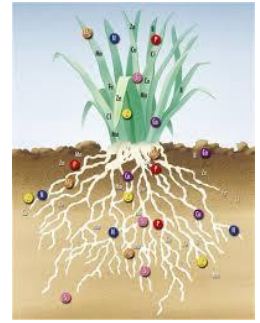
A plant must also obtain mineral ions from the soil, such as

- Nitrates NO_3^-
- Phosphates PO_4^{3-}
- Magnesium Mg^{2+}
- Sulphates SO_4^{2-}

When plants combine carbohydrates with these ions, they can then make all the other organic compounds it needs.

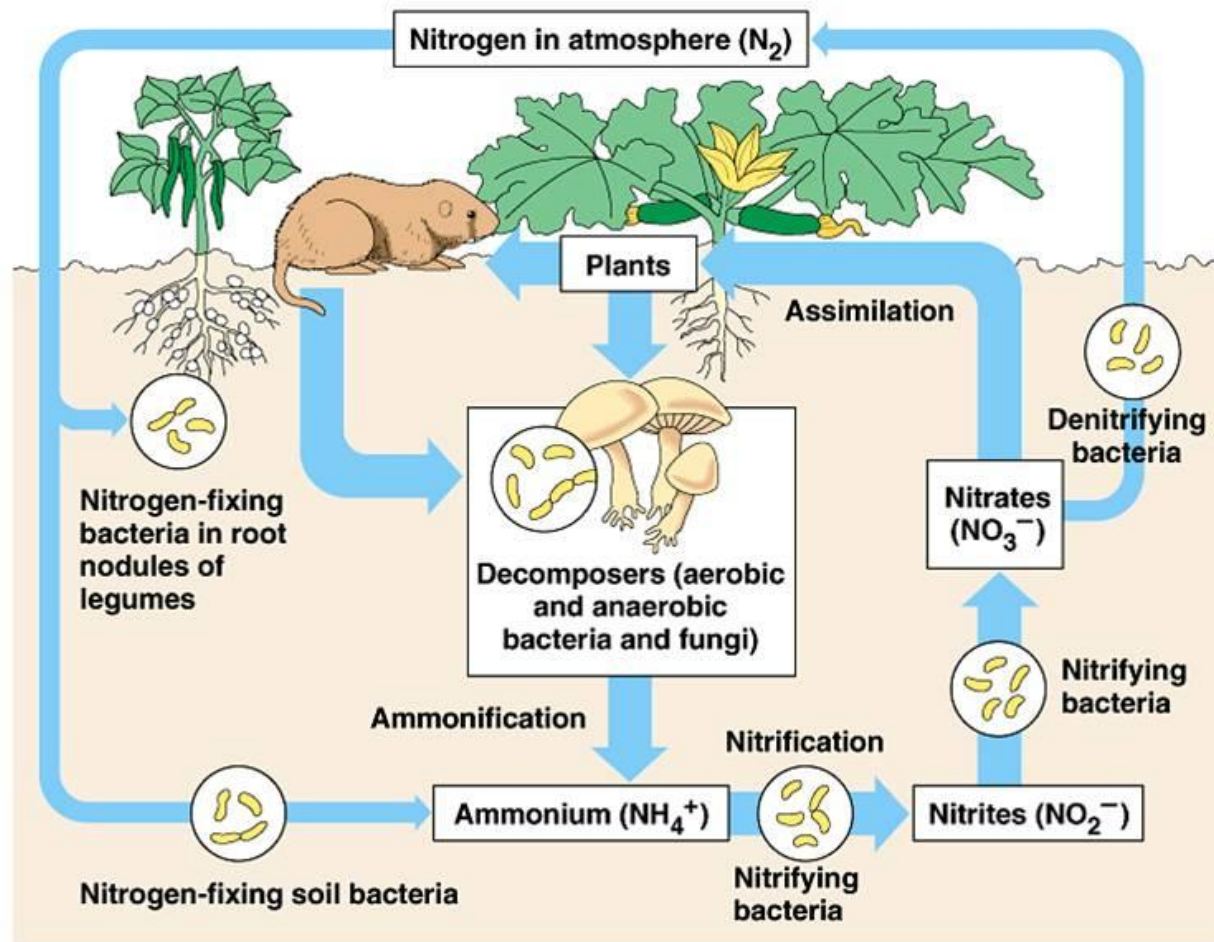


Fertilizing a plant

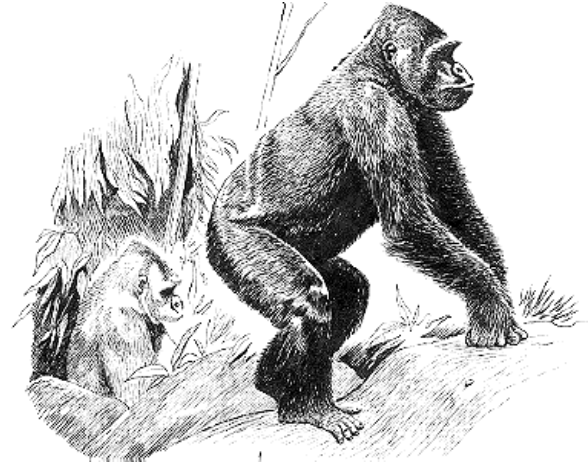
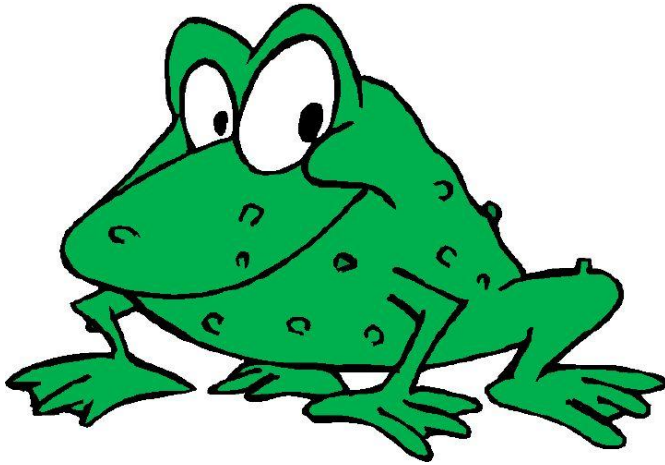


- When plants are given a “feed” by a gardener, he or she is applying mineral ions so that the plant’s roots can absorb these from the soil.
- In the wild, plants obtain these mineral from the soil. Bacteria and fungi are essential in the soil for recycling dead organic matter back into mineral ions.





2. Heterotrophs (feed on others). These organisms obtain organic matter by eating other organisms.
Examples.....



- Herbivore – animal that gets energy from plants only



- Carnivore – Eat other animals



- Omnivore – eats both animals and plants

