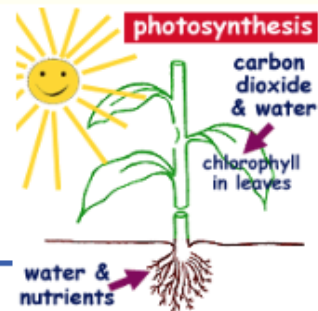


SOL 4.2 -- PLANTS -- ENERGY & REPRODUCTION

The student will investigate and understand that plants and animals have structures that distinguish them from one another and play vital roles in their ability to survive. Key ideas include

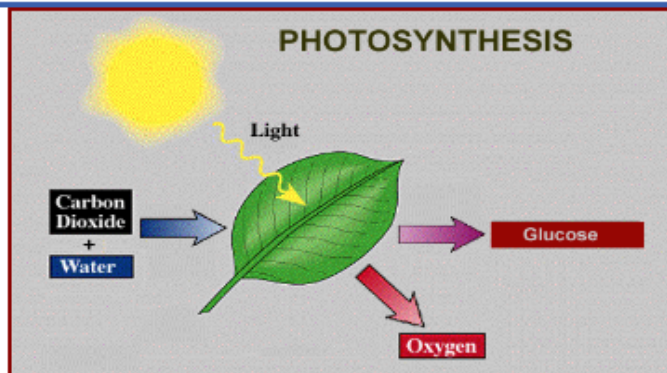
- the survival of plants and animals depends on photosynthesis;
- plants and animals have different structures and processes for obtaining energy; and
- plants and animals have different structures and processes for creating offspring.



Central Idea: Plants and animals have different processes and structures that allow them to carry out life processes such as obtaining energy and reproducing.

PHOTOSYNTHESIS

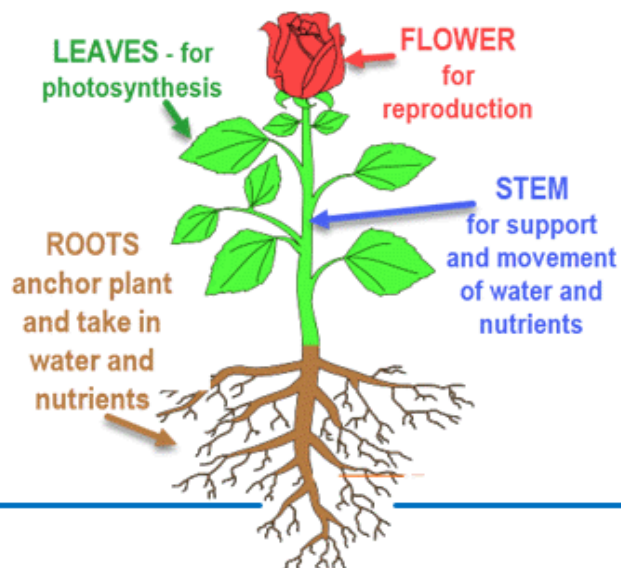
- Green plants** produce their own food through the process of **photosynthesis**.
 - They use the green pigment, **chlorophyll**, along with **carbon dioxide**, **water**, and **sunlight** to produce **food (sugar)**.
 - The **leaf** is the primary food-producing part of these plants.
 - Oxygen** is released during photosynthesis
- Photosynthesis** enables plants to trap **energy** from the sun and convert it into **sugar** that can be used by organisms.
- Because **animals** are not capable of producing their own food, they must **consume other organisms** to meet their energy needs.
 - Animals have **different methods** that help them get food.



Green plants use the green pigment, chlorophyll, along with carbon dioxide, water, and sunlight to produce food (sugar)

PLANT PARTS

- For many green plants, there are anatomical structures that perform basic functions.
 - Roots** anchor the plants and take water and nutrients from the soil.
 - Stems** provide **support** and allow movement of **water** and **nutrients**.
 - Leaves** are the primary sites for **photosynthesis**.
 - Flowers** are the **reproductive** structures .



POLLINATION & REPRODUCTION



Most plants reproduce with seeds

- For a population to thrive, its members must be able to **reproduce** .
- Most plants **reproduce** with **seeds** which are formed in the reproductive process of **flowering plants**.

- **Pollination** is the process by which pollen is transferred from the **stamen** (male reproductive structure) to the **pistil** (female reproductive structure).
 - This transfer can occur as a result of **wind, water, or animals**.
 - **Scents and colors** of flowers are attractive to certain pollinators.
- **Animals** have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction

