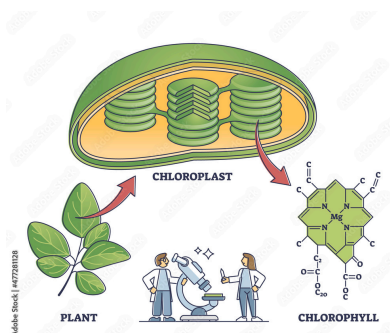
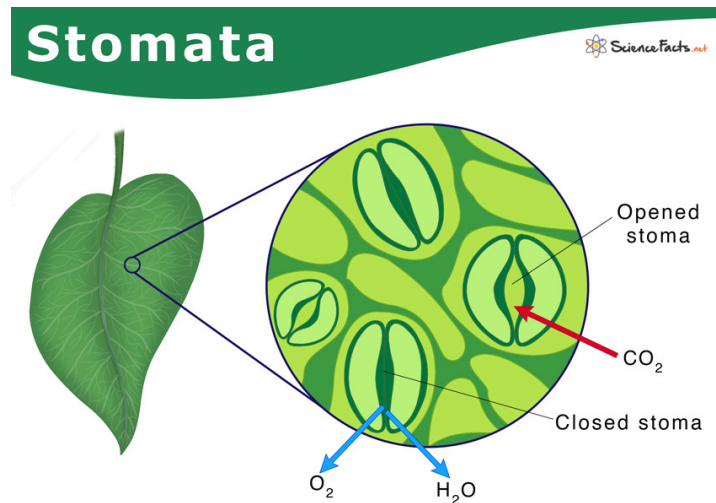
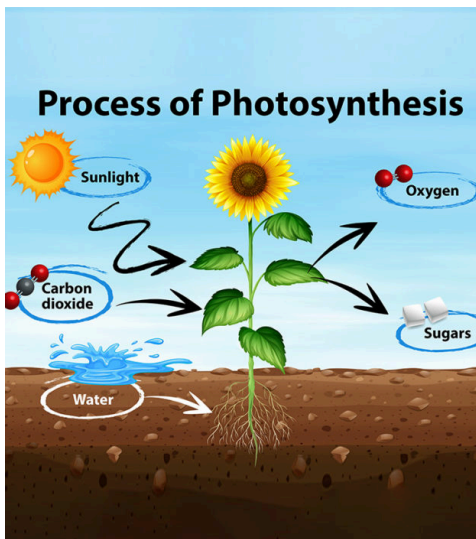


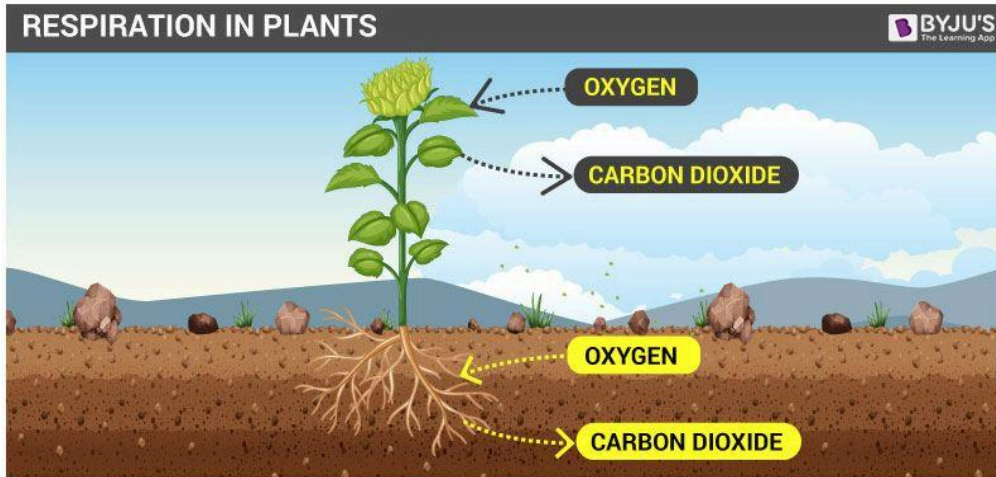
Unit 5 Study Guide

- PHOTOSYNTHESIS is the process in which plants use WATER and CARBON DIOXIDE in the presence of sunlight to make GLUCOSE.
- Photosynthesis occurs in the leaf.
- Plants get water from their ROOTS.
- Plants get CARBON DIOXIDE from the air.
- Oxygen and water are WASTE PRODUCTS of photosynthesis.
- Carbon dioxide enters the plant through STOMATA, and oxygen and water exit the plant through stomata.
- Stomata open and close with the help of GUARD CELLS.
- Photosynthesis occurs in the leaves in a part of the cell called a CHLOROPLAST. The chloroplast is green because of a pigment called CHLOROPHYLL. Chlorophyll helps absorb sunlight.



Study Guide– Respiration/ Transpiration– 6.3.2

Glucose serves as the primary energy source for plants, which is needed for growth and development.

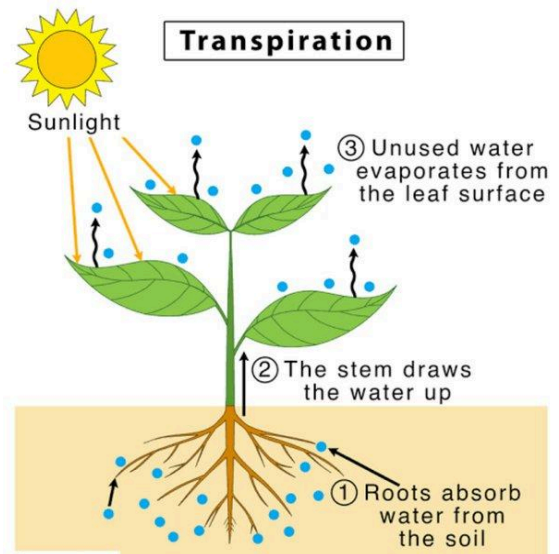


Respiration in plants is the process by which glucose breaks down to release energy. This process happens both day and night.

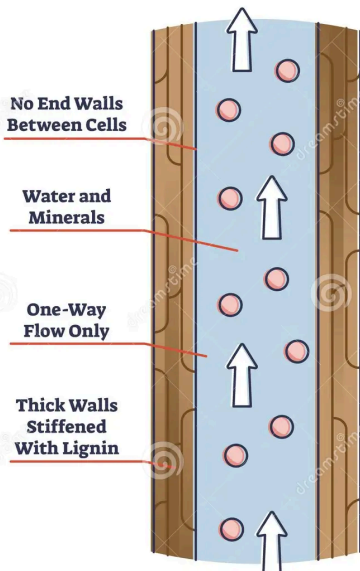
Plants primarily perform photosynthesis during day when the sunlight is available.

Plant roots absorb water and nutrients (minerals) from the soil to support growth.

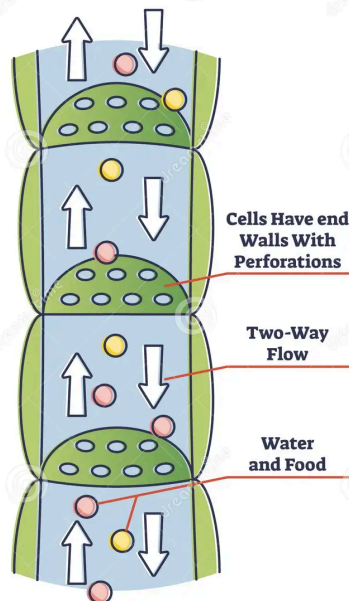
Transpiration is the process where plants pull water from the roots of the plant through the stem and leaves then evaporates (through the stomata) to the air.



XYLEM VESSEL



PHLOEM VESSEL



The xylem and phloem transport things throughout the plant.

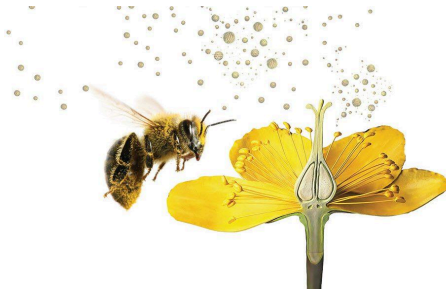
The **xylem** transports water and minerals from the roots to the rest of the plant.

The **phloem** carries glucose to various parts of the plant during photosynthesis.

Study Guide–Plant Survival– 6.1.3

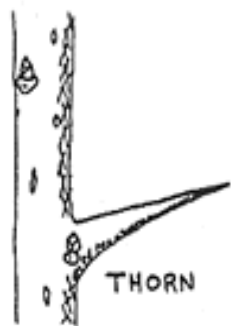
Plants Survival- means when plants change to their surroundings, find what they need, and keep growing and making more plants.

Seed Spread- Spreading of new seed, through seed dispersal, for new plant growth (ex., dandelion or walnut tree).



Pollination- Transfer of pollen to make more plants.

Coatings- Part of a plant that is waxy, and covers the plant to defend and store water (ex., succulent).



Thorns- Part of a plant that defends against herbivores to protect the flowering plants and are often found on the stems (ex., rose).

Spines- Modified leaves or stems on the plant that defends and can hold water (ex., cactus).

Environmental Responses- When plants adapt to changing conditions (like growth changes due to sunlight, water in-take during a drought, or even falling of leaves to conserve energy).

Study Guide– Ecosystem– 6.3.2

All organisms require energy to live. Energy for organisms is obtained from food.

Organisms are categorized into **producers**, **consumers**, and **decomposers** based on how they get energy.

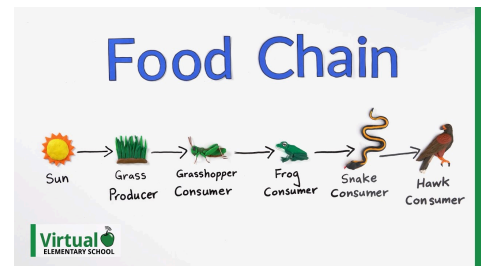
Producers: Produce their own food using sunlight (like plants, algae, and bacteria).

Consumers: Eat other organisms for energy and can be:

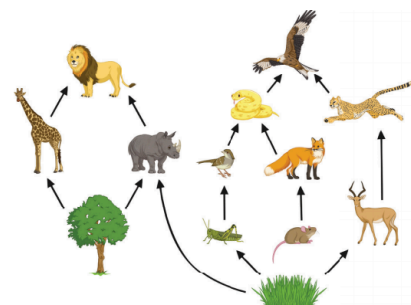
- Herbivores (plant eaters)
- Carnivores (meat eaters)
- Omnivores (plant and meat eater)

Decomposers: Break down organic matter for energy (like worms, flies, or dung beetle)

Food chains: Show the flow of energy from one organism to another, typically starting with the sun.



Food webs: Show a more complete ecosystem than a food chain, but work the same way.



Biotic and abiotic factors:

- Biotic factors are alive, such as plants and animals.
- Abiotic factors are nonliving, such as rainfall and soil.
- Abiotic factors affect biotic factors. For example, if there is less sunlight, plants will not grow as well.

