PHOTOSYNTHESIS TARGETS

Enduring Understandings

The chemical reactions of photosynthesis perform the initial energy conversion from light energy to the energy available to the living world.

Essential Questions

- How do living things attain the energy they need to live?
- How does this unit provide evidence for the theory of endosymbiosis?
- How does this unit provide evidence of the relatedness of living things in the world?

Targets

Vocabulary—photoautotroph, heterotroph, ATP, pigment, chlorophyll, chloroplast, thylakoid membrane, photosynthesis, light reactions, electron transport chain, ATP synthetase, NADP+, Calvin Cycle (light independent reactions), , rubisco, PGAL, CO_2 fixation, oxidize and reduce

- Know the two sets of reactions that occur in photosynthesis and where each set takes place.
- Trace the energy from sunlight that is absorbed by chlorophyll through the conversions of the light dependent reactions.
- Trace the energy from the ATP molecule through the conversions of the light independent reactions.
- Trace the H+ and e- from breakdown of water to the formation of glucose.
- Trace the C atoms from the breakdown of CO2 to the formation of glucose.
- Account for the formation of O2.