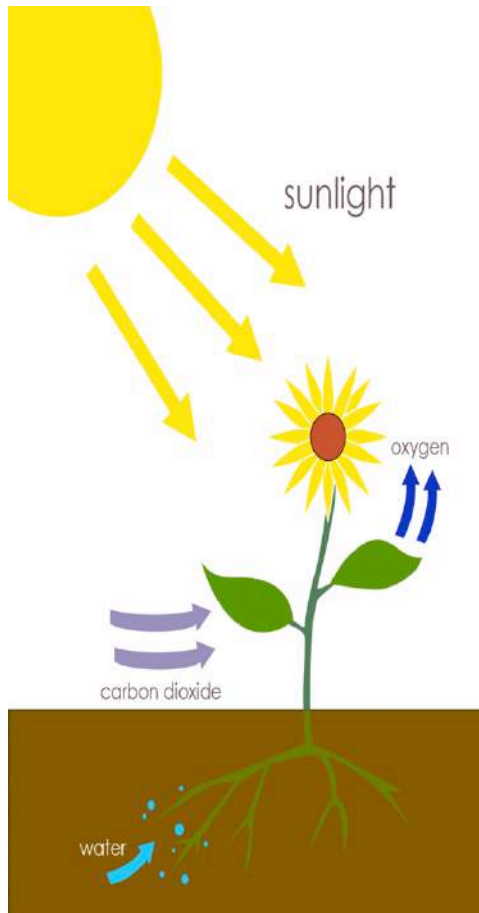


# Deforestation and Technology

## The Carbon Cycle

# Why Are Forests and Jungles Important?



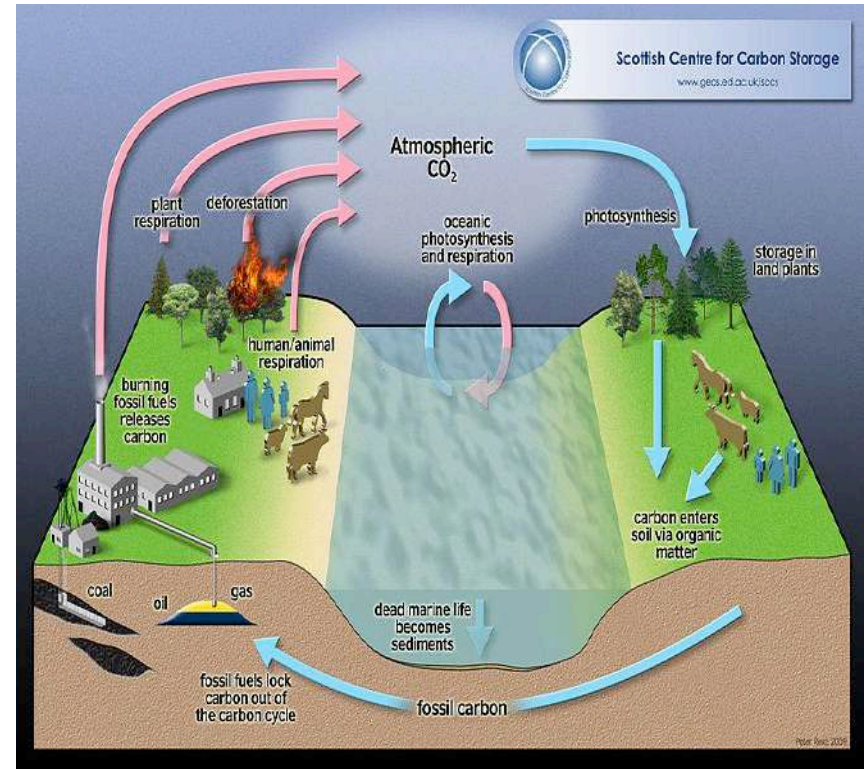
Forests play an important role in minimizing climate change and improving air quality by absorbing CO<sub>2</sub> (a greenhouse gas) and water and using energy provided by the sun to produce O<sub>2</sub> as well as carbohydrates to use for energy.

This is an important part of the Carbon Cycle.

Trees and plants also function as carbon “sinks”, trapping carbon until they decay naturally or are burned.

# The Carbon Cycle

- Atmospheric CO<sub>2</sub> is released by the respiration of plants and animals and then stored in plants and algae while producing O<sub>2</sub> by photosynthesis.
- The carbon stored in these plants then enters the soil through organic decay and eventually becomes fossil carbon.
- Human activities that involve the burning of fossil fuels lead to the release of carbon back into the atmosphere in addition to the naturally occurring release due to respiration.



An increased release of CO<sub>2</sub> through the burning of fossil fuels since the beginning of the Industrial Age is thought to be a major contributor to **climate change**.

# What is Deforestation?

Deforestation is the permanent removal of a forest or jungle where the land is converted to a non-forest use.



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# What Causes Deforestation?

Deforestation is often driven by a population's economic needs:

- Forests and jungles are cut down to provide more room for planting crops to export, such as soy and palm oil.
- Land is cleared for grazing livestock, such as cattle.
- Land is cleared for industrial uses, such as mining and manufacturing.
- Forests are harvested to provide wood and paper products.
- Small-scale farmers clear and burn trees to provide food for their families through subsistence farming and to use for firewood.
- Population growth and urban expansion is also responsible for deforestation.

# Negative Impacts of Deforestation

In many countries (including Canada), human activities leading to deforestation have many negative impacts:

- The loss of carbon “sinks” (or plants) mean that less CO<sub>2</sub> is taken out of the atmosphere.
- Decreased wildlife habitat leads to a subsequent loss of many species.
- The reduction in plants results in the loss of water in the water cycle
- There is decreased filtering of polluted water as it returns to the ground.
- Damage to the quality of land occurs as nutrients are stripped from the earth due to erosion.