

THE CARBON CYCLE

a. **photosynthesis** – plants take in CO₂

b. **animal and plant aerobic respiration**
releases CO₂ to atmosphere

c. **burial**
of dead organisms and animal waste

d. **decomposer aerobic respiration**
releases CO₂ to atmosphere

e. **carbonification**
compaction slowly converts organic material into coal

f. **natural diffusion**
allows for exchange of dissolved CO₂ gas in the oceans with the air above

g. **runoff / weathering and erosion**
from land carries dissolved carbon into oceans

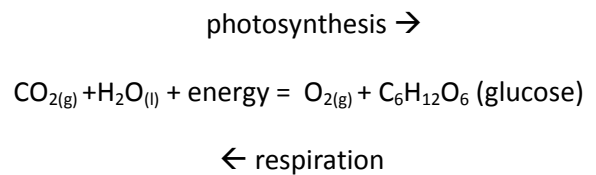
h. **photosynthesis / respiration / decomposition and other chemical reactions with seawater**
recycles dissolved CO₂ similar to the way it is recycled to and from the atmosphere; chemical reactions in the water cause some CO₂ to form carbonate (CO₃²⁻) and bicarbonate (HCO₃⁻) ions which remain dissolved in the seawater

i. **sedimentation**
rocks such as limestone (CaCO₃) form from deposits of dead sea organisms that once absorbed the carbonate and bicarbonate ions to form shells and skeletons; limestone can be uplifted and exposed at surface where it is chemically weathered releasing CO₂ back to the atmosphere

j. **mining**
extraction of fossil fuels

k. **combustion**
burning of wood (wildfires and as biofuel) and burning fossil fuels, and natural volcanic eruptions put excess CO₂ in the atmosphere (disrupts normal photosynthesis/respiration balance) and contributes to climate change (CO₂ is a greenhouse gas).

l. **deforestation / destruction of vegetation**
leaves an excess of CO₂ in atmosphere disrupts normal photosynthesis/respiration balance)



human impact/influence