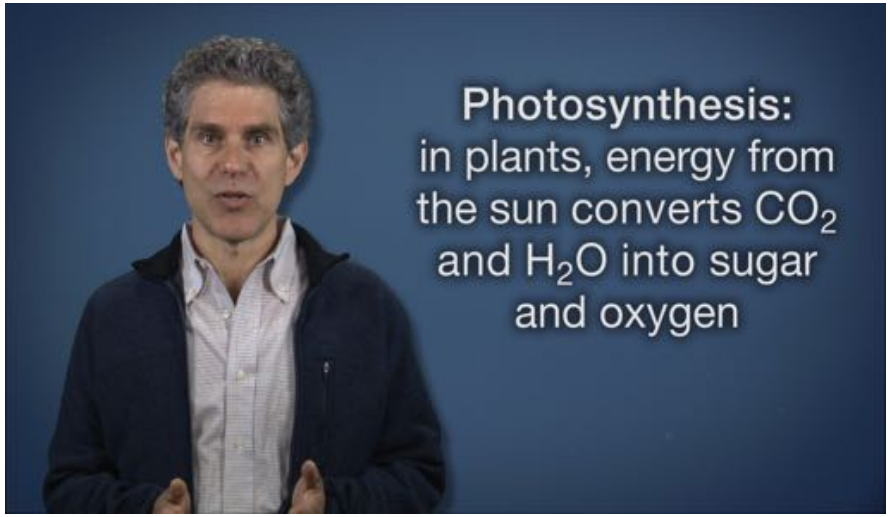
The Carbon Cycle

Intro to Environmental Science

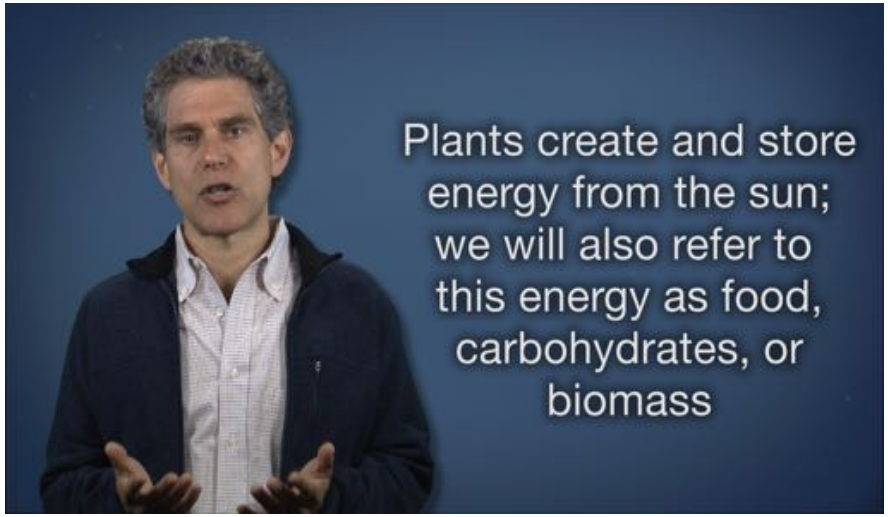
DartmouthX

Photosynthesis
Respiration
Exchange
Sedimentation
Extraction
Combustion



Photosynthesis:

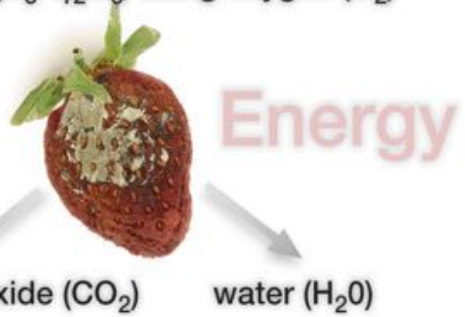
carbon dioxide (CO_2) + water (H_2O)
+ energy from the sun
yields sugar ($C_6H_{12}O_6$) + oxygen (O_2)



Respiration:

sugar ($C_6H_{12}O_6$) + oxygen (O_2) yields carbon dioxide (CO_2) + water (H_2O) + heat energy

Organisms break down the stored energy in biomass ($C_6H_{12}O_6$) using oxygen (O_2)



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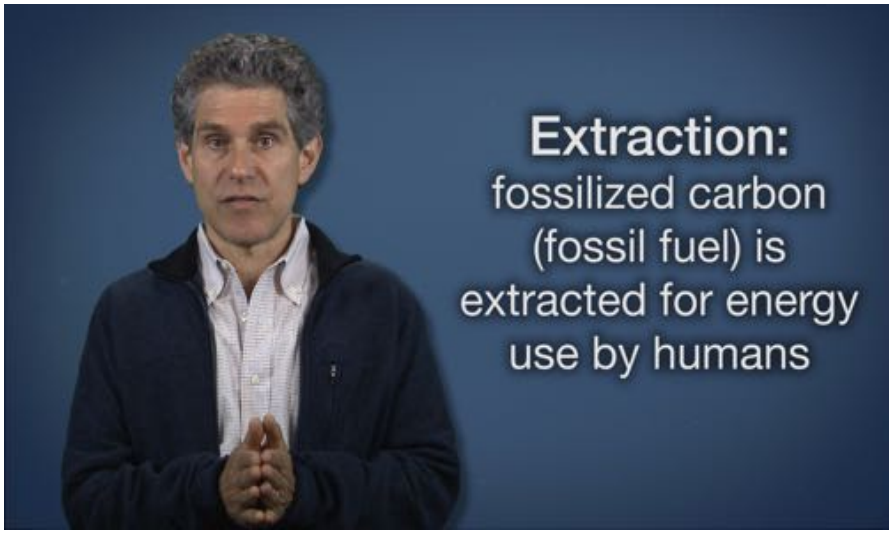
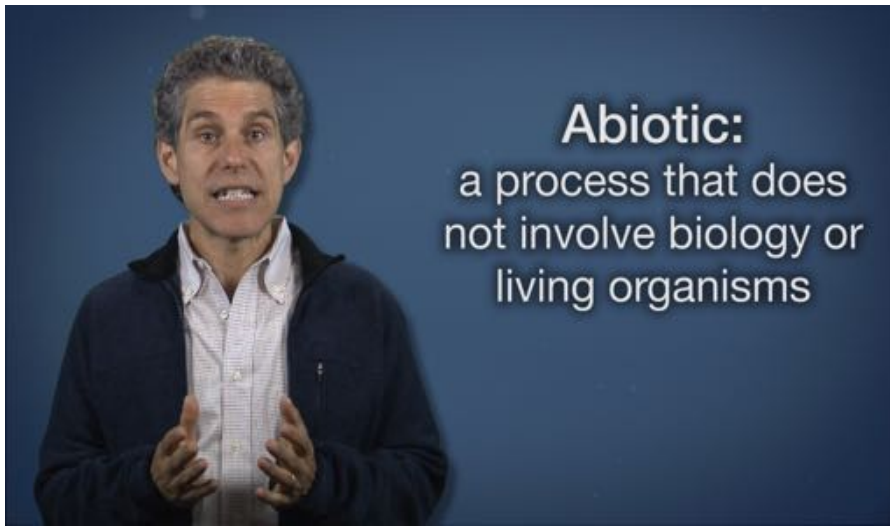
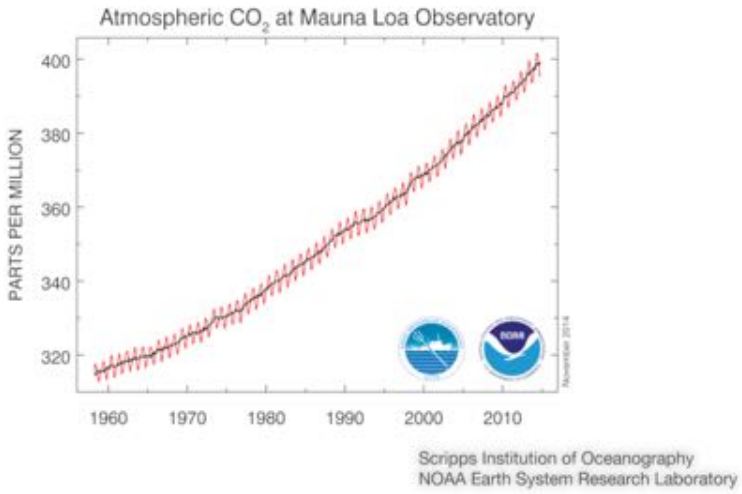
Sedimentation:

carbon is deposited at the bottom of ocean and freshwater systems




Abiotic:
a process that does not involve biology or living organisms


Atmospheric CO_2 at Mauna Loa Observatory
PARTS PER MILLION
400
380
360
340
320
1960
1970
1980
1990
2000
2010
Scripps Institution of Oceanography
NOAA Earth System Research Laboratory