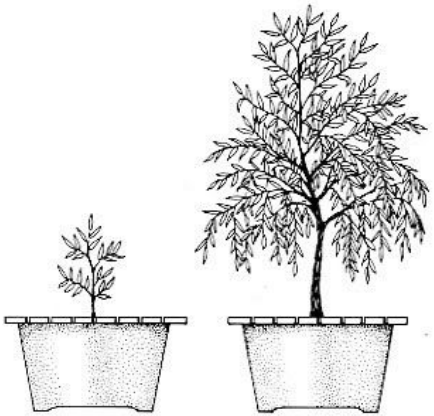
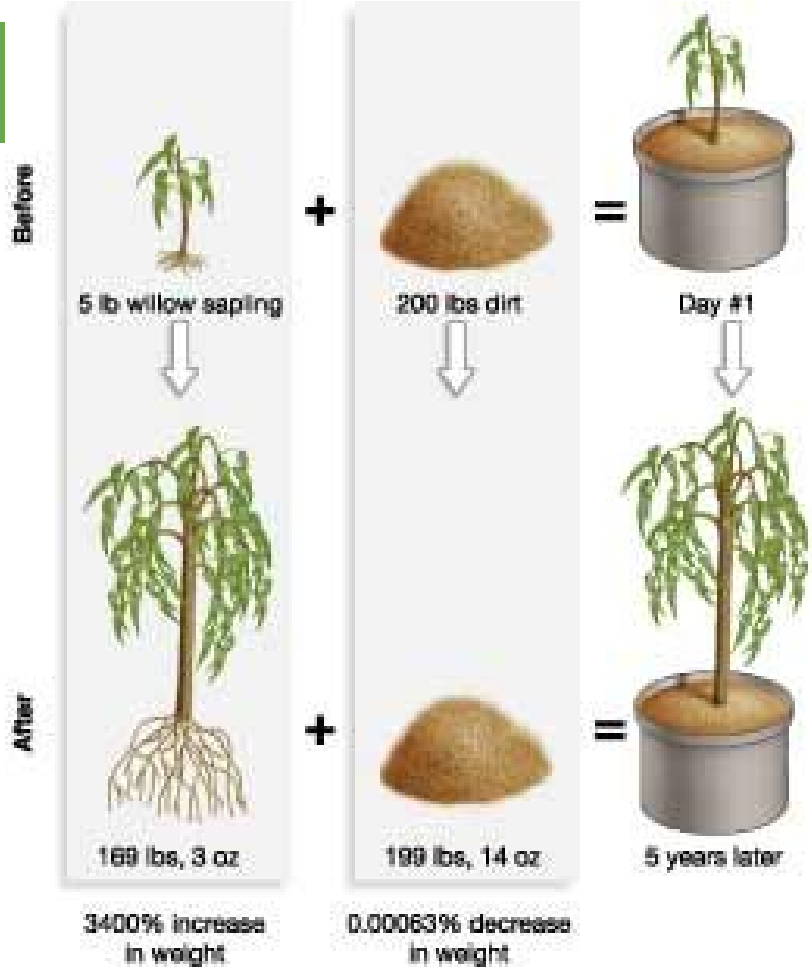
8.2 Photosynthesis: A History

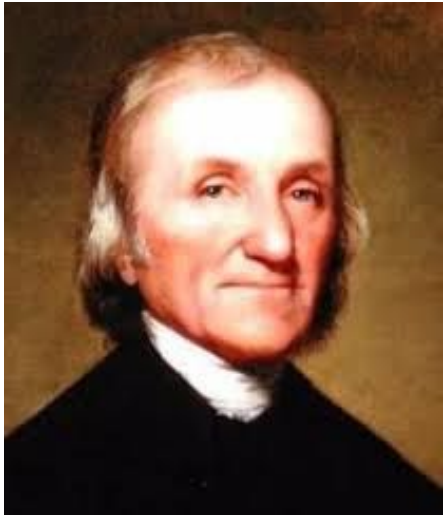


1643: Jan van Helmont

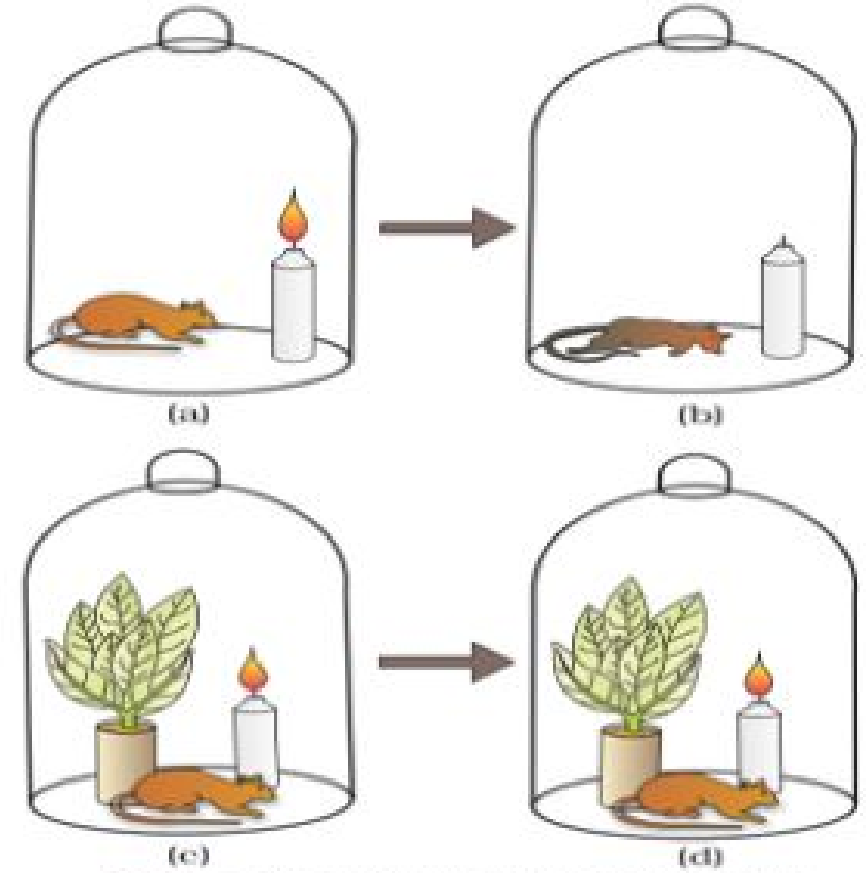
Conducted an experiment to identify what caused a tree to grow.

Where did the material come from?





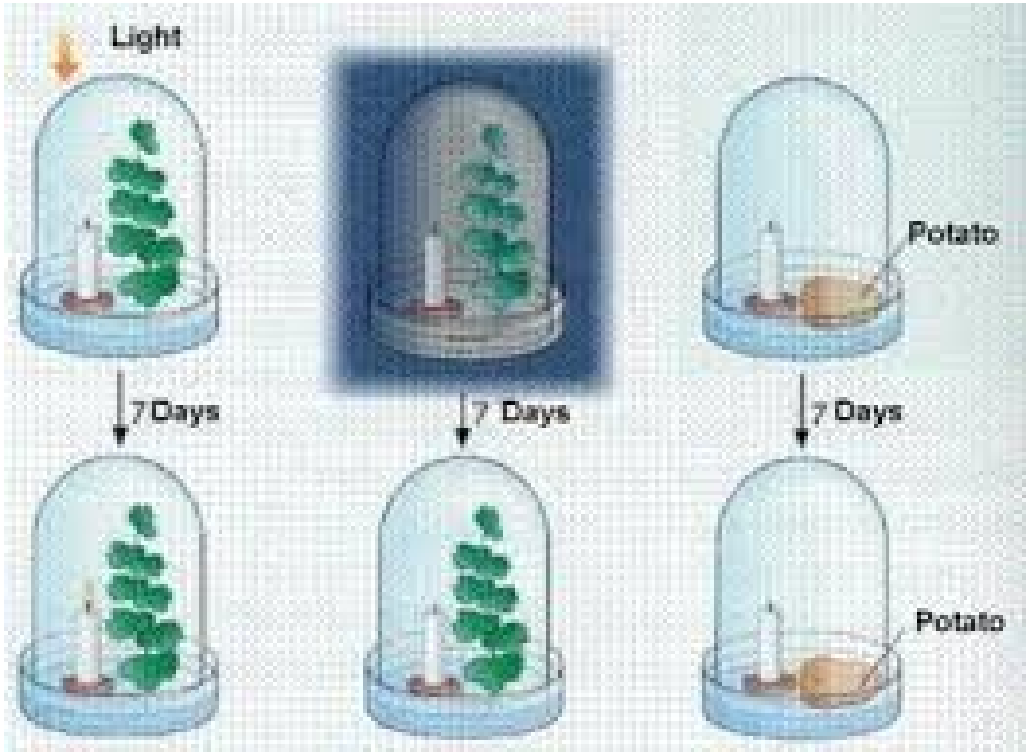
1771: Joseph Priestly
discovered that plants give off oxygen to environments



Plant = Oxygen

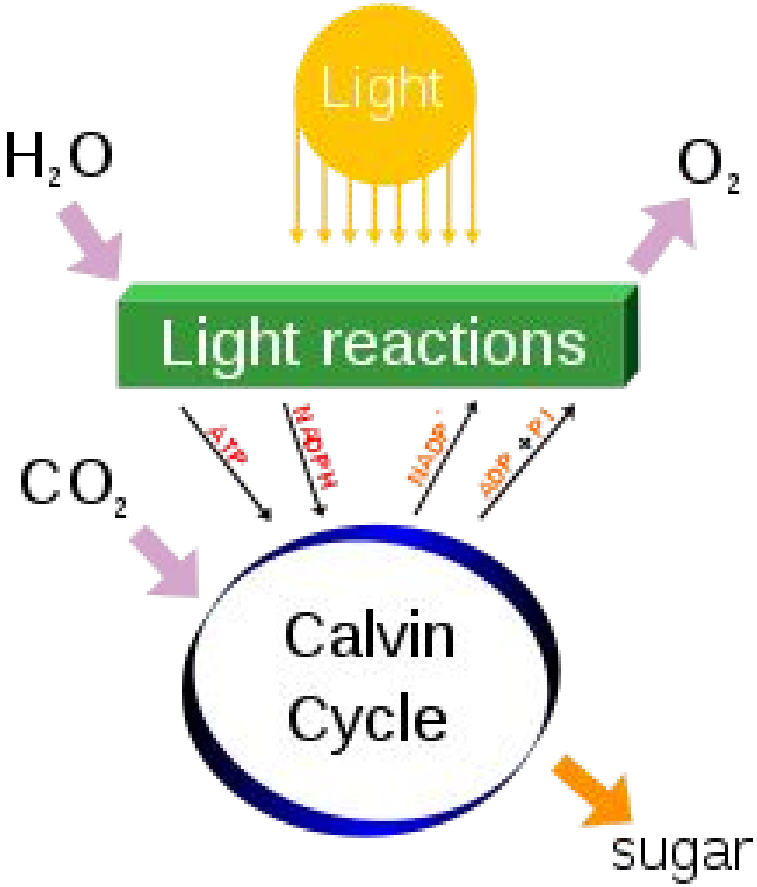
1779: Jan Igenhousz

Discovered that oxygen was only produced by plants when they were exposed to sunlight.

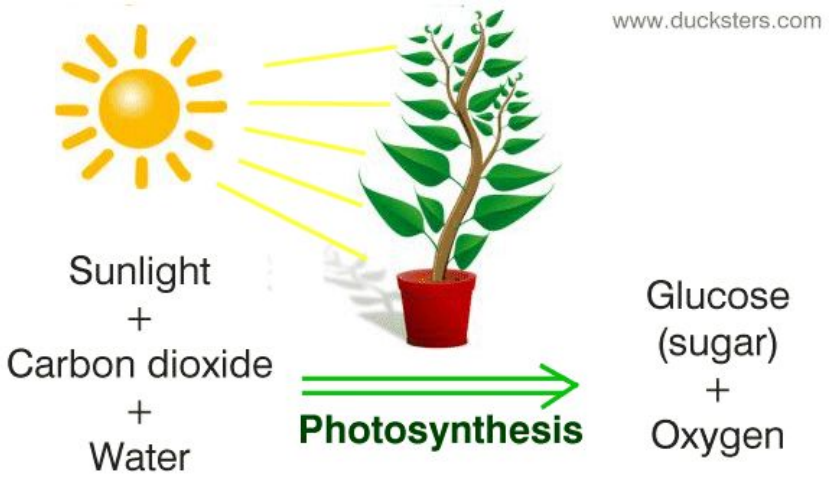


Plant + Light = OXYGEN!

1948: Melvin Calvin was able to identify the chemical path carbon follows to form the sugar glucose. These reactions are now known as the Calvin cycle.



Photosynthesis: a process which uses the energy of sunlight (photons) to convert water and carbon dioxide into high-energy sugars and oxygen (a waste product).



The Photosynthesis Equation:

$$6CO_2 + 6H_2O \longrightarrow C_6H_{12}O_6 + 6O_2$$

Carbon dioxide + water → (light) → Sugars + oxygen