

## ***What is Carbon 14 (Radiocarbon) dating?***

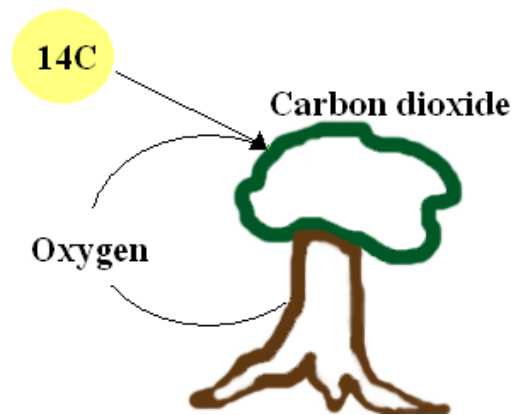
It is a scientific technique used to tell how long ago an organism lived.

## ***What can we date with Carbon 14 dating?***

Only the remains of organisms that were once alive can be dated. The most common substance dated is charcoal (burned wood) because it preserves well in archaeological sites. Other plant remains and animal bones can also be dated with this technique.

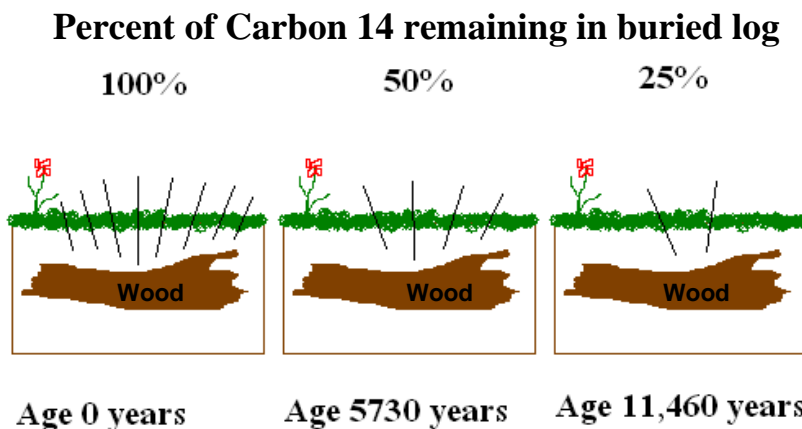
## ***How does Carbon 14 dating work?***

Plants take in carbon by “breathing”. They absorb carbon dioxide (CO<sub>2</sub>) from the atmosphere and give off oxygen (O<sub>2</sub>).



The carbon that remains in the plant is made up of C-12, C-13, and C-14; all carbon isotopes. Isotopes are atoms with different numbers of neutrons. The C-14 isotope is radioactive (unstable) and decays with a half-life (see below) of about 5730 years by the emission of an electron.

Measuring the carbon-14 present in a buried piece of wood provides a measurement of the time elapsed since it was part of a living tree.



At Age 0 years the log has its full component of C-14. After 1 half-life (5370 years) half of the C-14 has been lost. The process continues until there is no C-14 left in the log.