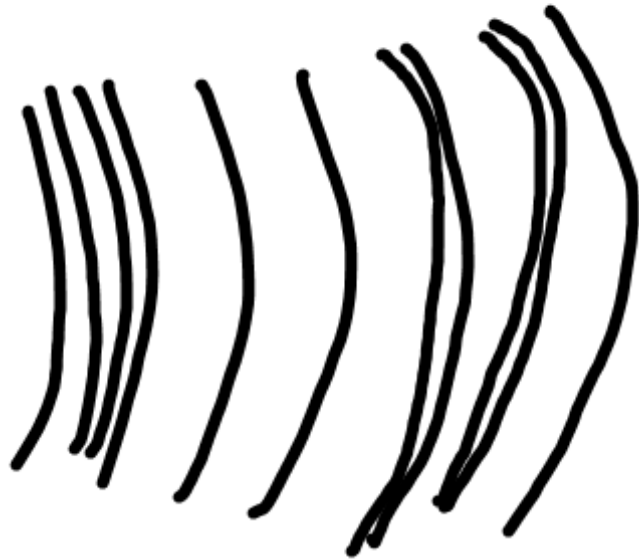


Andrew  
Ellicott  
Douglas

2012



2011



20,000 yrs.





radioactive -  
pieces flying  
out of nucleus

radio - static when pitchblend  
gets close

Henri Becquerel 1896

rays penetrate! →



1901 → air doesn't conduct  
 $e^-$ , unless rad. source  
is close.

Hans Geiger → Geiger Counter 1908

1911 → Charles Wilson -  
Cloud chamber



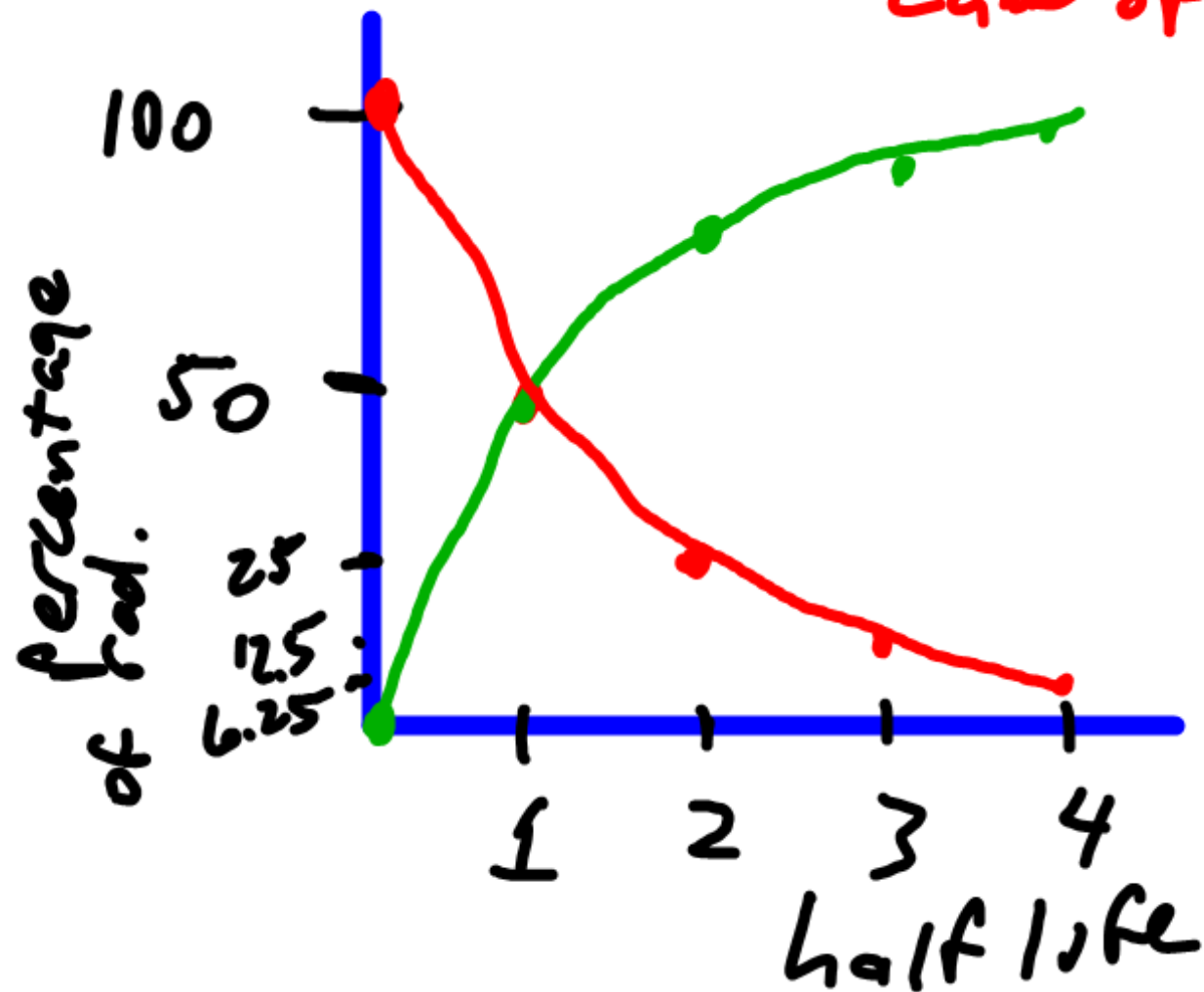
1903 Ernest Rutherford & Fredrick  
Soddy → Law of  
Radioactivity

1. - every element has its own unique decay rate.

Some el. decay to  $1/2$  in  $1/10$  <sup>millionth</sup> of a second, & some are 40 billion yrs.

2. - Once the rate is found out, it continues that same rate forever!

# Law of Probability

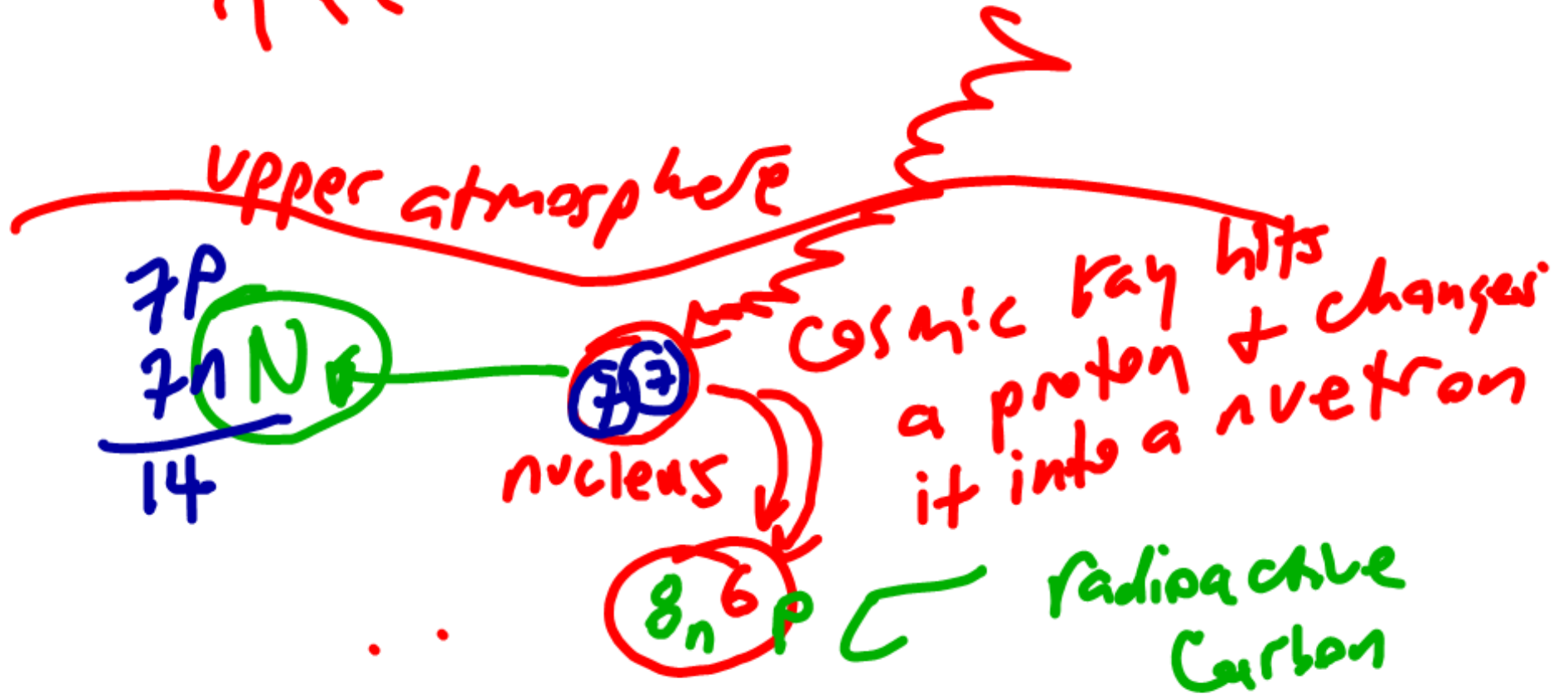


● parent

● daughter

1952 Willard F. Libby

Radio Carbon dating method

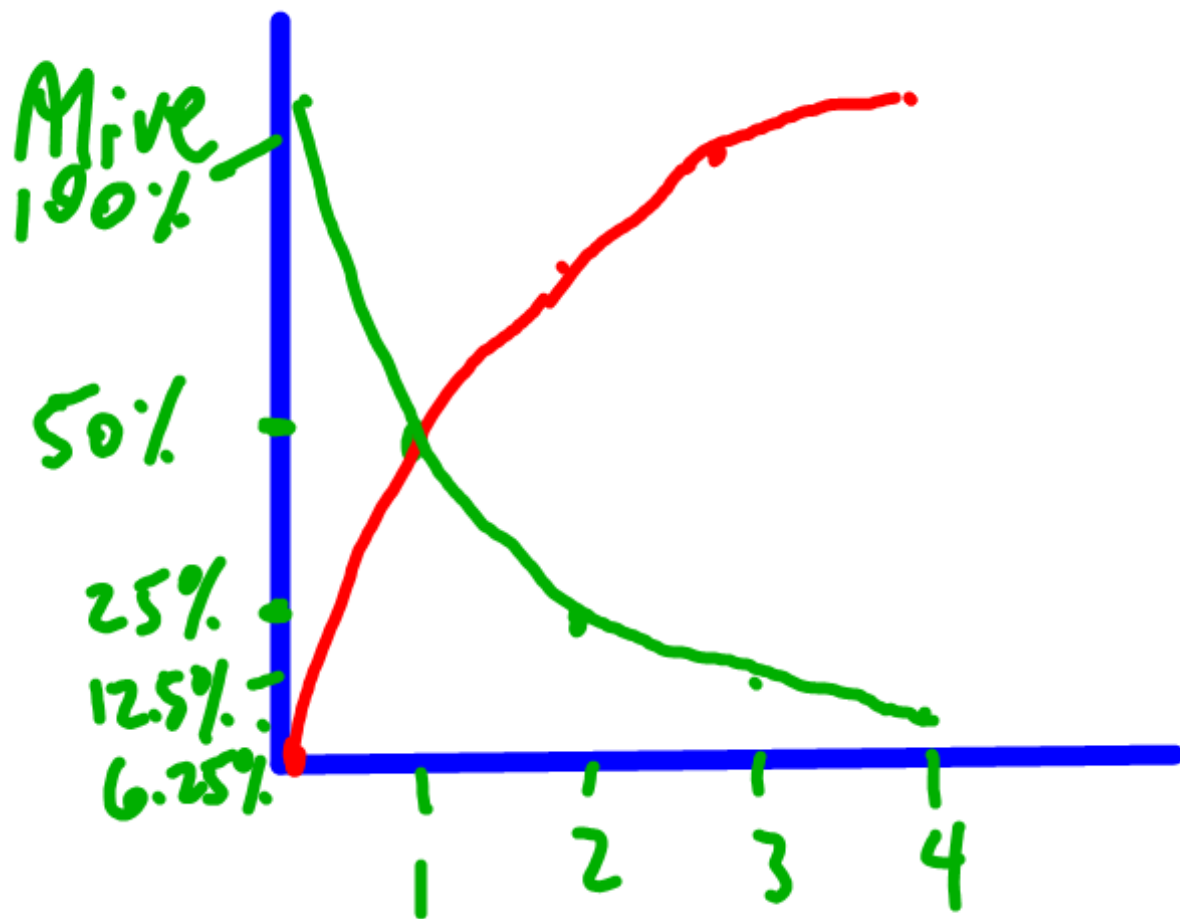


50% C-14

50% N-14

5,730 yrs

1/2 life



1 → 5,730

2 → 11,460

3 → 17,190

4 → 22,920