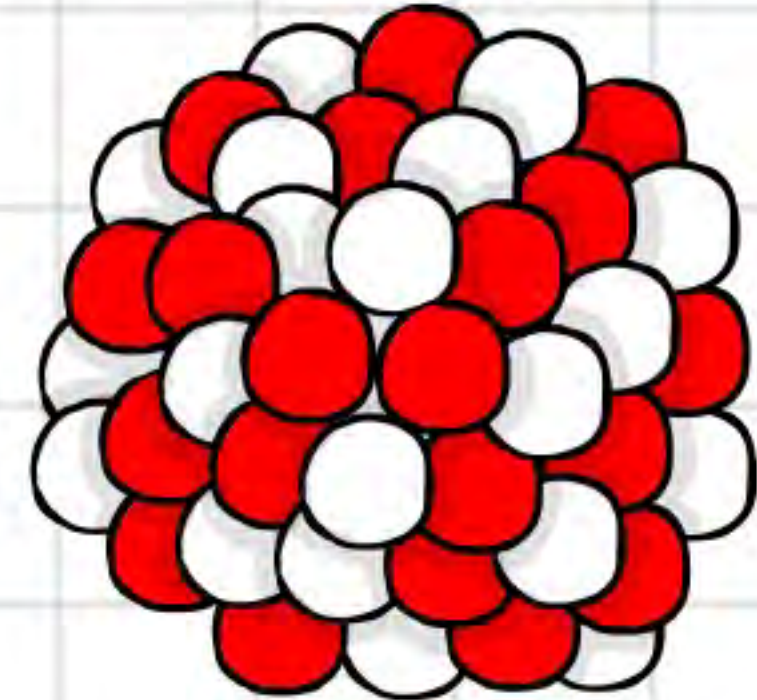


TOPIC 4: Atomic Structure

① neutrons = mass number - atomic number


mass number 40

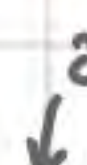
atomic number 20 Ca





● protons = atomic number

② TYPES OF DECAY

alpha particle  a helium nucleus 2^+ ion with relative mass = 4

beta particle  an electron -1 ion with relative mass = 0

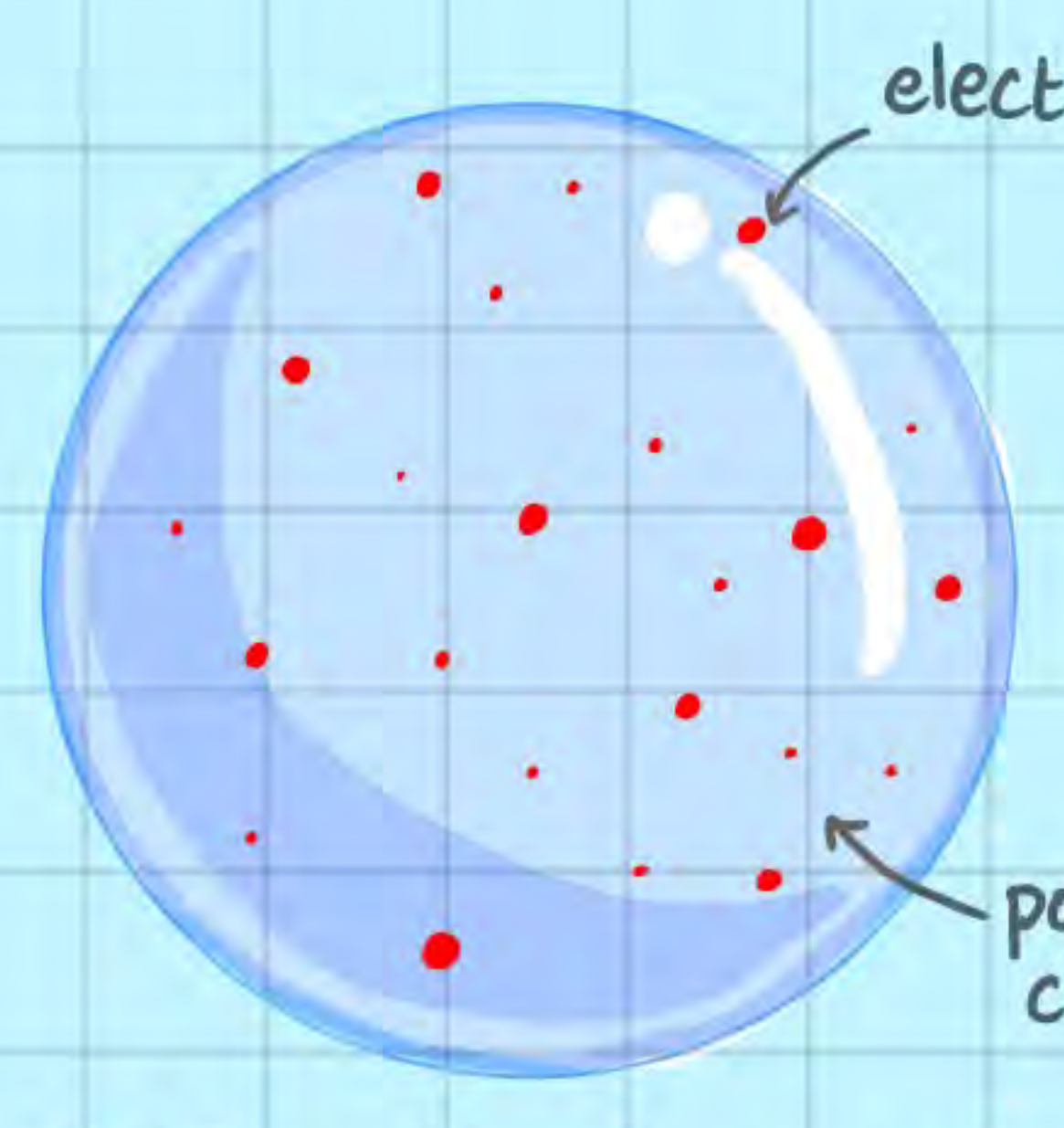
gamma ray  a wave Short wavelength, high frequency

neutron  neutral with relative mass = 1

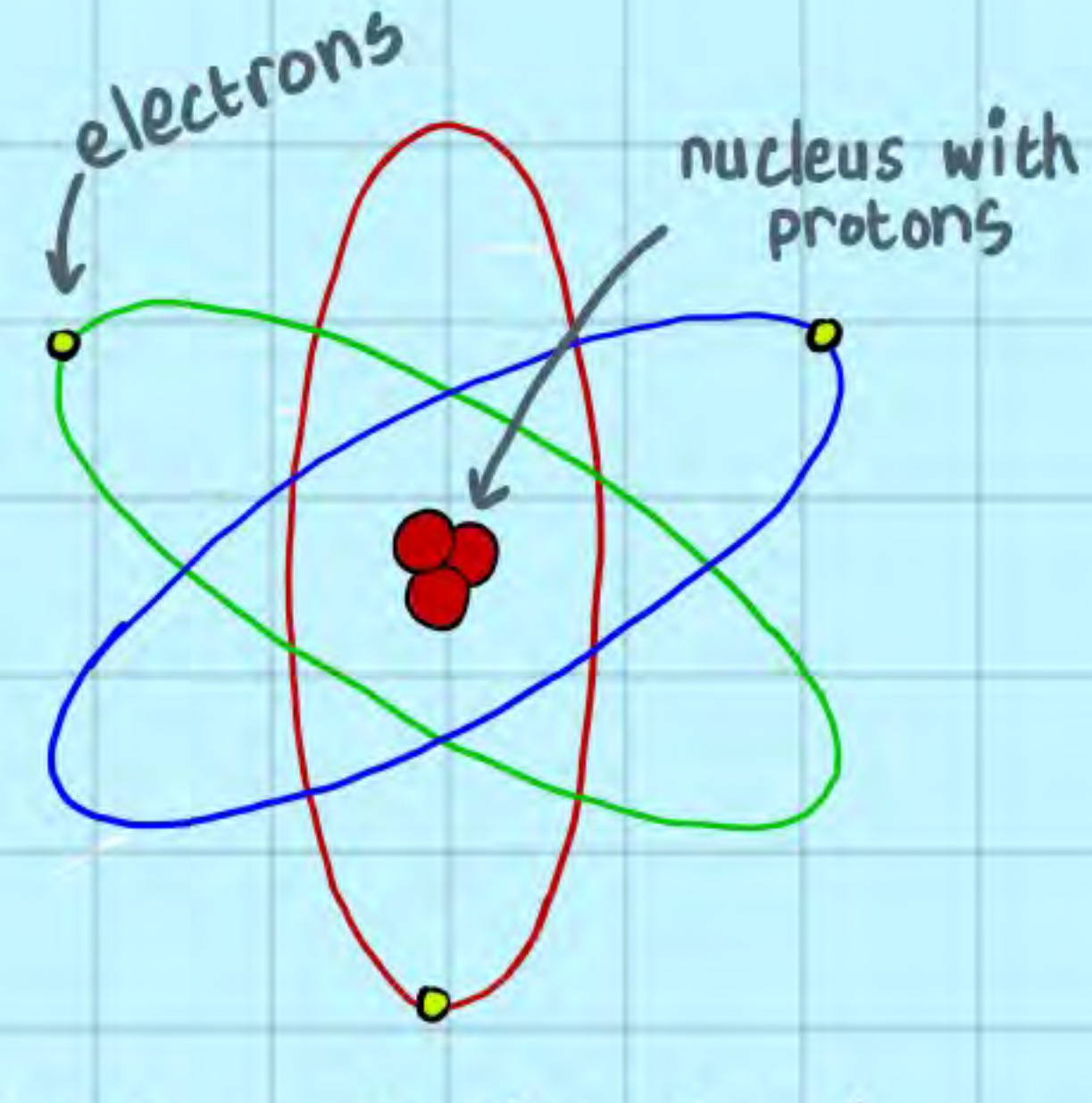
③ history of the atom



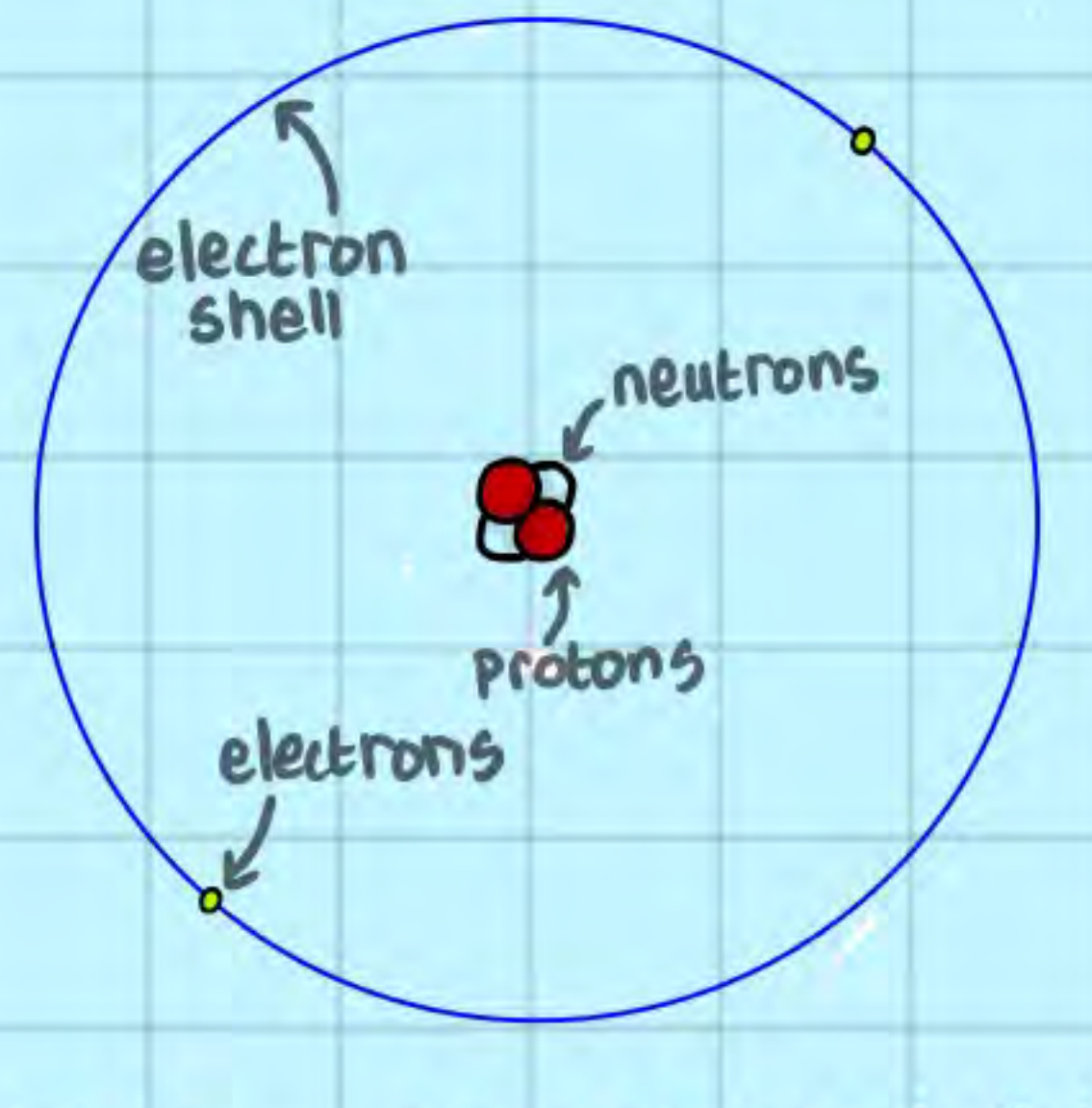
1804 - Dalton
indivisible spheres



1897 - JJ Thomson
"plum pudding" model





1909 - Rutherford
small central nucleus




1932 - James Chadwick
nucleus contains protons and neutrons.

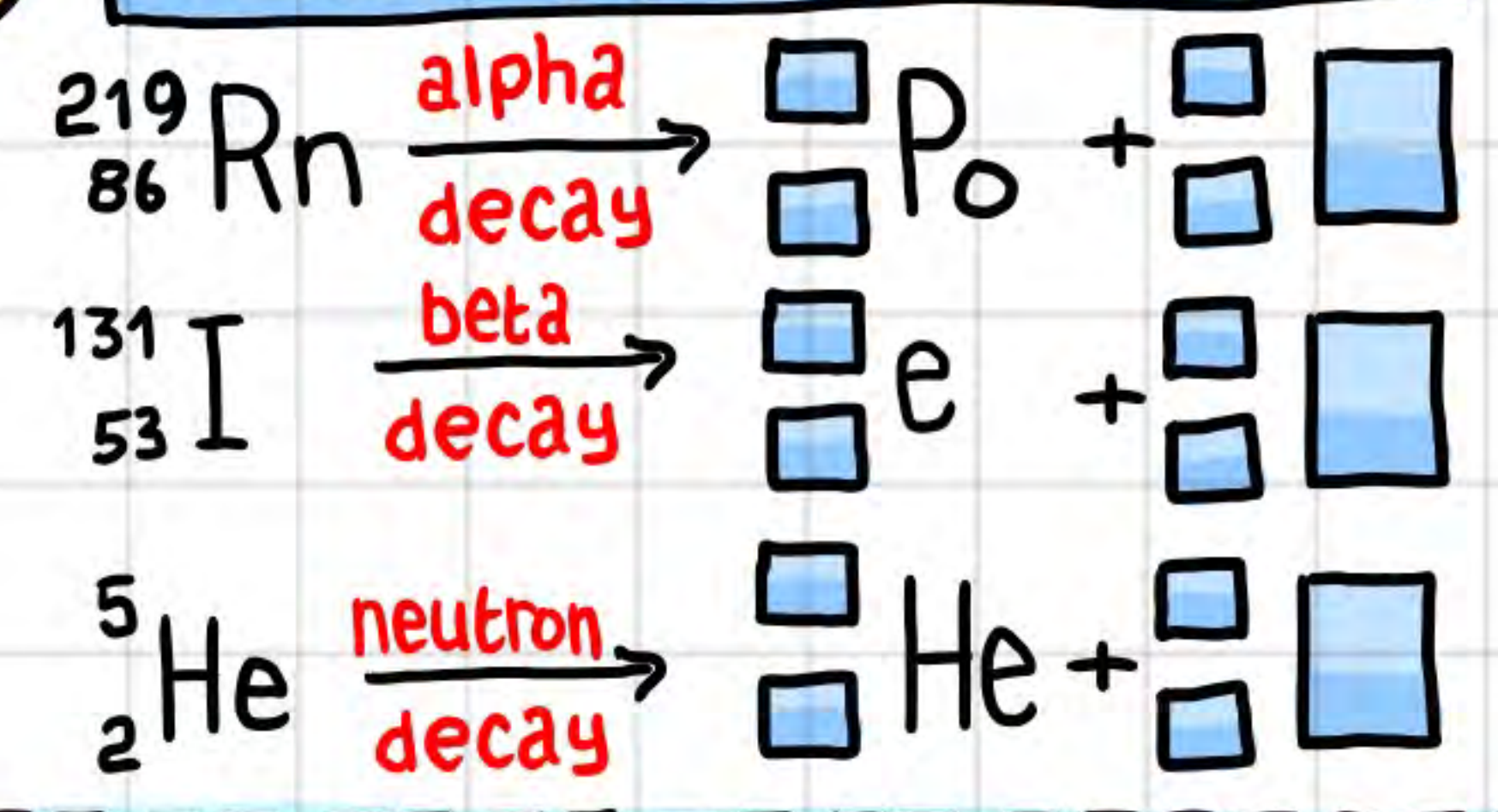
④ Nuclear word equations

Uranium-238 changes by alpha decay into thorium - 

Carbon-14 changes by beta decay into nitrogen - 

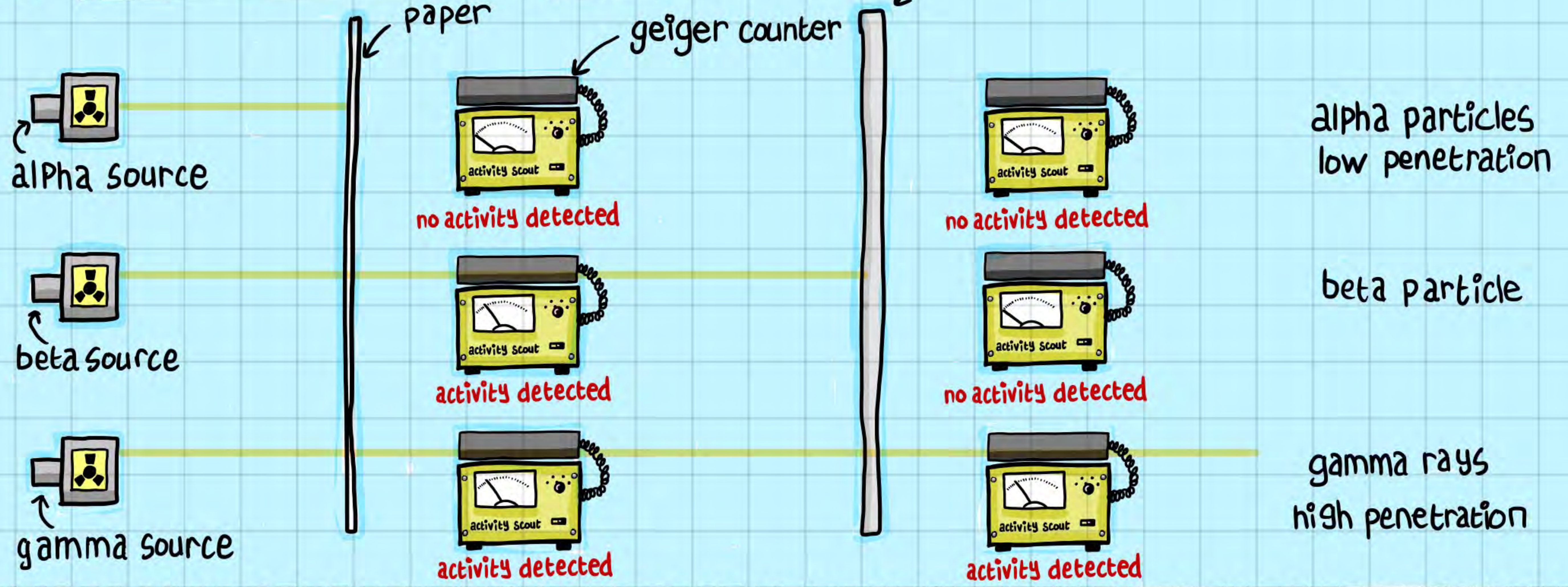
Beryllium-13 changes by neutron decay into beryllium - 

⑤ Nuclear symbol equations



⑥ Penetration experiment

Extended answer



⑦ becquerel the unit of radioactivity

1 becquerel = 1 decay (or count) per second

activity of isotope = 120Bq. How many counts would be detected in 5 seconds.

the becquerel →

