

Electromagnetic radiation

Electromagnetic radiation	waves created by vibration of electric charge wave = electric a/ magnetic components
	ex. radio, microwaves, light
	ionizing radiation can cause atoms to lose e- a/ become ions - leads to cancer

Isotopes

Isotope	An element with the same # protons but different # neutrons
	# protons/ atomic number stays the same, # neutrons atomic mass can change
Unstable or stable	If the protons and neutrons are mostly balanced then its most likely stable
	can only be off by 1

3 types of radiation

Alpha	Big, slow, larger than beta/ gamma
	take away 4 from the atomic mass
	take away 2 from the atomic number
	$226 \text{ Ra } 88 = 222 \text{ Rn } 86 + 4 \times 2$ (or 4 He 2)
Beta	fast, small, can penetrate, not far
	leave atomic mass alone but +1 for the atomic number
	$131 \text{ I } 53 = 131 \text{ Xe } 54 + 0 \text{ B } -1$
Gamma	not a particle, high energy rays (short wavelengths) travels at speed light
	leave everything the same

3 types of radiation

Name	Alpha	Beta	Gamma
Greek letter	x	B	y
Symbol	4×2	$0 \text{ e } -1$	$0 \text{ y } 0$
Composition	4 neutrons 2 protons	1 electron	energy
Charge	+2	-1	0
Stopped by	paper, skin, clothing	Aluminum foil	something thick

For the symbols its meant to look like atomic notation first number on the top second number on the bottom.

3 types of radiation stopped by

