

Answer Key for Isotope Cards

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| $^{238}_{92}\text{U}$ Uranium | Alpha Element has more than 82 protons |
| $^{234}_{92}\text{U}$ Uranium | Alpha Element has more than 82 protons |
| $^{234}_{90}\text{Th}$ Thorium | Alpha Element has more than 82 protons |
| $^{230}_{90}\text{Th}$ Thorium | Alpha Element has more than 82 protons |
| $^{226}_{91}\text{Pa}$ Protactinium | Alpha Element has more than 82 protons |
| $^{226}_{90}\text{Ra}$ Radon | Alpha Element has more than 82 protons |
| $^{223}_{95}\text{Am}$ Americium | Alpha Element has more than 82 protons |
| $^{237}_{93}\text{Np}$ Neptunium | Alpha Element has more than 82 protons |

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|--|---|
| <p>218 84 Po Polonium</p> | <p>Alpha Element has more than 82 protons</p> |
| <p>211 83 Bi Bismuth</p> | <p>Alpha Element has more than 82 protons</p> |
| <p>210 82 Pb Lead</p> | <p>Beta - There are too many neutrons for the number of protons</p> |
| <p>138 56 Ba Barium</p> | <p>Stable</p> |
| <p>125 55 Cs Caesium</p> | <p>Beta + There are not enough neutrons for the number of protons</p> |
| <p>58 30 Zn Zinc</p> | <p>Beta + There are not enough neutrons for the number of protons</p> |
| <p>12 6 C Carbon</p> | <p>Stable</p> |
| <p>22 9 F Fluorine</p> | <p>Beta - There are too many neutrons for the number of protons</p> |

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|---|---|
| <p>184 74 W Tungsten</p> | Stable |
| <p>75 33 As Arsenic</p> | Stable |
| <p>146 55 Cs Caesium</p> | Beta - There are too many neutrons for the number of protons |
| <p>73 30 Zn Zinc</p> | Beta - There are too many neutrons for the number of protons |
| <p>16 6 C Carbon</p> | Beta - There are too many neutrons for the number of protons |
| <p>19 9 F Fluorine</p> | Stable |
| <p>6 3 Li Lithium</p> | Stable |
| <p>56 26 Fe Iron</p> | Stable |

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|---|---|
| <p>86 35 Br Bromine</p> | <p>Beta - More neutrons than protons</p> |
| <p>114 47 Ag Silver</p> | <p>Beta - More neutrons than protons</p> |
| <p>150 79 Au Gold</p> | <p>Beta + More protons than neutrons for the 1:1.5 ratio</p> |
| <p>196 77 Ir Iridium</p> | <p>Beta - More neutrons than protons</p> |
| <p>10 6 C Carbon</p> | <p>Beta + More protons than the 1:1 ratio</p> |
| <p>16 9 F Fluorine</p> | <p>Beta + More protons than the 1:1 ratio</p> |
| <p>32 18 Ar Argon</p> | <p>Beta + More protons than the 1:1 ratio</p> |
| <p>57 27 Co Cobalt</p> | <p>Beta + Slightly more protons than the 1:1/1:1.5 ratios that the light near the pattern of.</p> |
| <p>122 53 I Iodine</p> | <p>Beta -</p> |

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|---|--|
| $^{125}_{49}\text{In}$ In Indium | Beta - More than 1.5 neutrons than protons |
| $^{194}_{80}\text{Hg}$ Hg Mercury | Beta+ More protons than the 1:1.5 p+/n0 ratio. neutrons |
| $^{210}_{83}\text{Pb}$ Pb Lead | Alpha Element has more than 82 protons |
| $^{167}_{65}\text{Tb}$ Tb Terbium | Beta - More neutrons than protons |
| $^{128}_{50}\text{Sn}$ Sn Tin | Beta - More neutrons than protons |
| $^{67}_{25}\text{Mn}$ Mn Manganese | Beta - More neutrons than protons |
| $^{44}_{16}\text{S}$ S Sulfur | Beta - More neutrons than protons |