

Atomic Structure & Isotopes

Label these three isotopes of carbon

every word is used at least once

tick each word as you use it

☐ electrons ☐ protons ☐ neutrons ☐ positive ☐ negative ☐ neutral

carbon-12



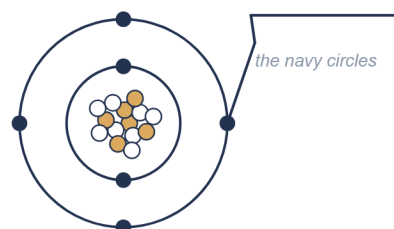
write the symbol

carbon-13



write the symbol

carbon-14



write the symbol

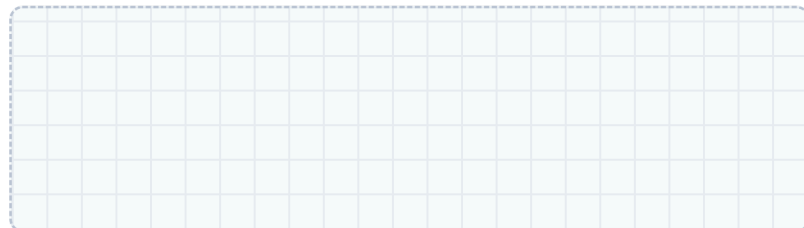
proton = _____ neutron = _____ electron = _____

Isotopes have the **same** number of _____, but a **different** number of _____.

An **ion** is formed when an atom loses (or gains) an _____.

The number of _____ — the **atomic number** — is what defines the element.

Your turn — draw any atom you like



symbol _____
 protons _____
 neutrons _____
 electrons _____
 mass number _____
 atomic number _____

Then add a wavy arrow to your drawing to show radiation being **absorbed** or **emitted** by an electron. (*further from the nucleus / high energy level*)

Exam-style question

[5 marks]

Carbon-12 and carbon-14 are both **isotopes of carbon**.

Describe the structure of a **carbon-14** atom, and explain why carbon-12 and carbon-14 are **both still carbon**.

(5)
