

OCR (B) Chemistry A-Level

EL2 - Atomic Structure

Flashcards

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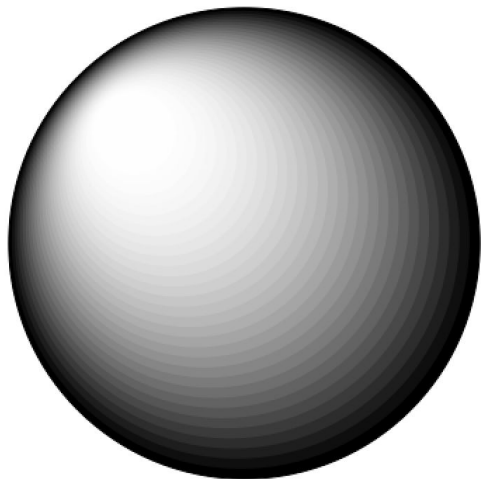


What are the shapes of s and p orbitals?

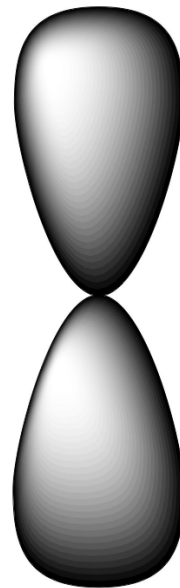


What are the shapes of s and p orbitals?

s:



p:



What are orbitals?



What are orbitals?

Orbitals are regions in the space around an atom where electrons are most likely to be found, they can contain a maximum of two electrons.



How are electrons arranged in orbitals?



How are electrons arranged in orbitals?

Electrons fill from the lowest energy orbital first (e.g. they will not fill the fourth shell first).

Electrons will prefer to occupy orbitals by themselves, and will only pair with other electrons if no other lower energy orbitals are available to fill.

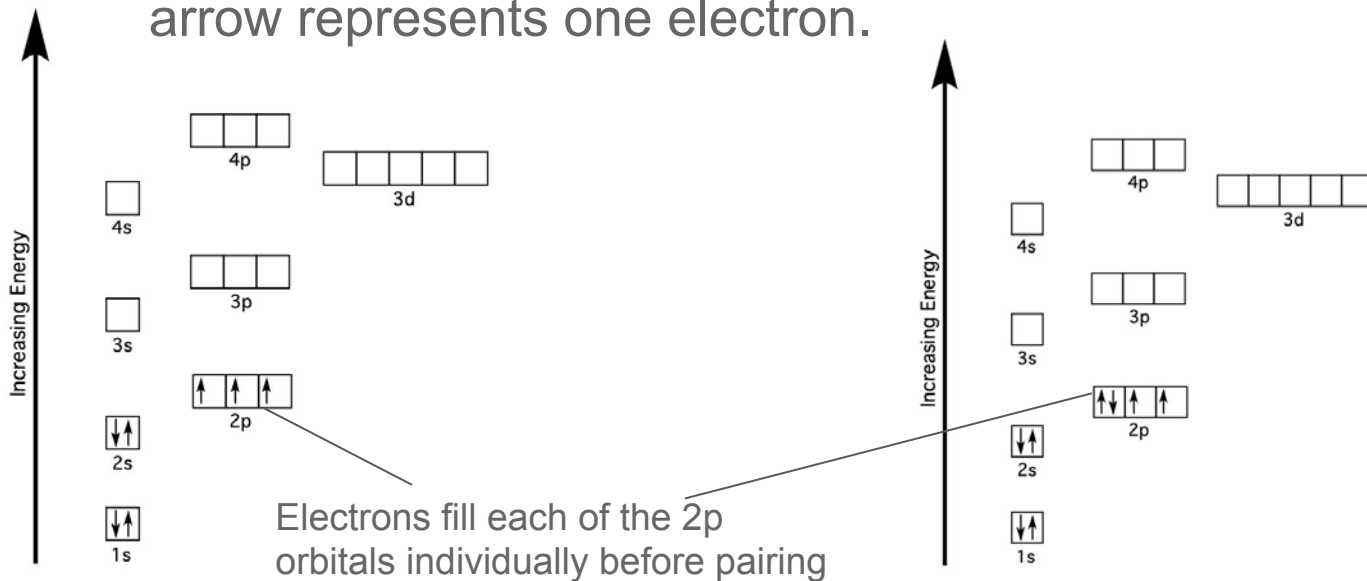


How are orbitals filled on the energy level diagram?



How are orbitals filled on the energy level diagram?

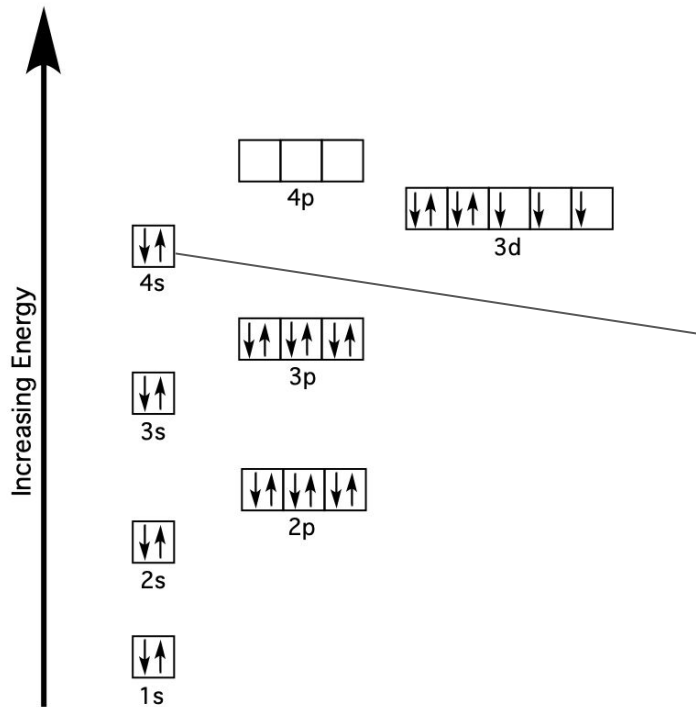
Each box on the diagram represents one orbital and each arrow represents one electron.



Why does the 4s orbital fill before 3d orbital?



Why does the 4s orbital fill before the 3d orbital?



The 4s orbital is of a lower energy than the 3d orbital, so it fills up first.

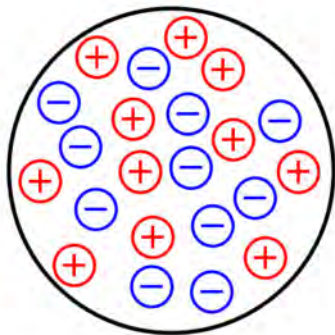


What is the plumb pudding model?



What is the plumb pudding model?

Charge is equally distributed around the atom.

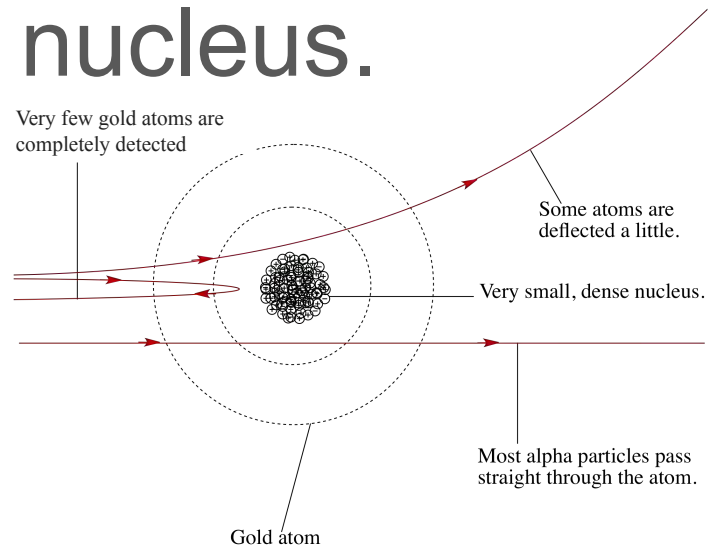


What did the Geiger-Marsden experiment show?



What did the Geiger-Marsden experiment show?

It showed that the atom contained a very small, dense, positive nucleus.



What is fusion?



What is fusion?

When two lighter nuclei collide and combine to form a heavier nucleus, releasing energy.



What are the conditions for fusion to happen?



What are the conditions for fusion to happen?

A very high temperature and pressure.

