Quantum #'s Part 2:

review:
n = primary energy
n = primary energy / # / size
ℓ = shape
ℓ = shape / ○ ∞ 8

new:
m_ℓ: magnetic QN
m_s: spin QN

3d / n = 3 / ℓ = 2 /
m_ℓ = 2, 1, 0, −1, −2

m_ℓ = orientaion of orbitals @ sublevel / #
can have intergral values of ℓ to $-\ell$

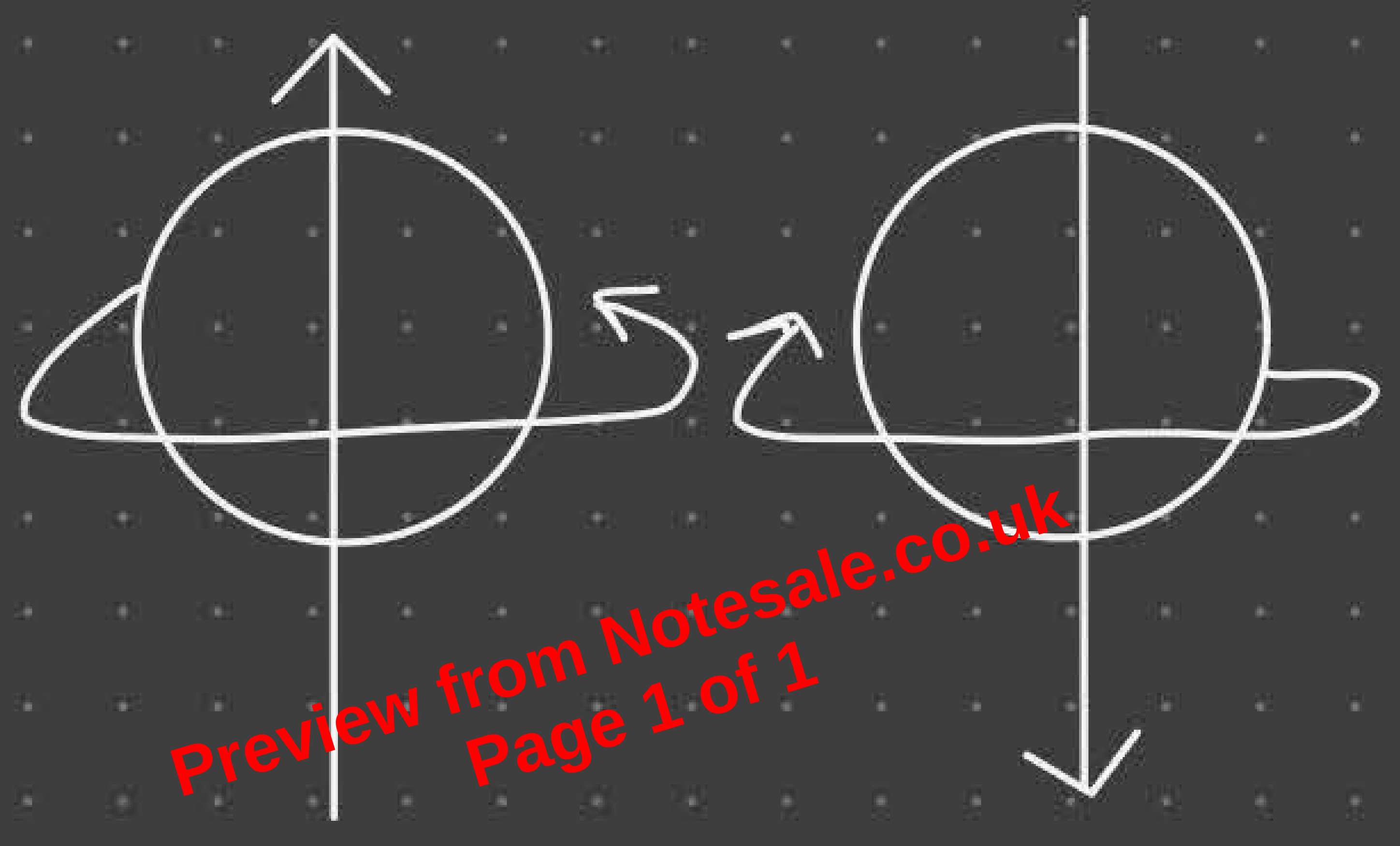
$$\ell = 1 = p \quad m_\ell = \underbrace{1, 0, -1}_{3}$$

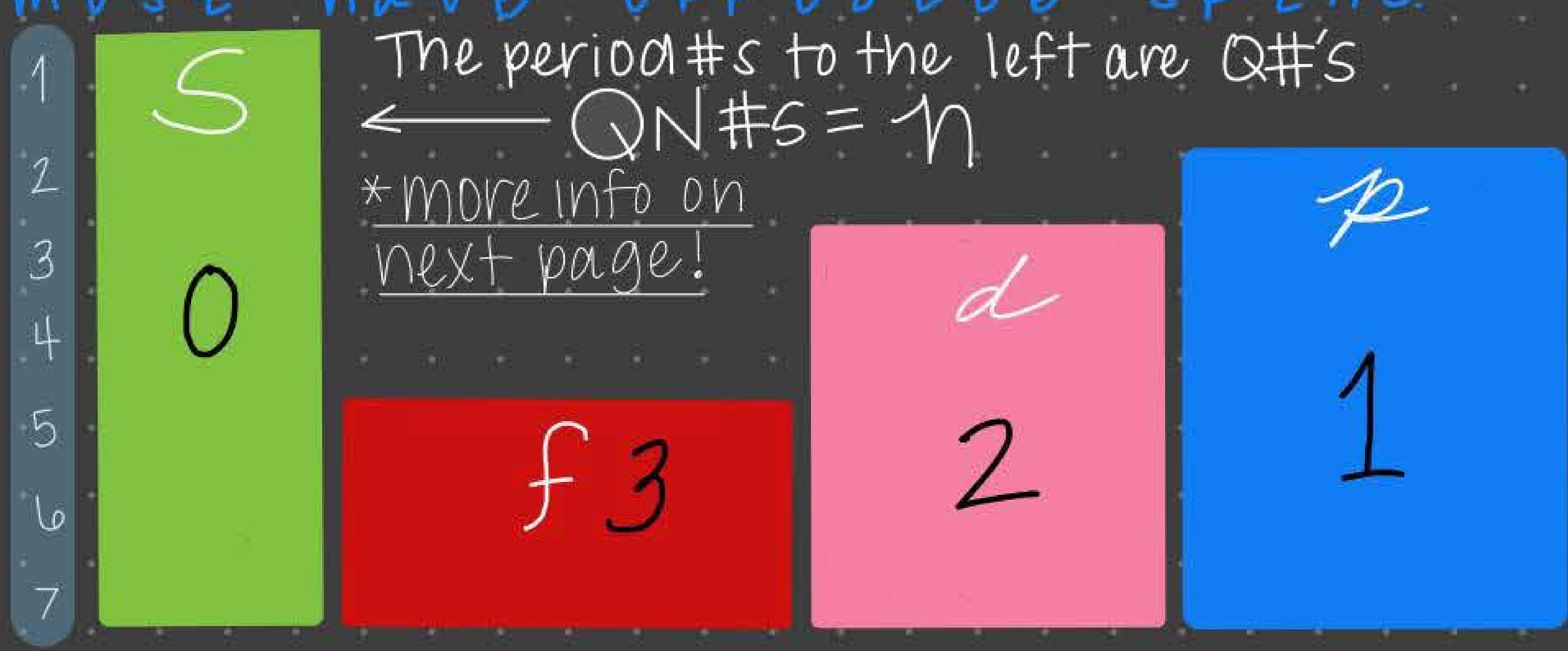
→ element of uncertanty cannot say what # matches which model.

m_s = spin QN: can only have 2 values.

$+\frac{1}{2}$ or $-\frac{1}{2}$
↑ ↓

Pauli Exclusion Principal
No two electrons in an atom can have the same set of Quntum numbers.
Therefore:
An orbital can have up to two electrons.
Two electrons in the same orbital must have opposite spins.





Quantum Numbers Relate to the Periodic Table.
-Electron configuration describes an electronic structure of an atom by listing the occupied sublevels and the number of electrons in each sublevel.