

# Energy Sublevels



# The sublevels

There are four sublevels of energy that electrons can occupy, labeled in order of increasing energy: **s**, **p**, **d** and **f**. Each sublevel holds a different number of electrons.

sublevel	max. no. electrons
s	2
p	6
d	10
f	14

Each principal energy level contains a different number of sublevels.

principal energy level, n	sublevels	max. no. electrons
1	1s	2
2	2s, 2p	8
3	3s, 3p, 3d	18
4	4s, 4p, 4d, 4f	32

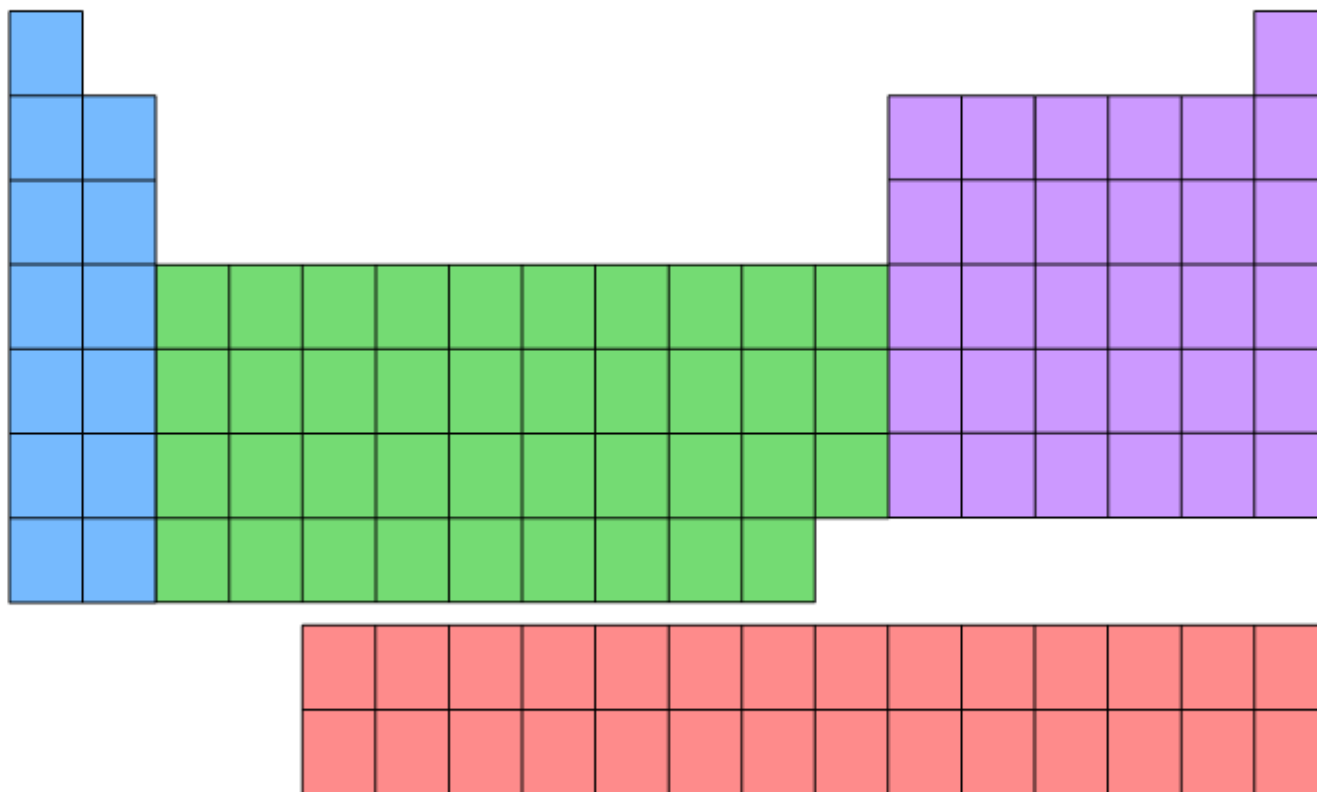
# Levels and sublevels



## Blocks of the periodic table

What are s, p, d and f blocks?

Click a shaded area of the periodic table to find out.



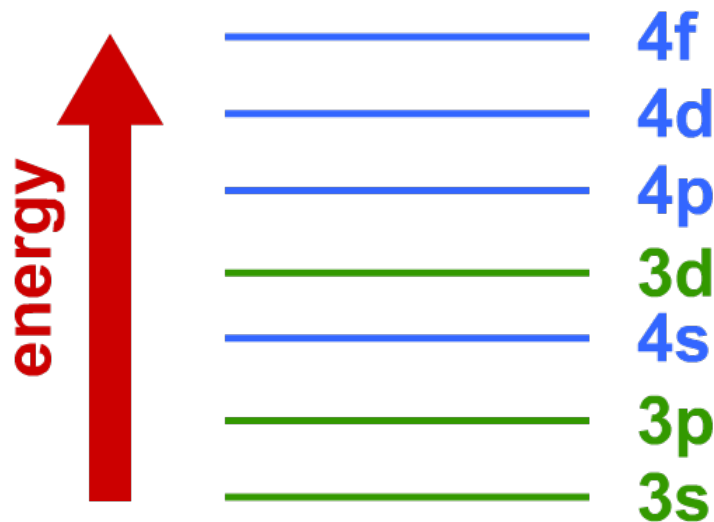
# The Aufbau principle

As part of his work on electron configuration, Niels Bohr developed the **Aufbau principle**, which states how electrons occupy sublevels.

The **Aufbau principle** states that the **lowest energy sublevels are occupied first**.

This means that the 1s sublevel is filled first, followed by 2s, 2p, 3s and 3p.

However, the 4s sublevel is **lower** in energy than the 3d, so this will fill first.



# Order of sublevels

