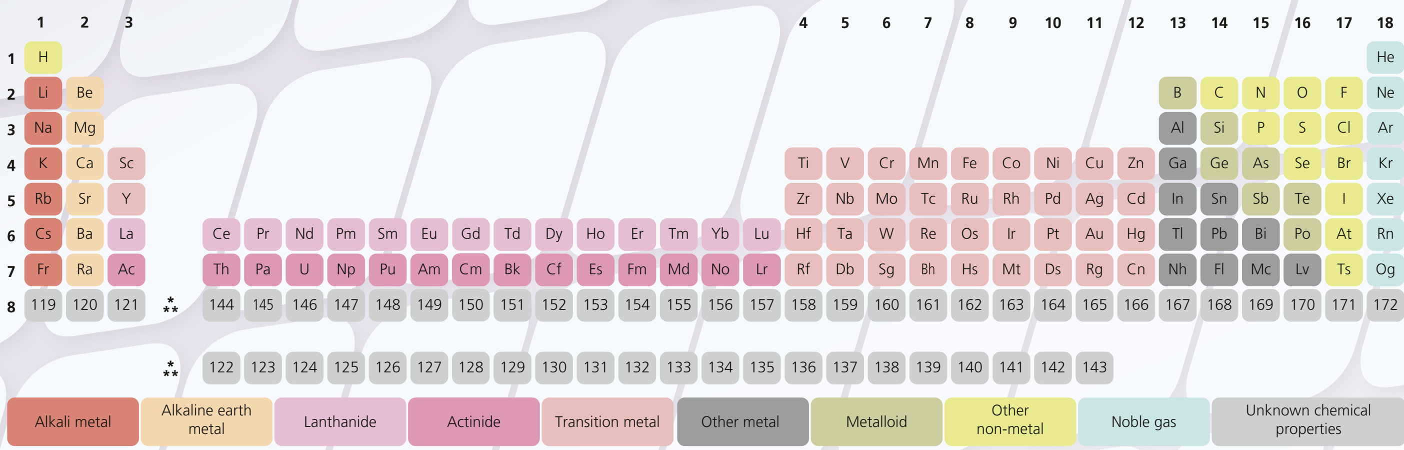
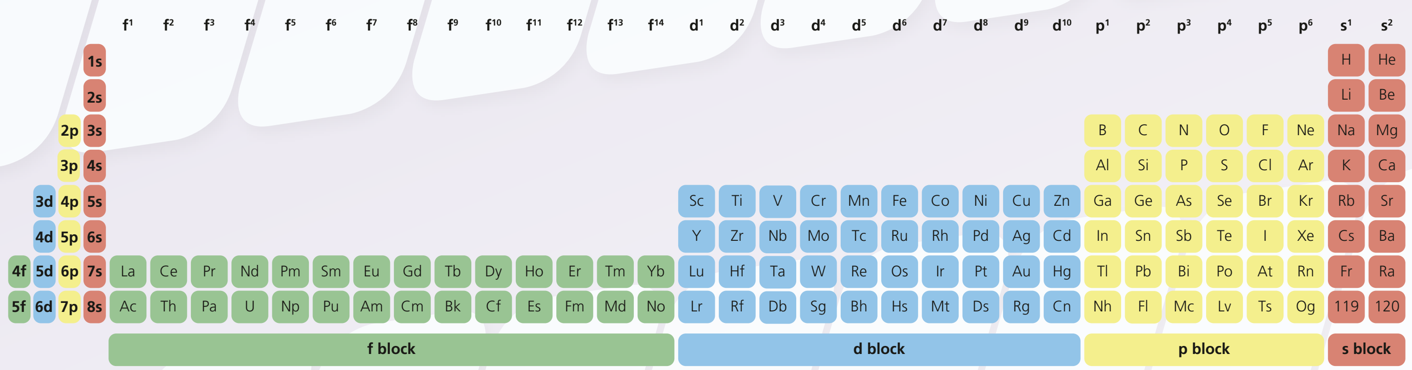
Alternative periodic tables

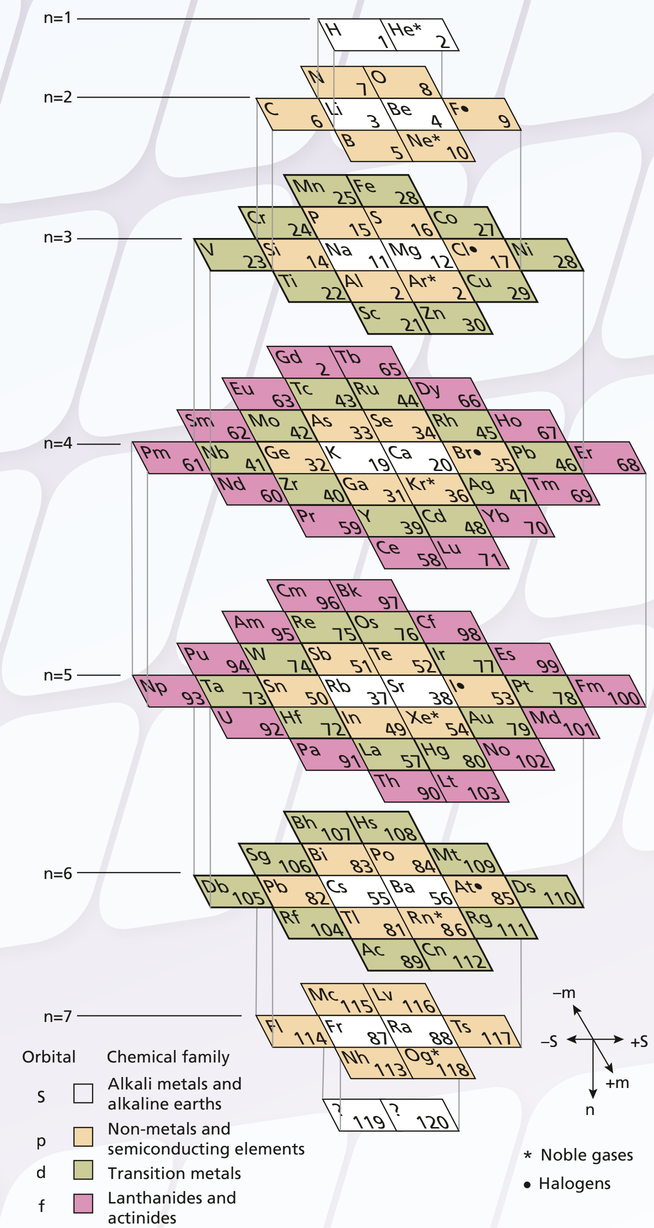
Several alternative periodic tables have been proposed that address some of the shortcomings of Mendeleev's table (see pp. 2–6). Do you think they work better than the version on your classroom wall?



The extended periodic table, with elements up to $Z = 172$. This table shows the lanthanides and actinides (f block) in their correct positions between groups 3 and 4. The hypothetical g block is shown underneath

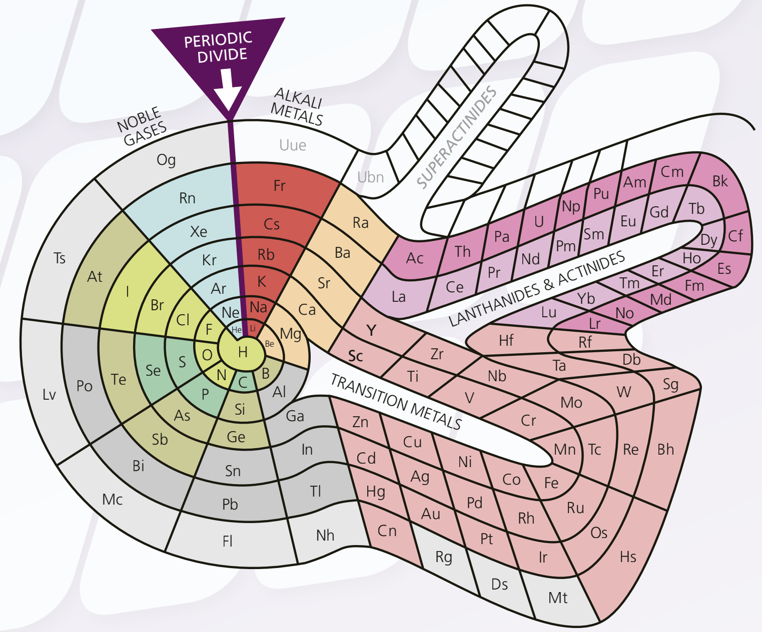


Janet's left-step periodic table (1928). Start at hydrogen (top right) and work across the table row by row. The table gives you the correct sequence of orbital filling



Stowe's physicist's periodic table (1989). The principal quantum number, n, (the number of the period in the traditional table) forms the vertical axis, shown on the left. The elements with this n value are then arranged along two further axes, the spin quantum number, s, and the magnetic quantum number, m. This table is actually four-dimensional, with the azimuthal quantum number, l, represented by colour

Simplified periodic table



Benfey's spiral periodic table (1964). Start in the centre (hydrogen, $Z = 1$) and trace the sequence of elements round in a clockwise spiral. The table runs all the way to oganesson ($Z = 118$) — the heaviest known element — and allows for the discovery of the proposed superactinides (g block)

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