

Explain how the structure and properties of atoms relate to...

explain how the structure and properties of atoms relate to the organisation of the elements in the periodic table

Learning intention

- explain how the structure and properties of atoms relate to the organisation of the elements in the periodic table

Teach and model

- examining how elements are organised in the periodic table and analysing patterns to discern that elements in the same group of the periodic table have similar properties
- investigating the physical properties of some metals and non-metals
- using the Bohr model of the atom to describe the structure of atoms in terms of electron shells and relating this to their properties and position in the periodic table

Check understanding

- Explain the main idea in explain how the structure and properties of atoms relate to... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.