

Classify matter as elements, compounds or mixtures and compare different...

classify matter as elements, compounds or mixtures and compare different representations of these, including 2-dimensional and 3-dimensional models, symbols for elements and formulas for molecules and compounds

Learning intention

- classify matter as elements, compounds or mixtures and compare different representations of these, including 2-dimensional and 3-dimensional models...

Teach and model

- using virtual and physical models to distinguish between elements and compounds in terms of types of atoms
- examining how Dmitri Mendeleev arranged the elements in the first version of the periodic table and comparing his arrangement with the current version
- explaining why elements are represented by symbols, compounds and molecules by formulas and mixtures by percentages

Check understanding

- Explain the main idea in classify matter as elements, compounds or mixtures and compare different... 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.