

Elements compounds and mixtures

Unscrambling definitions is a fun way to test and consolidate learners' understanding of key terms and definitions. Instruct learners to piece together the definitions and then use their understanding of the terms to complete sentences. Answers are given below and are also provided as slides. Like the accompanying Frayer models, unscrambling definitions probe learners' understanding and target the trickier terms in the key terms list.

Ideas for adaptation

Integrate speaking and listening skills into this activity:

- Print the unscrambling definitions grid and cut around the individual boxes. Ask learners to each take a box and – as a class or group – arrange themselves into the various definitions. When everyone is ready, ask each learner to read out their own part of the definition in turn.
- Ask learners to read out the connection completion slide in full.
- For a quicker adaptation, consider doing a think, pair, share activity where learners discuss and decide on the correct definitions in pairs or small groups.

Provide more support by linking the term in column A to the correct entry in column B and perhaps the entry in column B to the correct entry in column C, for the first few key terms in the grid.

Read more about unscrambling definitions and their use: rsc.li/3Gda32t

Answers

These are also supplied on the accompanying slides.

Unscrambled definitions

The **molecular formula** uses chemical symbols to give the number of atoms of each element in one molecule of the substance, such as N_2 for nitrogen or H_2O for water.

The **empirical formula** gives the simplest whole number ratio of atoms of each element in a substance, such as CH_2 for ethene which has molecular formula C_2H_4 .

The **chemical formula** uses chemical symbols to show the relative number of the atoms of each element in a substance, such as H_2O for water or $NaCl$ for sodium chloride.

Aqueous is when a substance is dissolved in water; shown by the state symbol (aq).

Dilute is when there is not very much solute dissolved in a particular volume of solvent.

Concentrated is when there is a lot of solute dissolved in a particular volume of solvent.

A **saturated solution** is when no more solute can dissolve in a particular volume of solvent at that temperature.

Connection completion answers

Learners should choose row C as the correct connections for the sentences.

C	by	Furthermore	until
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Completed sentences:

A dilute, aqueous solution can be made more concentrated **by** adding more solute. **Furthermore**, in order to produce a saturated solution, more solute must be added **until** no more can dissolve in a particular volume of solvent at that temperature.

Other key terms support resources

This resource is part of the key terms support for the **elements compounds and mixtures** topic. Find the following accompanying resources at rsc.li/4j5xfyj:

- Key terms list – carefully selected vocabulary, with definitions, that learners will come across when studying this topic at this stage
- Accessible glossary – expand on the key terms list with diagrams, examples, pronunciation guides and more
- Frayer models – a way for learners to organise their understanding of a new piece of vocabulary by working through four conceptual quadrants: explore, break down, explain, consolidate.