Organic compounds and reactions

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

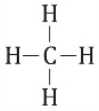
These are also supplied on the accompanying slides.

Unscrambled definitions

The **general formula** is a formula that represents every member of a particular homologous series, such as C_nH_{2n+2} for alkanes.

The **structural formula** shows the number and arrangement of the atoms of each element in one molecule, such as $CH_3CH_2CH_3$ for propane.

The **displayed formula** is a type of structural formula that shows all the bonds between the atoms in the molecule, such as shown here for methane.



A **functional group** is a group of atoms that are responsible for the chemical properties of a compound, such as the -OH group in an alcohol.

An **alkene** is a hydrocarbon with a $C{=}C$ double bond which has the general formula C_nH_{2n} such as ethene and propene.

An **unsaturated hydrocarbon** is a hydrocarbon with a double or triple bond between one or more of the carbon atoms, such as an alkene.

An **alcohol** is an organic compound that contains an -OH functional group, such as methanol and ethanol.

A **carboxylic acid** is an organic compound that contains a -COOH functional group, such as methanoic acid and ethanoic acid.

Connection completion answers

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

D	because	due to	furthermore

Completed sentences:

Alkenes are unsaturated hydrocarbons **because** they have a C=C double bond. It is **due to** this double bond that all alkenes have similar chemical properties and, **furthermore**, the same general formula.

Other key terms support resources

This resource is part of the key terms support for the **organic compounds and reactions** topic. Find the following accompanying resources at rsc.li/4js7w2l:

- 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.