

Compounds and formulas matching pairs game

This resource is from the **Inspirational chemistry** series which can be viewed at: rsc.li/47oAHy0. This series provides contexts for teaching curriculum topics set in everyday situations.

Learning objectives

- 1 Name compounds from their formulas and vice versa.
- 2 Recall the names and formulas of common compounds.

How to use

Photocopy the cards, cut them up and make them into packs. You could laminate the cards to make them last longer. You can also add the optional card backs if you wish.

Ask learners to work in pairs or small groups in one of the following ways:

- Learners lay all the cards face down and take it in turns to turn over two cards. If a player selects a matching name and formula card, then they keep the pair. They can have another turn. If they do not pick up a matching pair, they must put the cards back. The winner is the player with the most pairs at the end.
- Learners can start with all the cards face up and simply match each compound name with its formula.

Learners can also play on their own.

Scaffolding

- There are twenty pairs in the full set. Scaffold up or down by removing or adding pairs of compounds and formulas from the set.
- You can use the blank cards to add different compounds and formulas.
- To reduce the memory demand of the matching game, split the cards into two sets – compounds and formulas – so that learners choose one card from each set during each turn. Use the optional card backs to differentiate between the compound and formula cards when they are face down.

Challenge opportunities

- Ask learners to use the blank cards to write their own pairs of compounds and formulas to test themselves or their peers.
- Ask learners to sort the pairs into categories. How many different categories can they think of? For example: ionic and covalent; acid, alkali or neutral; small molecule or giant molecule; salts.

Answers

Compound	Formula
Ammonia	NH_3
Carbon dioxide	CO_2
Methane	CH_4
Water	H_2O
Hydrochloric acid	HCl
Sulfuric acid	H_2SO_4
Calcium oxide	CaO
Iron oxide	Fe_2O_3
Lead oxide	PbO
Sodium hydroxide	NaOH

Compound	Formula
Barium chloride	BaCl_2
Sodium chloride	NaCl
Calcium carbonate	CaCO_3
Copper carbonate	CuCO_3
Sodium carbonate	NaCO_3
Potassium nitrate	KNO_3
Silver nitrate	AgNO_3
Barium sulfate	BaSO_4
Copper sulfate	CuSO_4
Sodium sulfate	NaSO_4

Compounds (1/2)

Ammonia	Carbon dioxide	Methane
Water	Hydrochloric acid	Sulfuric acid
Calcium oxide	Barium chloride	Sodium chloride
Calcium carbonate	Copper carbonate	Sodium carbonate
Potassium nitrate	Silver nitrate	Barium sulfate

Compounds (2/2)

Copper sulfate	Sodium sulfate	Iron oxide
Lead oxide	Sodium hydroxide	

Formulas (1/2)

NH_3	CO_2	CH_4
H_2O	HCl	H_2SO_4
CaO	BaCl_2	NaCl
CaCO_3	CuCO_3	Na_2CO_3
KNO_3	AgNO_3	BaSO_4

Formulas (2/2)

CuSO_4	Na_2SO_4	Fe_2O_3
PbO	NaOH	

Card backs (optional)

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