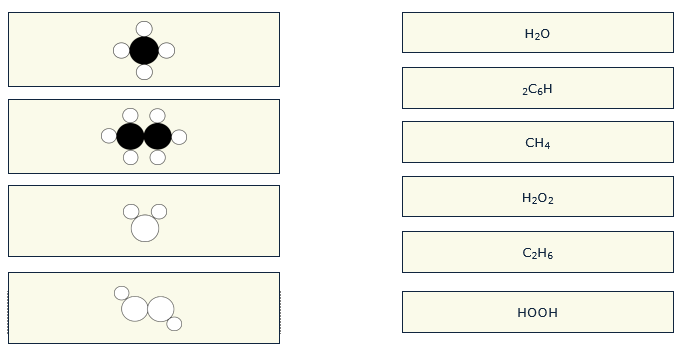
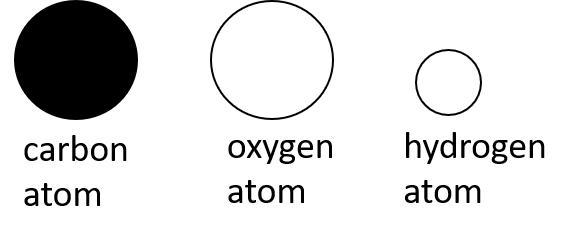
**Formula practice**

1. Match each molecule to the correct formula.



Key:

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*Chemistry > Big idea CPS: Particles and structure > Topic CPS2: Elements and compounds > Key concept CPS2.2: Symbols and formulae*

|  |
| --- |
| **Response activity** |
| **Formula practice** |

**Overview**

|  |  |
| --- | --- |
| Learning focus: | A chemical formula provides information on the composition of a substance. |
| Observable learning outcome: | Select an appropriate chemical formula for a given, simple, molecule. |
| Question type: | application and practice |
| Key words: | atom, molecule, formula |

This activity can help develop students’ understanding by addressing the misunderstandings revealed by the following diagnostic question:

* Formula practice

**What does the research say?**

A review of empirical research (Taskin and Bernholt, 2012) describes different ways in which students were found to interpret chemical formulae. Some students assumed that a chemical formula provided a code for the order of connections within a substance. This meant that some students also thought that HS and SH were different substances. Other students linked the subscript numbers to the subsequent element rather than the preceding one.

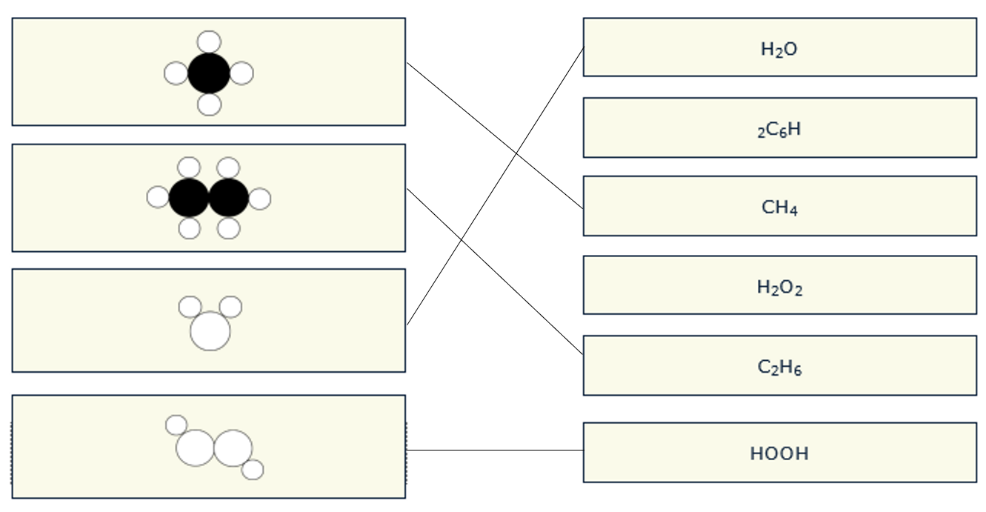
**Ways to use this activity**

This activity gives students the opportunity to apply their understanding of chemical formulae to more molecules. The activity could be carried out either individually or in pairs where students would also benefit from discussion.

*Differentiation*

It may help some students to add element symbols to the particle diagrams or to complete a simple table to total up the number of each type of atom in the molecules shown.

**Expected answers**

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**Acknowledgments**

Developed by Helen Harden (UYSEG).

Images: Helen Harden

**References**

Taskin, V. and Bernholt, S. (2012). Students' understanding of chemical formulae: A review of empirical research. *International Journal of Science Education,* 36(1)**,** 157-185.