

Frayer models for keywords – teacher notes

Education in Chemistry

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Improve students' understanding of keywords with the Frayer model

Frayer models are a great way to build students' understanding of key scientific vocabulary, plus they make a suitable remote teaching exercise, for example by asking your students to fill in the grids independently before coming back for a whole-class discussion.

Get more tips on using Frayer models with your students from the *Education in Chemistry* articles '[A model for success](#)' and '[Teaching challenging vocabulary](#)' from our 7 simple rules series.

The four sections

Frayer models are organised into a grid with four sections. There are many variations of the Frayer model, so if the headings don't work for you, you can change them. In this example we have used 'definition', 'diagram', 'examples' and 'non-examples'. However, the terms 'examples' and 'non-examples' could be replaced with 'where it can be used' and 'where it can't be used' when studying a process, for instance.

If you want to use the model as a diagnostic tool, you will want to use the first box to [elicit what your students already know](#). If you want them to use it as a revision tool, get them to write in the textbook definition. You can also [use etymology](#) to help them break down the word. Students can generally recall the definition, but this doesn't necessarily help with the application of the concept – this is where the other sections come in.

The next section is often titled 'characteristics' and asks students to list properties of the keyword. For example, if the keyword is 'element', they could come to the conclusion that elements are 'found on the periodic table'. Bringing in dual coding with a diagram also works very well for students where appropriate to help them visualise the concept.

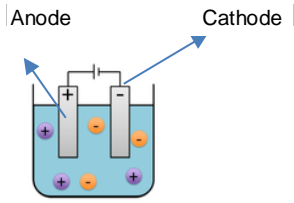
The last two sections here consist of examples and non-examples, eg carbon dioxide is not an example of an element, but it is an example of a compound. This helps them to further build an idea of what the concept is beyond the definition.

On the next page you will find an example for the word 'electrode'.

Use it yourself

In the separate student worksheet you will find some ready-made grids with four keywords from the electrolysis topic (electrode, electrolyte, electrolysis, aqueous) to get you started. You can then use this blank version on the next page to make your own for this and other topics.

Example

<p><u>Keyword: electrode</u></p> <p><u>Definition</u> A conductor used to establish electrical contact with a circuit. The electrode attached to the negative terminal of a battery is the negative electrode or 'cathode'. The electrode attached to the positive terminal is the positive electrode or 'anode'.</p> <p>Electr- (to do with electricity); -ode (Greek suffix meaning 'like' or 'way, road, path') → path for electricity</p>	<p><u>Characteristics / Diagram (add labels)</u></p> <ul style="list-style-type: none">• Used in a circuit• Can be positively or negatively charged• Conducts electricity• Attached to terminal of a battery 
<p><u>Example</u></p> <p>Graphite – allotrope of carbon; conducts electricity</p> <p>Copper – copper plating, purification; conducts electricity</p>	<p><u>Non-example</u></p> <p>Glass – non-conductor so not suitable</p> <p>Potassium – reacts with aqueous solutions so not suitable</p>

Keyword: <u>Definition</u>	<u>Characteristics / Diagram (add labels)</u>
<u>Example</u>	<u>Non-example</u>

Keyword: <u>Definition</u>	<u>Characteristics / Diagram (add labels)</u>
<u>Example</u>	<u>Non-example</u>