

Reviewed by Wendy Pitt | November 2011

## Boardworks AS Chemistry Review

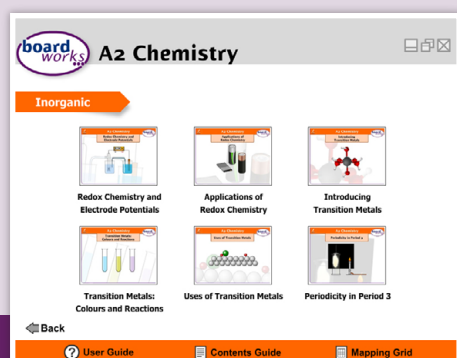
Boardworks is very well known for producing teaching materials for use with interactive whiteboards and this creation for AS Chemistry is a delight to use. Its straightforward, simple instructions are almost superfluous as using the product is intuitive to anyone with minimal experience of PowerPoint.

On first sight the price may seem prohibitive but, as it includes a site license with no annual fee, all teachers and students at your institution can have access to it. The software can be loaded onto any number of machines on site or be installed in a virtual learning environment.

Resources for an AS topic can be found quickly as the materials are mapped to the requirements of the present courses' specifications (AQA, Edexcel and OCR) and navigation is easy.

My personal preference, in the interest of avoiding the danger of 'death by PowerPoint', would be for sensible but limited use of the software by the teacher in the classroom. Being fully customisable, it is relatively quick and simple to extract sections to illustrate a concept. It can also be used by the students as a learning and revision tool.

The virtual experiments might be used prior to practical work since the visual, animated steps could be very helpful to students who find difficulty in following written instructions.

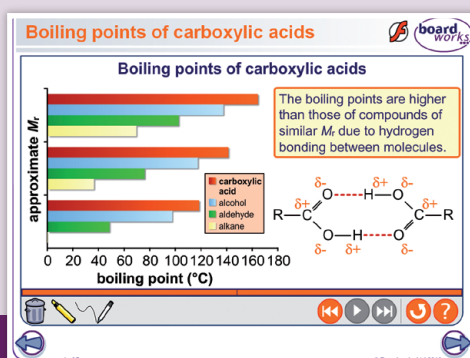


**boardworks A2 Chemistry**

Inorganic

- Redox Chemistry and Electrode Potentials
- Applications of Redox Chemistry
- Introducing Transition Metals
- Transition Metals: Colours and Reactions
- Uses of Transition Metals
- Periodicity in Period 3

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**Boiling points of carboxylic acids**

Boiling points of carboxylic acids

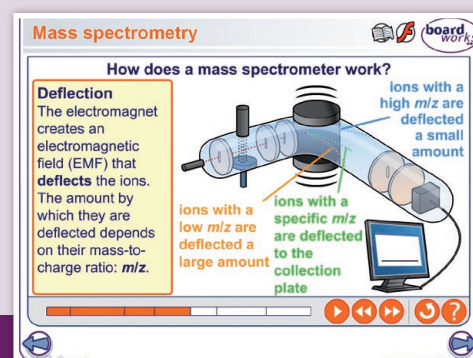
The boiling points are higher than those of compounds of similar  $M_r$  due to hydrogen bonding between molecules.

Legend: carboxylic acid (orange), alcohol (green), aldehyde (blue), alkane (yellow)

Chemical structure diagram showing hydrogen bonding between two carboxylic acid molecules:

$$R-\overset{\delta+}{C}(=\overset{\delta-}{O})-\overset{\delta+}{H}-\overset{\delta-}{O}-R$$

Boiling point (°C) vs approximate  $M_r$  graph showing that carboxylic acids have the highest boiling points for a given  $M_r$ .



**Mass spectrometry**

How does a mass spectrometer work?

**Deflection**  
The electromagnet creates an electromagnetic field (EMF) that deflects the ions. The amount by which they are deflected depends on their mass-to-charge ratio:  $m/z$ .

Ions with a high  $m/z$  are deflected a small amount.

Ions with a low  $m/z$  are deflected a large amount.

Ions with a specific  $m/z$  are deflected to the collection plate.

RSC review can be found here:

<http://www.rsc.org/Education/EiC/issues/2011November/reviews.asp>