



Activities in *ACTT* are designed so students find answers for themselves

Caught in the ACTT

Roger Frost's new interactive chemistry software should stimulate class debate, says **George Cole**

Chemistry is one of those subjects where student numbers are declining. Partly this is because it suffers from an image problem. Organic chemistry is often seen as challenging (and whisper it, even boring), which is a shame, because it can also be highly relevant and thought-provoking.

Not convinced? Well, think of materials (such as plastics), pollution (CFCs and the ozone layer), human biology (DNA) and even a good night out (alcohol).

Enter Roger Frost, occasional *TES* contributor and well-known among science teachers for his work on data-logging in science. He is the publisher of *Advanced Chemistry Teaching Tools (ACTT)*. This is a vast resource covering the entire organic chemistry syllabus – there are more than 20 topics and each one is composed of numerous sub-topics: alcohols, amino acids, fuels, proteins, isomerism, hydrocarbons and reactions are just some of them.

But, while the package is long on content, it's short on text. *ACTT* isn't simply a chemistry text book on a screen. What you get is an interactive resource that uses *Macromedia Flash* animations and *Chime 3D* molecular displays to bring the subject to life.

ACTT can be used in a variety of ways. Teachers could, for example, use it with an interactive white-board for class demonstrations or

discussions, or it could be used on a computer by individual students or small groups.

We got our hands on an early preview version and it was incredibly easy to use. On the left-hand side of the screen is a list of topics. Select the one you want and a window opens to reveal an activity in the form of an animated slideshow, which is designed to last for around a couple of minutes.

You can choose to have a half or full-screen display and control the pace of the activity. Users are presented with a graphic or animation, parts of which are coloured red. The red is used as a trigger device, because clicking on this causes something to happen.

For example, in the exercise on structural isomerism, clicking on a red hydrogen atom in a butane molecule causes it to move position and create a new structure with the same molecular formula (2-methylpropane). What's great is how clear this is.

Other activities involve dragging-and-dropping words or clicking on a question mark to reveal the name of a substance. Each activity is accompanied by a small text description hidden near the bottom of the screen. This usefully describes what the activity sets out to achieve and is handy as an *aide-mémoire* for teachers.

The activities are designed to stimulate debate and discussion and to get the students to work out what has happened and – more importantly – why. Ideally, students would then write up their own descriptions and explanations, rather than having everything set out for them.

Teachers and students will also like the fact that *ACTT* can be customised, so you can run the activities in the order that suits you best by creating a personal menu.

Seeing is believing, so if you're at this year's BETT show, have a go yourself. *ACTT* uses technology in a way that can help teaching, learning and understanding.

Roger Frost's Advanced Chemistry Teaching Tools
Software for A-level organic chemistry

Price: CD-Rom approx £500

ACTT is a joint production between IT in Science and White House Multimedia

www.rogerfrost.com

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| Fitness for purpose | ★★★★★ |
| Ease of use | ★★★★★ |
| Features | ★★★★ |
| Quality | ★★★★ |
| Value for money | ★★★★ |