Do you want to boost your students' skills in mechanistic organic chemistry?

We have created a set of self-assessment exercises based on exam-style questions that can be given to students to complete as homework (AS and A2 versions), which they then mark themselves using 'talking mark schemes' created at the University of Southampton. You provide students with a self-assessment pro forma, which they complete they complete during the self-assessment process.

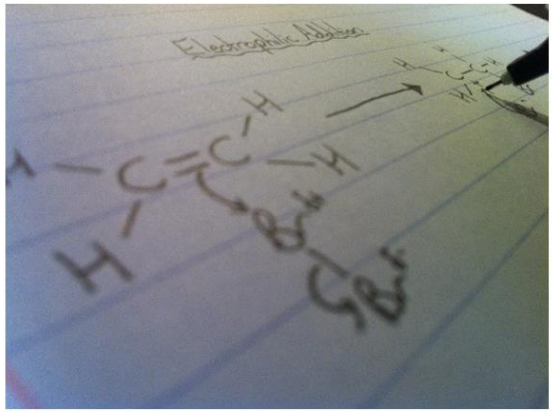
During 2014/15 & 2015/16, ~1400 students from a range of UK schools and colleges used the resources and provided feedback as part of a research project we were running. We found that:

- **~85% of students strongly agreed/agreed that using these resources improved their understanding of mechanistic organic chemistry.**
- **~71% of students found that the process improved their confidence in answering exam questions.**
- **~73% of students agreed they were more useful than paper mark schemes.**

"…I understand the mechanisms better now than just having learnt them as diagrams that need to be reproduced in exams"

"…it also shows that [mechanisms] all work using the same rules and are actually quite easy"

"I feel that if they came up in the exam I might even enjoy answering them!"



To find out more about the process, watch the teacher briefing video: https://youtu.be/w87W6CBz-eA

See accompanying 'Summary on a page' for details of the resources and where to find them (visit: http://www.edshare.soton.ac.uk/18073/) Prof. David Read at d.read@soton.ac.uk.

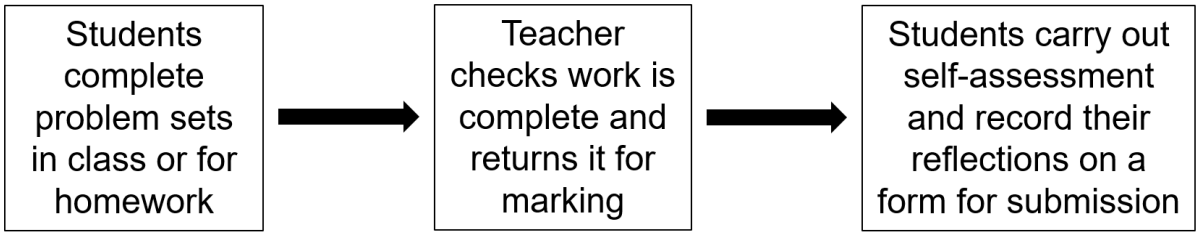
Organic Reaction Mechanisms Booster: Summary on a page

Want a quick overview? Watch this: https://youtu.be/w87W6CBz-eA

This is a set of resources aimed at promoting the development of the skills required to successfully identify and generate organic mechanisms in order to demonstrate a good understanding of the underlying chemical principles. Students complete a task independently, and then mark their own work as they watch talking mark scheme videos where an expert explains how to get to the correct answers. Our research has shown that engagement with these resources is perceived to be highly beneficial by students, and leads to an increase in their confidence to tackle mechanistic problems. If you are a non-UK (or non-A-level) teacher, the terms AS and A2 may be meaningless to you, but the resources should still be useful for anyone studying organic reaction mechanisms.

You can download the question sheets, student self-assessment proformas and detailed Teachers' Notes from EdShare, the University of Southampton repository: http://www.edshare.soton.ac.uk/18073/

Our suggested plan for running the activity is outlined below:



The resources are flexible, and downloadable in Word format so you can edit them to meet the needs of your students. This is also the case with the self-assessment pro formas students complete as they mark their work. Two formats are provided, with the alternative form being suggest by Henry Pearson from Mount Kelly School.

Headlines on the outcomes of the research project which generated these resources are given in the accompanying flyer, although at the time of writing, this work has not been formally published (a manuscript is currently in preparation).

Summary of resources

Files on EdShare	Internet links	AS Talking mark schemes	A2 Talking mark schemes
AS Teachers' Notes A2 Teachers' Notes AS Question Sheet* A2 Question Sheet* AS Self-assessment pro forma (2 versions) A2 Self-assessment pro forma (2 versions) *Word & PDF formats	EdShare link (to download all resources): http://www.edshare.soton.ac.uk/18073/ Teacher briefing video: https://youtu.be/w87W6CBz-eA Student briefing video: https://youtu.be/I43wYQptRU4	Q1: http://tinyurl.com/z4r2pkb Q2: http://tinyurl.com/jchkxat Q3: http://tinyurl.com/j3xnpy4 Q4: http://tinyurl.com/jy4uxnu Q5: http://tinyurl.com/zusjmvn	Q1: http://tinyurl.com/j8ve5eg Q2: http://tinyurl.com/ho779nk Q3: http://tinyurl.com/jkz5lwo Q4: http://tinyurl.com/hd8ubws Q5: http://tinyurl.com/jnrfwov Q6: http://tinyurl.com/hpbuxf9

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