

Resource Review

Britannica Pathways: Science

Online resource provided by Britannica Digital Learning

<http://edu.eb.com/online/science.html>

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This review summarises my experience of using the Britannica Science Pathways online resource as a teaching tool in Year 6–10 Science lessons. Almost 100 lessons have been created for a range of Science topics, each of which focuses on challenging and correcting student misconceptions. During my trial, I used lessons in the 'matter' category, focussing on kinetic theory, conservation of mass and solution chemistry, as these were the topics being covered in our Science curriculum during that period. I used the resource myself with classes, set up lessons for colleagues and asked for their feedback, and collected feedback from students in terms of the pros and cons of the resource. Hopefully, this summary of my findings will help other teachers decide whether the resource could be a useful addition to Science learning and teaching.

In terms of access and setting up lessons, the website is easy to find and lessons are clearly identifiable. The teacher's login allows classes to be set up quickly by entering student names—usernames and passwords are then generated for the teacher to distribute. The training session provided prior to starting was very clear, helpful, and my minor questions during the trial were quickly resolved. To begin, students click on a specific lesson and follow a series of prompts which guide them through predicting the answer to a question (formative assessment), justifying their answer, and then using a range of visual and written pieces of evidence to decide whether their prediction was correct. They then conclude the lesson by checking their understanding

(summative assessment). A novel feature is that students are required to make their own notes as they move through the lesson and cannot progress until some notes have been entered. These notes are shown to the students as they check their understanding and are collated at the end of the lesson to help students decide if their prediction was correct. As the lessons can be completed as homework or set as assignments, a useful feature was the ability of the teacher to check the progress of individual students and view the notes they were making.

Setting up classes and passwords was very straightforward and quick, so there was minimal preparation required for the lesson. The students quickly realised how the lesson would progress, from prediction to investigation and conclusion. The suggested lesson time was two lesson periods—my lessons are 64 minutes and I found that, to give students enough time to take in the evidence, make notes and follow through the concluding section fully, a Year 10 class probably would require two lesson periods. There is flexibility to set some tasks for homework, or to specify which evidence students should use. I found this useful with the Year 8 and 9 students as some of the evidence was at a literacy and conceptual level beyond their ability. The students enjoyed working through the evidence, although the weaker/slower ones found some of the text too complex. Although the content is supposed to be linked to the 'curriculum' (not specifically the Australian Curriculum) there were sections which were certainly outside the Chemistry content—even for



Years 11 and 12. This may be useful to extend high ability classes, but could be intimidating for the less able. I would certainly pre-read the evidence for younger/less able classes. We had few technical difficulties, although students using Macbooks were sometimes not able to view the video evidence: this was not a problem when using PCs. Some of the evidence seemed to start mid-sentence: clearly an extract from a longer text, but this was confusing to many students and seemed unnecessary. One other irritation was the use of non-metric units in the explanations. Generally, the images and videos were the most interesting and helpful to students in Years 8 and 9, who were put off by some of the wordy text in the written evidence.

Direct feedback from students was positive. They enjoyed working individually or in pairs on the evidence

and the self-paced nature of the lessons means the teacher is free to help the weaker or slower students. Specific student feedback included; *"I would like more videos and examples so we can see what happens"* (Year 9), *"Writing notes to prove the hypothesis made me remember them"* (Year 10), and *"I am not that good at Science but it was a cool way to learn"* (Year 8). Several students from across all year levels made comments that this way of learning was preferable to bookwork and they enjoyed being able to work at their own pace.

In conclusion, the resource should ideally be trialled as an embedded resource in a specific unit of study. In this case, it could be a useful learning and assessment tool and provides a novel approach to checking and correcting student misconceptions.

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