

Progressive Achievement Tests (PAT) like *PAT Maths* and *PAT Reading* have been around for a few years now, and many schools are using them both to monitor student progression and identify students with special needs. Combine this with the introduction of a national curriculum and it's no surprise that the Australian Council for Educational Research (ACER) has developed *PAT Science*.

The *PAT Science* kit contains eight tests, designed with various levels in mind for students from Years 3 to 10. Each level has a multiple-choice test, which can be marked by the teacher or sent to ACER, and a single-page short-answer test, with solutions provided for teacher marking. These solutions are included in a comprehensive teacher's manual, which contains norm tables and links to each state's curriculum.

It's the sort of thing where you could spend hours playing with data. I know I did – which I guess is why it's wiser to send your tests on to ACER to be corrected. Playing with data is not the business I'm in. I'm a teacher, so the first question I had to ask myself is: what do I want to get out of this?

Before I answer that, I'll tell you what I don't like about progressive testing in Science, and this is not a comment about this resource, but about the whole idea that students at a particular year level should have certain scientific knowledge. It's words and labels that concern me the most. I'll never forget how surprised I was many years ago when I realised that the reason most of the students in my Maths class were struggling with probability was simply because they didn't understand the make up of a deck of cards, not because they couldn't follow the mathematical process.

There are a few questions of this kind in the kit. For example, most of my Year 8 students struggled to identify a new moon. The classification table in the *Teacher Manual* places this question at 4.75 in the Victorian Essential Learning Standards, which means these students should have this knowledge, but you know what? I don't remember actually teaching it. The students who were able

to answer this were students who have considerable exposure to science outside of the classroom, such as those with family backgrounds in science.

For me, the greatest value in this material is not in identifying individual needs, but in auditing how your curriculum delivery is working – whether your students actually understand what is being taught.

After marking the test I identified my students by stanines and where they sat within the percentile for their year level, and the one below and above them, and none of that came as any surprise. It simply reinforced what I already knew from the assessment tool that I already used in the classroom.

What the testing further clearly showed, though, is what was lacking in the science that had been delivered to these students, by me and those who came before me. I now know that my students have a poor understanding of cells, the methods of separating substances and classification of living things.

I can also conclude that the students who are operating at a lower stanine are less able to perform analytical tasks and answer questions of the 'why does?' variety. These students also did not complete every question. Amongst my stronger students, the package clearly delineated between those that are scientifically advanced and those that are hard workers, but not necessarily as knowledgeable.

In using the kit you need to purchase test booklets at \$6.95 each. Even if it wasn't illegal to photocopy, many of the pictures lose clarity when photocopied, thus giving you incorrect results. Anyway, ACER knows how many you bought so they know how many they will mark for you and, let me say again, get them to do the marking and provide the data. It takes far too long to do it yourself.

The kit comes with a CD that contains even more tools. As well as digital copies of much of the *Teachers Manual*, my favourite is the item description and scale location section. This lists every question with a statement of what knowledge was required



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to answer that question. For example, 'Identifies the main energy changes when a candle is burned.'

Many of us are tired of the constant requirement to audit our students for audit's sake, of students being placed into convenient categories because it works administratively, not because it helps the student. Then data collected one year seems to discredit the previous year's data.

In this atmosphere, *PAT Science* provides us with a test that's easy to give, that's easy to get marked, that's easy to obtain various data for and that can show student progression. It allows for monitoring of individual students as well as auditing courses. With all that in mind, it's great to see that someone has done the yucky part of the work for us, leaving us teachers to worry about providing the appropriate programs for our students and not messing around with datasheets. **T**

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Pat Science is available only from ACER. Phone 1800 338 402, email sales@acer.edu.au or visit <http://shop.acer.edu.au/acer-shop/app>