

# Put science into the primary classrooms

## New booklet from the Australian Academy of Science

Science and technology is missing from many primary school classrooms because teachers lack the confidence to teach it. Many teachers have not studied any science since secondary school, and their resistance to teaching it may stem from bad experiences during their own schooling.

The Australian Academy of Science has just launched its *First Steps in Science and Technology* project to help overcome this problem and promote the teaching of science and technology in all primary schools across Australia. A discussion group of primary teachers said that many of them have only a rudimentary understanding of science and technology and how it relates to everyone's life.

They are not aware of appropriate science and technology teaching strategies for primary school, and they are not applying the interactive questioning and hands-on approaches that children today find interesting and challenging.

Within the school, science and technology education is being added to an already overcrowded curriculum, and teachers are given little guidance in terms of education system priorities. The education system provides too few opportunities and insufficient release time for teachers to undertake in-service training in science and technology. Teachers do not have enough time during the school day to prepare for science and technology lessons requiring special materials or equipment.

The teachers who met at the academy made many suggestions for improving science and technology education in primary schools, which are embodied in a booklet written by Liz Dangerfield. The project is sponsored by CRA, and also involves the Australian Science Teachers Association and the National Science and Technology Centre. Copies of the *First Steps* booklet which summarise the results of the discussion group are available free of charge from the Academy of Science in Canberra. Contact Nancy Lane at the Academy, telephone (06) 247 5330 or fax (06) 257 4620.

At the launch of the booklet Liz Dangerfield quoted a delightful poem\* to show the popular image of the scientist. Knowing our own concerns about our image as librarians, we thought you might like to see how another group sees itself — as a person utterly absorbed in a task, but gentle and willing to share knowledge in an absolutely precise and detailed manner...



*My uncle is a scientist. He studied many years  
To find out how the planets move, and whether flies have ears.  
He dreams up new hypotheses. He learns the names of flowers.  
He works out laws and theories. He calculates for hours.  
I know that I'm not clever, but my uncle must be wise,  
For when I ask short questions, I get very long replies.*

*I asked him if the sea is blue, for that is how it looks.  
He put his glasses on and started looking through his books.  
'The sea is colourless,' he said, 'the sun produces light,  
And all the spectrum's colours are compounded into white.  
But when the light is broken up, by sea or sky or rain,  
The colours separate, and we can see the blue again.'*

*'Now which came first,' I said to him, 'the chicken or the egg?'  
I thought it was a riddle. I was trying to pull his leg.  
'The egg came first,' he said to me; 'that problem's quickly solved.  
Reptilian dinosaurs lived long before the birds evolved,  
And since the dinosaurs laid eggs — their fossils still persist —  
The egg was there before the birds (or chickens) could exist.'*

*'But can you prove,' I asked him, 'that the earth is really round?'  
'By round, do you mean, spherical?' he asked, and then he frowned.  
'Imagine, if you will,' he said, 'a rubber tennis ball;  
Now if you squeeze its top and base, it won't be round at all.  
And that is how the earth appears when viewed from any side —  
Elliptical, not spherical, and shorter than it's wide.'*

*'Then can you classify,' I asked, 'the bug that's in this tin?'  
My uncle took the lid off, and he poked his finger in.  
He pulled it out more quickly, and he gave a little shrug,  
And said, 'The creature in this tin is not some kind of bug!  
A bug must be six-legged. If this were, you could be right.  
Instead it is a centipede, which has a painful bite!'*

*My uncle is a busy man. He seldom ever laughs.  
He calculates equations and he draws elaborate graphs.  
And sometimes he's so busy that misses out on meals,  
And writes me simple formulae to tell me how he feels.  
'T C U R Y Y,' he writes, 'to skip your meals like me.  
A P T I M B C, 4 I missed you.'*

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\* from *Scientifically Speaking* by Rob Morrison, illustrated by Mervyn Pywell, © Horwitz Grahame 1989 reproduced here by kind permission of Ashton Scholastic, from the Bookshelf program.

