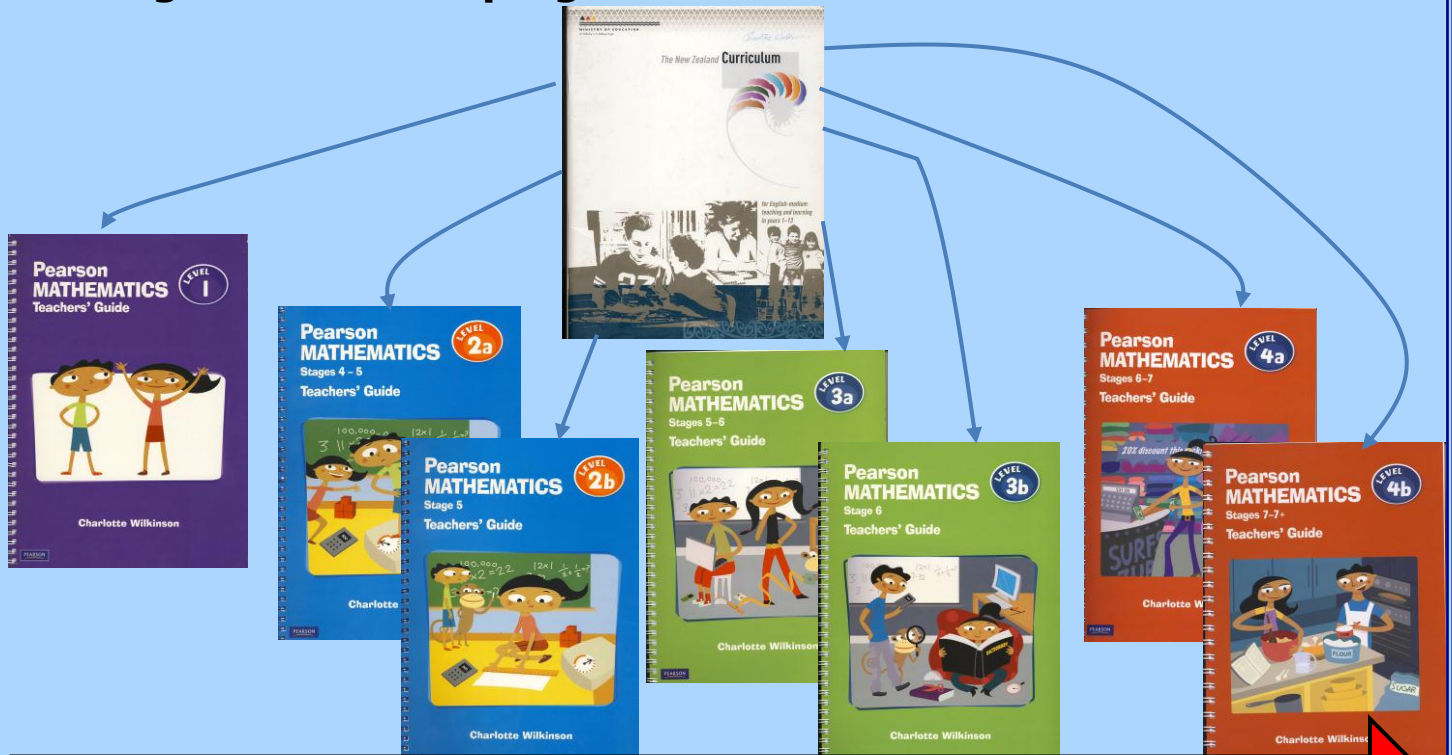




# The Wilkie Way

## Newsletter May 2011

**Fitting all the bits together to make planning and teaching an exciting mathematics programme easier?**



### Continuity and progression

Links to Wilkie Way Numeracy resources in Pearson mathematics Teachers' Guides

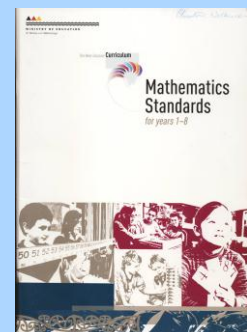
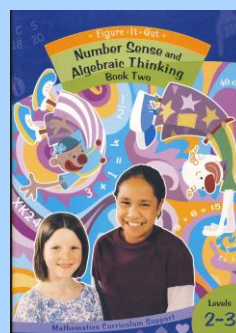
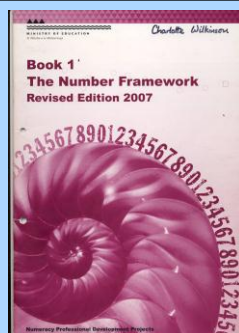
Links to sample lessons in all NP books available from free resources  
[www.ncwilkinsons.com/wilkieway](http://www.ncwilkinsons.com/wilkieway)

Links to all FIO activities by chapter in back of Pearson Mathematics Teachers' Guides

Links to possible Pearson Mathematics tasks for gathering evidence available from free resources  
[www.ncwilkinsons.com/wilkieway](http://www.ncwilkinsons.com/wilkieway)



Wilkie Way resources available from online store  
[www.ncwilkinsons.com/wilkieway](http://www.ncwilkinsons.com/wilkieway)





# *The Wilkie Way*

*Newsletter May 2011*

The focus of mathematics teaching has changed from students merely acquiring proficiency in reproducing existing solution methods to assisting students construct meaningful conceptions of mathematical topics.

Chicken or the egg – students need to understand how numbers work in order to understand a solution method

Or students through being taught a solution method come to understand how the numbers are working.

Whichever way students need to understand how numbers work in order to be able to solve unfamiliar problems.

Understanding comes out of thinking and using ideas – “How do I know if I have learnt anything until I need to use it again” (Kristina Wilkinson age 11)

A teaching programme needs to provide students with the opportunities for some real thinking –

- Opportunities to make mistakes
- Trying different methods
- Bouncing ideas off their peers
- Figuring things out for themselves

However the teaching programme must also provide students with the necessary tools for thinking – mathematical knowledge. This knowledge is fairly hierarchical and therefore continuity and progression in a mathematics programme is essential.

A recent programme on the discovery channel got me thinking about asking students to explain their thinking. The programme was looking at how the brain is hardwired to use spatial perception to solve problems. Being able to visualize a problem and draw a picture, act it out or model with equipment are very strong problem solving tools.

The linear reasoning is generally a function of the left side of the brain, as are language functions such as grammar and vocabulary but linguistics, the use of language is predominantly a function of the right side of the brain. Arithmetic seems to be more bilaterally controlled.

**How important is being able to explain thinking when the solution may have been intuitive?**

**Do you hold students back in their mathematics because they cannot translate their thinking into comprehensible explanations?**



# *The Wilkie Way*

*Newsletter May 2011*

## **Professional Development Opportunities in Term Two**

I shall be providing courses in the following destinations:

### **Implementing Inquiry Learning and a Problem Solving Approach to Teaching Mathematics (Implementing the new curriculum properly)**

Hamilton – Thursday 2 June  
Greymouth – Wednesday 15 June  
Timaru – Wednesday 22 June  
Whangarai – Wednesday 6 July

Apply [inservice@otago.ac.nz](mailto:inservice@otago.ac.nz)

A similar course is being offered in Rotorua in two parts 4pm – 7pm  
Tuesday 17 May and Thursday 16 June. Apply [charlotte@ncwilkinsons.com](mailto:charlotte@ncwilkinsons.com)

### **Teacher Aides – Supporting the Teaching & Learning of Numeracy**

Auckland – 11 May  
Hamilton – Wednesday 1 June  
Greymouth – Tuesday 14 June  
Timaru – Tuesday 21 June  
Gisborne – Wednesday 29 June  
Whangarai – Tuesday 5 July

Apply [inservice@otago.ac.nz](mailto:inservice@otago.ac.nz)

### **Developing Mathematical Thinking in Junior Classes**

Gisborne – Tuesday 28 June

Apply [jennie@gisborne.net.nz](mailto:jennie@gisborne.net.nz)  
Phone 06 8633741

### **In school professional development:**

**I provide custom built professional development to support schools in building teacher capability to ensure quality mathematics programme.**

Contact [charlotte@ncwilkinsons.com](mailto:charlotte@ncwilkinsons.com)



# The Wilkie Way

Newsletter May 2011

## Some problems to cause thinking

Kim has 9 biscuits to share with her brother.

How many biscuits will they have each?



How many people can sit on the bus if there are 24 seats and two people on each seat?



Jason has twice as many marbles as his friend Caleb.

Caleb has 4 more marbles than David.

David has 6 less marbles than Rangi.

Rangi has 9 marbles.

How many marbles do the boys have altogether?



Kerry had \$250 to spend on her birthday party. It costs \$70 to hire the hall and \$10 per person for food.

How many people can she invite to her party?



Emily has \$250 to spend on her birthday party. It cost \$75 to hire the hall and \$8 per person for food. How many people can she invite to her party?



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