



# The Wilkie Way

## Newsletter October/November 2011

### New "Wilkie Way" Product for 2012

A4 Laminated: Double Sided Independent Activity

**Provides rich learning tasks and purposeful practice activity for students working independently of the teacher.**

These activities are aimed at students who are working at Levels 2 and 3 of the curriculum. They are advancing their additive strategies, developing flexibility with basic facts and place value and developing their multiplicative and proportional strategies.

**Wilkie Way Problem Solving Activity**

Level 2  
Stage 5  
Number  
Operations

**Weighing Lollies**

Mrs Sweet is weighing out some small lollies on a set of balancing scales. She has some 5g weights and some 4g weights.

How could she weigh out exactly:

- 28g of lollies?
- 36g of lollies?
- 52g of lollies?
- 46g of lollies?

© 2011 NCWilkinsons Ltd All Rights Reserved      www.ncwilkinsons.com/wilkieway

© 2007 NCWilkinsons Ltd. All rights reserved.      www.ncwilkinsons.com      M & D Set 2 - 3

**RRP \$34.50 per set**  
 Forward order for invoice & delivery term one 2012  
**\$30.00 per set**  
 Save \$27 on purchase of all six sets  
 Email [wilkeway@ncwilkinsons.com](mailto:wilkeway@ncwilkinsons.com)  
 Offer available until end term 4

Set	Rich Learning Tasks	Practice Activity Game
1	Level 2 Stage 5 Basic Facts & Number Operations	Multiply & Divide by 3
2	Level 2 Stage 5 Place Value & Number Operations	Multiply & Divide by 4
3	Level 2 – 3 Stage 5 – 6 Number & Algebra	Multiply & Divide by 9
4	Level 3 Stage 6 Number & Measurement	Multiply & Divide by 6
5	Level 3 – 4 Stage 6 – 7 Number & Measurement	Multiply & Divide by 7
6	Level 3 – 4 Stage 6 – 7 Number & Algebra	Multiply & Divide by 8

Each set provides **five** rich learning tasks and **five** practice activities (multiplication & division game)  
 It is expected that two students would work co-operatively on the rich learning task and two students then have a game to play while awaiting teacher attention for a learning conversation about their task.

Single sided Multiplication and Division games still available @\$25.50 per set, order via the website: [www.ncwilkinsons.com/wilkieway](http://www.ncwilkinsons.com/wilkieway)



# *The Wilkie Way*

*Newsletter October/November 2011*

## **Key Findings for Making a Bigger Difference in Mathematics Teaching**

*(Derived from a range of national and international monitoring data and research including NEMP, TIMSS, PISA, ERO and 103 NDP evaluations & studies)*

There are 10 findings of which these are numbers 7 & 8

### **This article is intended for in school discussion:**

Reflect on your current practices. Consider what you are doing well and what you might need to change or improve on to make your mathematics teaching more effective to raise the achievement of your students.

### **Mathematical Communication: Effective teachers are able to facilitate classroom dialogue that is focused on mathematical argumentation.**

Students need to be taught how to communicate mathematically, give sound mathematical explanations, and justify their solutions. Effective teachers encourage their students to communicate their ideas orally, in writing, and by using a variety of representations. (equipment, pictures, diagrams including empty number lines and equations).

To guide students in the ways of mathematical argumentation, effective teachers encourage them to take and defend positions against alternative views. Students and teachers need to become accustomed to listening to the ideas of others. The teacher must listen attentively to student ideas and information and most importantly the teacher must withhold his/her own explanations until they are needed.

### **Mathematical Language: Effective teachers shape mathematical language by modeling appropriate terms and communicating their meaning in ways that students understand.**

Effective teachers foster students' use and understanding of the terminology that is endorsed by the wider mathematical community. Concepts and technical terms need to be explained and modeled in ways that make sense to students yet are true to the underlying meaning. By carefully distinguishing between terms, teachers make students aware of the variations and subtleties to be found in mathematical language.

## **The area of language and communication is so important that the Curriculum Document makes reference to it in three different places.**

Newsletters are usually distributed in the first week of a month but due to the changes in the school holidays this year we have rather caught up with ourselves! There will be one further newsletter this year at the end of November. If you are changing schools make sure to update your email address.



# *The Wilkie Way*

## *Newsletter October/November 2011*

### **Key Competencies: Language Symbols and Texts (p.12)**

Using language symbols and texts is about working with and making meaning of the codes in which knowledge is expressed.

Translate the following text into mathematical symbols.

The number eight more than nine is equal to the number 7 more than ten.

$$9 + 8 = 10 + 7$$

Mathematical texts most often include words and symbols. The symbols represent specific words or in most cases they represent a concept that could be represented by a range of words.

How many words can you list represented by the operation symbols  $+$   $-$   $\times$   $\div$   $?$  With your students make a list.

### **Learning Areas and Language (p. 16)**

Each learning area (of which Mathematics and Statistics is one) has its own language or languages. For each area, students need specific help from their teachers as they learn:

- The specialist vocabulary associated with that area;
- How to read and understand its texts;
- How to communicate knowledge and ideas in appropriate ways;
- How to listen and read critically, assessing the value of what they hear and read.

*The area of mathematical language has created significant difficulties for student progress in mathematics at secondary level. This is very noticeable in geometry and measurement. If students in years 1 – 8 are solely reliant on their teachers' mathematical language knowledge they could be, and often are disadvantaged as many primary teachers do not use or even know the language. Some have attended courses over the last 15 years where they have been specifically told not to worry about specific mathematical language. Every classroom should have a mathematical dictionary, and teachers need to be proactive in learning the terminology themselves and using it with students. Making use of mathematical text books, for example **Pearson Mathematics** where mathematical language appropriate for each level is a key feature of the texts. Teachers should ensure the correct terminology is also used when mathematical ideas appear in other learning areas.*

### **Achievement Objective Statements**

#### **Equations and Expressions:**

The statements under this heading for each level sets out the expected ways in which students will communicate their mathematical thinking.

Level 1 – using words, numbers and pictures.

Level 2 – using words, diagrams (pictures) and symbols.

Level 3 – using words, diagrams and symbols with an understanding of equality.

Level 4 - form simple linear equations.

Level 5 – form linear and simple quadratic equations.

Level 6 – form linear, equations and inequations, quadratic and simple exponential equations and simultaneous equations.



# The Wilkie Way

Newsletter October/November 2011

## Problems to cause thinking

How many cookies will you get if you share a packet of 28 cookies with 3 other children?

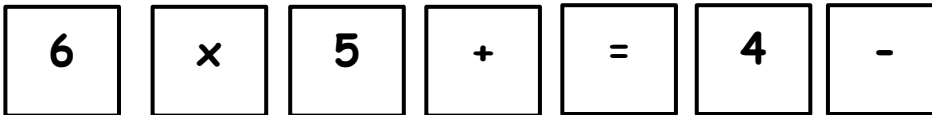


I shared my lollies with my two friends. We all had 6 lollies each.

How many lollies were in the packet I shared?



Using all the numbers and symbols below only once each, what are the largest number and the smallest number you could make? (You can use brackets)



How many different numbers can you make?

Each colour represents one number.

It will be the same number in each equation the coloured shape occurs.

What number does each colour represent?

$$\text{Yellow} + \text{Green} = 20$$

$$\text{Blue} - \text{Yellow} = \text{Red}$$

$$\text{Yellow} \times \text{Red} = 56$$

If you not wish to receive this newsletter please hit reply and ask to be removed from the mailing list. If you know anyone who would like to receive the newsletter please send their email address to [charlotte@ncwilkinsons.com](mailto:charlotte@ncwilkinsons.com)