# National Literacy and Numeracy Week 2008
## Project Report

<table>
<thead>
<tr>
<th><strong>Project title:</strong></th>
<th>Effective Development of Mathematical Language through Quality Teaching</th>
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<tr>
<td><strong>Project description:</strong></td>
<td>This project will investigate and identify quality teaching practices in the effective development of mathematical language and concepts. Mount Annan PS school assessment data indicates deficiencies in student knowledge of mathematical language thus affecting their understanding of mathematical concepts. This project will undertake training and development of staff, action research and engage teams in professional dialogue to identify quality teaching principles in the development of best practice in teaching mathematics.</td>
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<td><strong>Person responsible for project:</strong></td>
<td>Dale Sessions</td>
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<td><strong>School, region, diocese:</strong></td>
<td>Mount Annan Public School, Sydney South West Region</td>
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<tr>
<td><strong>Contact person’s email:</strong></td>
<td><a href="mailto:dale.sessions@education.nsw.gov.au">dale.sessions@education.nsw.gov.au</a></td>
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<td><strong>Number of students, teachers, parents, other community members directly involved:</strong></td>
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<tr>
<td>• 148 students</td>
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<td>• 5 teachers</td>
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<td><strong>Intended literacy and/or numeracy outcomes:</strong></td>
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<td>• build and sustain an effective numeracy learning community where students are able to link mathematical language, demonstrate understanding and transfer mathematical concepts to real life experiences and other curriculum areas</td>
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<td>• development of teaching &amp; learning programs that reflect ‘best practice’, which are culturally inclusive, engaging, challenging and that promote higher order thinking. Programs will cater for individual needs, incorporate prior student knowledge and be explicit and systematic</td>
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<td>• classrooms will be reflective of a mathematical language rich environment with opportunities for students to demonstrate personal understanding through rich and meaningful tasks</td>
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<td>• the school community will develop and utilise a common mathematical language, enabling greater support for students in their understanding of mathematical concepts.</td>
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<td><strong>Evidence of achievement of intended literacy and/or numeracy outcomes:</strong></td>
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<td>• Stage 2 classes reflect best practice through the following examples:</td>
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<td>o thorough planning of learning experiences, incorporating mathematical language and how it will be explicitly taught to help support student understanding of concepts. Meaningful, rich activities were planned to cater for individual needs including extension and remediation activities.</td>
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<td>o student dictionaries have been compiled to assist students with the understanding of new concepts. Students frequently refer to these dictionaries when completing activities.</td>
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<td>o classrooms reflect a language rich environment to help support student</td>
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learning. Teacher and student made posters and resources are displayed around the room to help reinforce understanding of concepts.
- planned activities promote opportunities for individual students to communicate through problem solving and challenging activities.
- initial teacher assessment data demonstrates a greater understanding of mathematical concepts especially in the concepts of whole number.
- students and teachers utilise a common mathematical language which is appropriate for the stage of development and reflect NSW syllabus outcomes.

- Professional learning activities on numeracy has led to the following outcomes;
  - detailed programs reflect explicit and systematic planning and teaching of mathematics. Activities are culturally inclusive, engaging and promote higher order thinking.
  - team meetings engage in professional dialogue about how to best teach mathematical concepts. Student work samples are shared and discussion is centred on assessing student achievement and planning future activities.

See materials below:
1. Select the numbers that are 'off the decade'
   - 100
   - 110
   - 120
   - 130
   - 90

2. Which word means going 'backword when counting'?
   - ascending
   - descending
   - equivalent
   - inverse

3. What does 'round off' mean?

4. Which words mean the same as 'take away'?
   - inverse
   - subtract
   - equivalent
   - difference
   - minus

5. What word means two numbers added together?
   - whole
   - sum
   - qulikred
   - difference

6. Which word means the left over amount after two numbers are divided?
   - equal
   - num-ber
   - product
   - division

7. What type of number is 1st?

8. Perimeter means...
   - The space inside a shape
   - The answer when two numbers are divided
   - The distance around the edge of a shape

9. Answer: Yes or No
   6, 8 and 12 are all prime numbers
   - Yes
   - No

10. What is a polygon?
Other words for...

- percentage
- divide
- share
- groups
- quotient
- how many
Other words for...

- how many
- more
- less
- difference
- minus
- subtract
- take away
Other words for...

- multiply
- array
- product
- times
- lots of
- groups
Other words for...

- total
- sum
- altogether
- in all
- add
- plus
- +

- add
- in all
- altogether
- sum
- plus
- +

- total