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# Count Me In

## Terrific Participation in Phase 1!

In May and June of 2004, children and their parents were recruited for the Count Me In project from two schools in Winnipeg, Manitoba, and from two schools in Peterborough, Ontario. The Count Me In researchers are investigating long term predictors of mathematical achievement.

257 children participated in two half-hour research sessions and

parents filled in a home activities questionnaire. One session was the administration of a widely used mathematics assessment and a vocabulary assessment. In the computer session, children participated in about eight different numeracy-related tasks - which we called games. They enjoyed the computerized testing which has been specially designed to be engaging and fun.

Collecting this wealth of data in such a short time represented a terrific effort on the part of the teachers, children, administration and researchers. Congratulations and thank you to all of you!



## Counting Matters

A number of the children's tasks involved **counting**. Researchers believe that understanding of counting principles and procedures is fundamental to the children's success in developing arithmetic skills. In support of this view, we found that the children's accuracy at counting is related to their performance on addition (such as  $3 + 4$ ) and to their score on the math assessment.

Some of the counting tasks were timed. For example, in the Counting Objects Task, children counted objects such as ducks or frogs, on the screen and reported 'how many' as quickly as possible.

Timing the children's counting helps our research team understand underlying mental operations. As seen in recent research in England and Italy, our team's analysis showed that the Kindergarten children's counting speed was related to their accuracy at addition and to their score on the math assessment.

Another important counting result from our research was based on our Next Number task. In this simple activity, a number was displayed and the child was asked what number came next. For example, if '19' was displayed, the expected response would be '20'. The numbers got progressively larger and the final

number was 407,276. The children were expected to name the next numbers, for example, "four hundred and seven thousand, two hundred and seventy seven".

For the Grade Ones and Twos in our study, accuracy and time on Next Number proved to be as important as the counting was for the Kindergarteners. That is, the better the performance at Next Number, the better they did on the addition sums and on their math assessment scores.

We will be expanding the Next Number activity in this year's study to build on the insights it provides.

Stick me on  
the fridge!

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## What Can You do?

Research in how children become successful readers has demonstrated that parental involvement in teaching children letter sounds (in Kindergarten) and reading with them from an early age is positively related to the reading level they have achieved at Grade Three. Although our research has not yet as clearly defined the success factors for the development of Numeracy skills, it suggests a close relation between informal counting skills that children acquire at home and the more formal requirements of school math.

Because this issue of our newsletter has focused on counting, we've presented an excerpt (below) of a number of counting activities from 'Helping Your Child Learn Math, A Parent's Guide'. The full guide is available on-line from both the Government of Ontario and the Government of Manitoba.

Helping Your Child Learn Math - Ministry of Education, Government of Ontario  
<http://www.edu.gov.on.ca/eng/document/brochure/earlymath/#how>

Helping Your Child Learn Math - Manitoba Education, Citizenship and Youth  
<http://www.edu.gov.mb.ca/ks4/docs/parents/learn/math.html>

- **Count everything!** Count toys, kitchen utensils, and items of clothing as they come out of the dryer. Help your child count by pointing to and moving the objects as you say each number out loud. Count forwards and backwards from different starting places. Use household items to practice adding, subtracting, multiplying, and dividing.
- **Ask your child to help you solve everyday number problems.** "We need six tomatoes to make our sauce for dinner, and we have only two. How many more do we need to buy?" "You have two pillows in your room and your sister has two pillows in her room. How many pillowcases do I need to wash?" "Two guests are coming to eat dinner with us. How many plates will we need?"
- **Practice "skip counting"**. Together, count by 2's and 5's. Ask your child how far he or she can count by 10's. Roll two dice, one to determine a starting number and the other to determine the counting interval. Ask your child to try counting backwards from 10, 20, or even 100.
- **Make up games using dice and playing cards.** Try rolling dice and adding or multiplying the numbers that come up. Add up the totals until you reach a target number, like 100. Play the game backwards to practice subtraction.
- **Play "Broken Calculator"**. Pretend that the number 8 key on the calculator is broken. Without it, how can you make the number 18 appear on the screen? (Sample answers:  $20 - 2$ ,  $15 + 3$ ). Ask other questions using different "broken" keys.