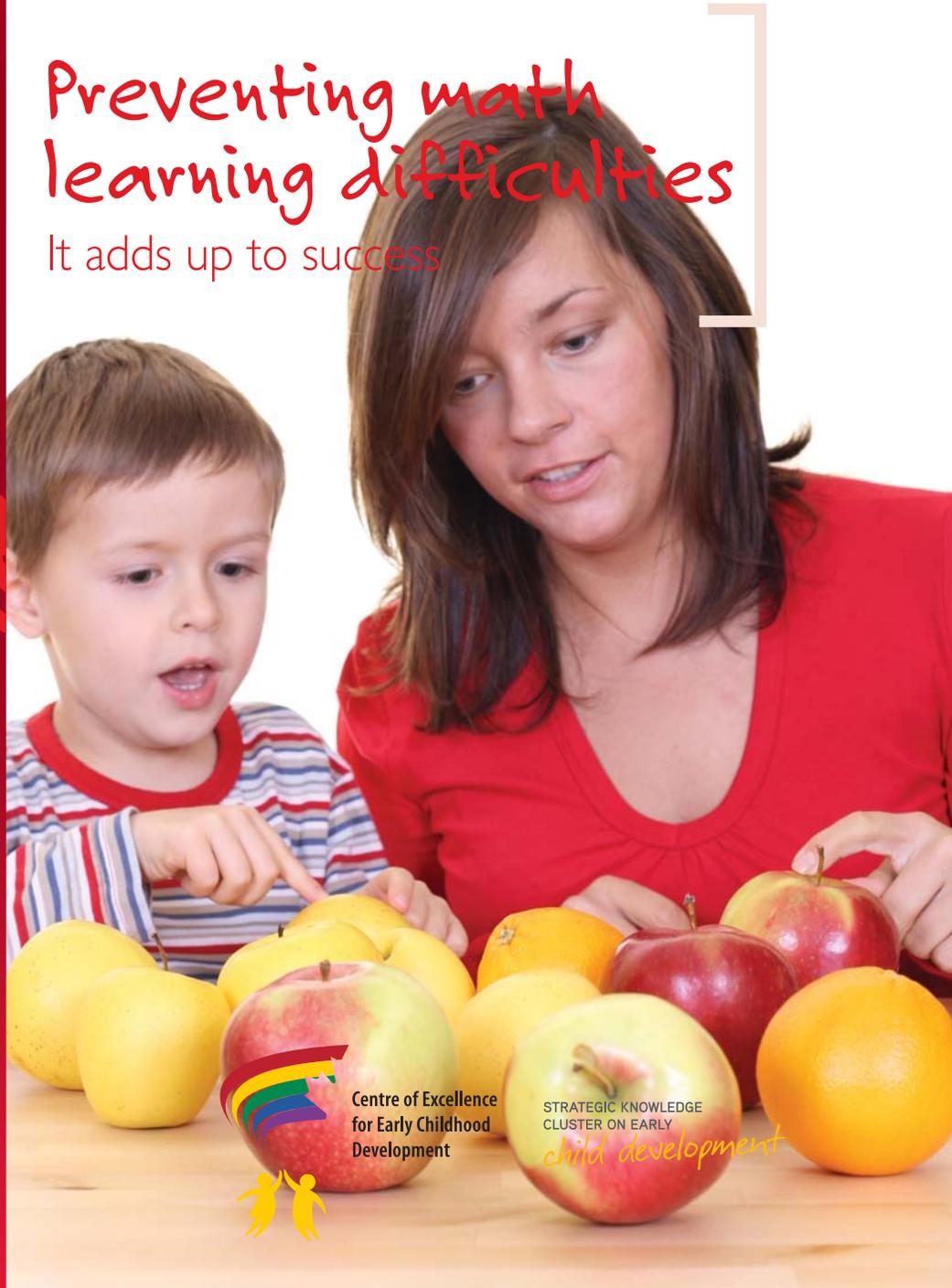


Eyes on



# Preventing math learning difficulties

It adds up to success



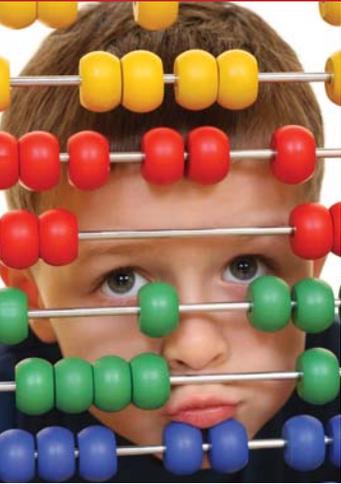
PARENTS



Centre of Excellence  
for Early Childhood  
Development

STRATEGIC KNOWLEDGE  
CLUSTER ON EARLY

*child development*



**“About 3 to 8% of school-aged children have a math learning disability.”**

## What do we know?

- Children with learning difficulties may find it hard to take in, process, and remember information. A learning disability can make it hard for them to read, write, and solve math problems.
- At a young age, children learn the basic skills of reading and counting. Developing these skills will help your child to succeed in school.
- If your child has low math skills during the preschool years, he is likely to do have difficulty in math as he gets older.
- Some children may have problems with:
  - Learning or understanding numbers (e.g., they may not understand that 4 is smaller than 5);
  - Arithmetic (e.g., they may find it hard to remember that  $2 + 3 = 5$ );
  - Understanding sets of numbers (e.g., they may have trouble putting a dozen marbles into sets of three).
- If these types of problems occur often and are long-lasting, these children may have a learning disability called “dyscalculia.”
- Pre-school children may develop dyscalculia when they have difficulty:
  - Naming basic numbers (2 means “two”);
  - Understanding quantities for numbers smaller than 4;
  - Understanding simple adding and subtracting ( $1 + 2 = 3$ ).
- In Grade 1, children with dyscalculia usually don’t know the names of basic numbers (9 means “nine”). They also have difficulty to judge which number is larger or smaller (e.g., they don’t know that 9 is larger than 8).
- Children with dyscalculia can’t remember simple arithmetic facts as easily as other children (e.g., the answer of  $5 + 3$ ). They seem to forget this information quickly.
- Children with dyscalculia solve problems in a simplistic way. For example, they count on their fingers for more years than other children. They make more counting mistakes than other children.
- Dyscalculia has nothing to do with a child’s intelligence, motivation or any of the many factors affecting learning.
- Children with dyscalculia are more likely to become anxious about math. Their anxiety may lead them to avoid math which can make it even more difficult to learn basic math skills.
- About 3 to 8% of school-aged children have a math learning disability.

## Paying attention to...

## What can be done?

... making sure your pre-school child learns the skills he needs to understand counting.

- Talk to your child about his counting problems. Explain to him that we don't always count from left-to-right, in a fixed manner.
- Use everyday activities to practice counting with your child. For example, at the grocery store, tell your child: "Take two apples and add them to the one already in the bag. Good, now we have three apples."

... providing opportunities to use math in everyday situations and helping your pre-school and kindergarten child to understand:

- Numbers;
  - Number relations;
  - Number operations;
  - Relations of equality and inequality.
- Play informal, fun activities that encourage your child to think about quantities (e.g., grouping objects, rearranging them).
    - Play dominos with your child. Ask him how many dots are on each section of the domino. Ask him to group the dominos with the same number of dots.
    - Ask your child to sort and give you five rocks from the sand in the playground. Ask him to line them up starting from the biggest to the smallest.

... helping your child to learn that:

- A series of steps or actions lead to a goal.
  - A problem can be solved in different ways.
- Tell your child that to build a sand castle, he needs to fill a bucket with sand and water, and empty the bucket to make the first shape of a sand castle.
  - While reading a book with your child, ask him how he would solve the problem in the story (For example, "What can Harry do? Who should he ask for help?")

... encouraging your child to learn to plan and organize in his daily activities.

- Help your child to develop a routine in the morning: 1. Waking up; 2. Eating breakfast; 3. Brushing teeth; and 4. Dressing up.

... being aware of the stages of learning math skills. This will help you see if he is progressing or if he's having problems (e.g., in number relations or operations).

- Ask your child's teacher for extra practice materials. Be supportive when the problems are challenging. Show him new ways to understand math problems. For example, count with your child's toys rather than pictured numbers.
- Ask your child's kindergarten teacher if the school tests for numeracy problems.



# Information

This Key Message is a publication of the Centre of Excellence for Early Childhood Development (CEECD) and the Strategic Knowledge Cluster on Early Child Development (SKC-ECD). These organizations identify and summarize the best scientific work on early childhood development. They disseminate this knowledge to a variety of audiences in formats and languages adapted to their needs.

For a more in-depth understanding on Learning Disabilities, consult our synthesis and experts' articles (Learning Disabilities, Numeracy, Language development and literacy and Parenting skills topics) in the Encyclopedia on Early Childhood Development, available free of charge at [www.child-encyclopedia.com](http://www.child-encyclopedia.com).

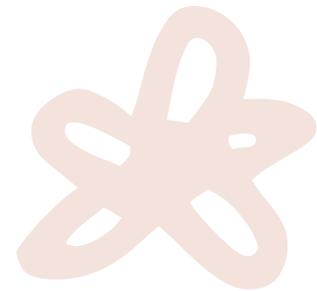
Several funders financially support the CEECD and the SKC-ECD, including the Social Sciences and Humanities Research Council of Canada, Université Laval, and private foundations. The views expressed herein do not necessarily represent the official policies of these organizations.

We are grateful to the Fondation Lucie et André Chagnon for its financial contribution to produce this Key Message.

## Centre of Excellence for Early Childhood Development

GRIP-Université de Montréal  
P.O. Box 6128, Succursale Centre-ville  
Montreal, Quebec H3C 3J7  
Telephone: 514.343.6111, extension 2541  
Fax: 514.343.6962  
E-mail: [cedje-ceecd@umontreal.ca](mailto:cedje-ceecd@umontreal.ca)  
Website: [www.excellence-earlychildhood.ca](http://www.excellence-earlychildhood.ca)

In this document, the masculine form is used merely to simplify the text. No discrimination is intended.



### Coordinators:

Mélanie Joly  
Lucie Beaupré

### Collaborators:

Isabelle Vinet (CPEQ)  
Mary Hoard  
Claire Gascon Giard

### Copy editors:

Valérie Bell  
Lana Crossman  
Nathalie Moragues

### Graphic design:

DesJardins Conception Graphique inc.



STRATEGIC KNOWLEDGE  
CLUSTER ON EARLY  
*child development*