Everyone can be successful using math!

Be Positive About Math

> **Every child can learn math**. Regardless of your own abilities and interest in math, **you can help your child to succeed in math**. The important thing is to welcome math into your child's everyday life.
>
> In the world your child is entering, an understanding of math will be essential for success. Math has never been more important than in today's competitive, technological world.
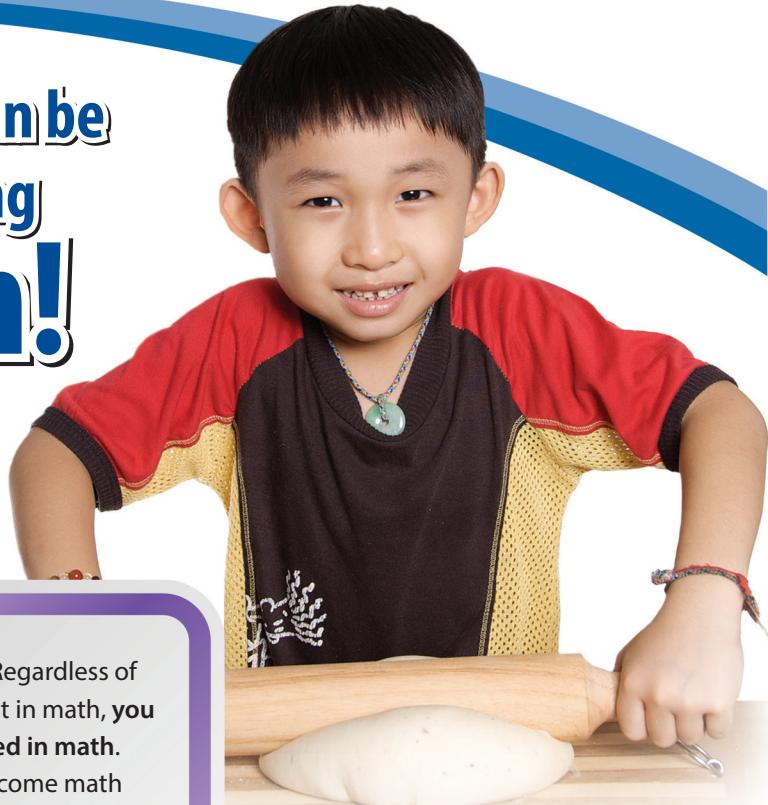
A mathematician, like a painter or poet, is a maker of patterns.

G. H. Hardy, English mathematician

What Learning Math can Give Your Child

- Math is a way of thinking; it has often been called a language. Just like learning a new language, learning math actually develops thinking skills and parts of your child's brain.

- Math will enable your child to recognize patterns and relationships, use this information to make better decisions, and solve problems more creatively.

- Mastering math will build your child's self-confidence and ability to think flexibly.

- Solid math skills will open the door to a variety of career opportunities in the future.

What Your Child is Learning as a Math Student

Your child is learning more than simply memorizing math facts and rules. Your child is learning to:

- explore possibilities and to take risks in order to succeed.

- make sense of math, and is developing an understanding of how it works.

- make connections between everyday experiences and the skills and ideas learned in math class.

- share and explain his or her thinking by talking, writing, and drawing.

- use technology to explore and learn new ideas.

- solve problems.

- think logically and critically.

Ask prompting questions when your child needs help.

- What do you already know to help you solve the problem?
- What have you done so far?
- Can you draw a picture to help solve the problem?
- What words or directions do you not understand?
- Do you see any patterns?
- Does that make sense to you?
- How do you know?
- If you don't know, how can you find out?

Create a positive attitude to math.

- Show your child that you think math is important.
- **Be confident** that everyone can learn math.
- Encourage your child to keep trying even when an answer is difficult or slow to find.
- Treat errors and misconceptions as opportunities to learn.
- Celebrate successes!

Make math part of everyday life.

- Estimate and count everything!
- Sing counting songs, such as "One, Two, Buckle My Shoe" or "Ten Little Monkeys."
- Play card games and board games that involve counting, such as Snakes and Ladders.
- Go on a number and shape hunt. Look for examples of numbers and shapes around the house and in the community.
- Look for repeating patterns in songs, dances, fabric, and stories. Talk about the patterns.
- Play "I Spy" looking for different geometric shapes.
- Compare and sort toys, books and other things around the house. Use words such as taller and shorter, heavier and lighter, holds more and holds less.
- Build structures using boxes or construction toys.

Show an interest in your child's math studies.

- Provide a space and materials to help your child at home.
- Ask your child to share what he or she is learning in math class.
- Be an interested listener, accepting different ways to find solutions.
- Ask your child to explain how he or she solves problems so you can ensure that he or she understands.
- Keep in contact with your child's teacher.

You can Help your Child Succeed in Math

The **Big Ideas** of **Grade 1 Math**
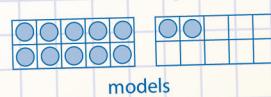
- Count forwards and backwards by 2s to 20, and to 100 by 1s, 5s and 10s (5s and 10s forward only)

- Recognize familiar arrangements of 1 to 10 objects without counting

- Understand that counting is more than saying numbers in a sequence
  - Your child should begin counting at "1" and count each object only once.
  - After your child has counted the objects, ask him or her how many there are. Your child should be able to tell you how many there are without counting the objects again.
  - Your child should recognize that the number of objects does not change even if they are counted starting with a different object in the group or if the objects are rearranged.

"There are 6 shapes."　　　"There are 6 shapes."　　　"There are 6 shapes."

- Model, describe, compare, and estimate numbers up to 20 (understanding the numbers 11 to 19 can be challenging for many students)
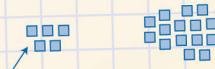
 models　　　pictures　　12　symbols　twelve　words

- Name a number that is one more, two more, one less, and two less. Model numbers using groups
  "One more than 14 is 15. Two more than 14 is 16. One less than 14 is 13. Two less than 14 is 12."
  14 can be modeled as:
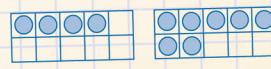
- Estimate quantities to 20

  "This is 5. So I know this is about..."

- Addition and subtraction with answers to 20 to solve problems
  (use models, pictures, and symbols)

  11 = 4 + 7
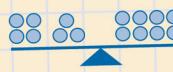
  We saw 11 people skating at the rink. Some left and now there are only 4 people skating. How many skaters are left?

  11 - 7 = 4

- Use their own strategies for solving basic addition and subtraction questions (facts to 18)
  Ask your child to explain their strategy for solving addition and subtraction problems.
  "To solve 9 - 4, I know 4 + 5 = 9. So the answer is 5." (used addition to solve subtraction)

- Repeating patterns: create, describe, copy, and continue patterns using objects, sounds, and actions
  ★★●★★●★★●...　　　stomp, stomp, clap, stomp, stomp, clap, stomp, stomp, clap ...
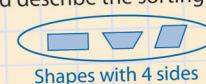
- Demonstrate and explain how quantities are equal and unequal (up to 20)

 △△△ + △△ = △△△△△
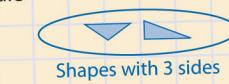
  "Are both sides equal?"

- Compare and order objects by matching, covering, or filling
  Which is taller?　　Which is heavier?　　Which is shorter?　　Which container holds the most?

- Sort 2-D objects and 2-D shapes and describe the sorting rule

  Shapes with 4 sides　　　Shapes with 3 sides

- Reproduce 3-D objects and 2-D shapes that are made with different shapes

Books that Make Math Fun

All of these books are available at New Brunswick Public Libraries.

- **Pattern Bugs** by *Trudy Harris*
- **The Doorbell Rang** by *Pat Hutchins*
- **If You Take a Mouse to School** by *Laura Numeroff*
- **Turtle Splash! Countdown at the Pond** by *Cathryn Falwell*
- **Ten Black Dots** by *Donald Crews*
- **One Gray Mouse** by *Katherine Burton*
- **Anno's Counting Book** by *Mitsumasa Anno*
- **Math Fables** by *Greg Tang*
- **Twelve Ways to Get to Eleven** by *Eve Merriam*
- **The Shape of Me and Other Stuff** by *Dr. Seuss*
- **My Cat Likes to Hide in Boxes** by *Eve Sutton*
- **A Pig is Big** by *Douglas Florian*

Internet Resources for Grade 1 Math Students:

The Internet is a source of many resources to help you and your child understand and practice math at the Grade 1 level and beyond. These sites were active at the time of publication, but you should preview them first to ensure they are appropriate for your child's needs and interests.

- **A Maths Dictionary for Kids** – a great interactive resource for you and your child: www.amathsdictionaryforkids.com

- **Mathematics Glossary** - definitions and examples of words and concepts, from LearnAlberta.ca: www.learnalberta.ca/content/memg/index.html

- **Illuminations** – interactive activities from the National Council of Teachers of Mathematics: http://illuminations.nctm.org/ActivitySearch.aspx

- **National Library of Virtual Manipulatives** - interactive activities for all grade levels: http://nlvm.usu.edu/en/nav/vlibrary.html

- **TES iboard** – an interactive collection of activities for many different concepts and levels: http://newserver.iboard.co.uk/player

- **Education Place, Roz's Math-a-rama** - interactive games and activities, glossary and more: www.eduplace.com/kids/mw

- **Cool Math 4 Kids** - puzzles, games and more: www.coolmath4kids.com

- **BBC Number Time** - interactive games, including Snakes and Ladders: www.bbc.co.uk/schools/numbertime/index.shtml

- **Count Us In!** - games to practise math concepts: www.abc.net.au/countusin

- **Prime Radicals (TVO)** – counting and pattern activities, games and much more: http://www.primeradicals.ca

Contact Us

The Department of Education and Early Childhood Development is committed to your child's success in math. If you have any questions about your child's progress or about how you can be an active part of his or her learning, contact your child's teacher or the Department of Education and Early Childhood Development at 506-453-3678.