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.

You don't have to be a geek to love math and science.

Robert Thirsk - Canadian astronaut

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?
- Can you draw a picture or make a diagram 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 everything: the number of things, amount of time, length, and mass.
- Practise "skip counting" (e.g., by 2s, 5s, 10s, etc.) when playing games and counting money.
- Play board games and strategy games (e.g., tic-tac-toe),and discuss strategies.
- Organize toys, collections, and other things around the house.
- Encourage your child to use his or her math skills to help you cook, shop, and measure.
- Talk about time and use a calendar to discuss upcoming events, such as holidays.
- Do jigsaw puzzles together.

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 she or he is learning in math class.
- Be an interested listener, accepting different ways to find solutions.
- Ask your child to explain how to solve homework questions so you can ensure that he or she understands the skill being practiced.
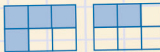- Keep in contact with your child's teacher.

You can Help your Child Succeed in Math

The Big Ideas of Grade 3 Math

- Count forwards and backwards from 0 to 1000 by 3s, 4s, 5s, 10s, 25s and 100s

- Tell the value of a set of coins by skip counting

  1 quarter, 4 dimes and 5 nickels $\longrightarrow$ 25¢, 35¢, 45¢, 55¢, 65¢, 70¢, 75¢, 80¢, 85¢, 90¢

- Numbers to 1000: represent, describe, compare, and order; understand the value of digits in numbers

  453=four hundred fifty-three   874, 847, 784, 748, 487, 478   10 hundreds is one thousand

- Mental math and estimation strategies for adding and subtracting two-digit numerals (adding from left to right, using doubles, thinking of addition, and taking one number to the nearest multiple of ten)

  Knowing what 10 objects looks like helps estimate how many objects in a larger group.
  To solve 27 + 64, think 30 + 64 = 94 - 3 so the sum is 91.
  To solve 83 - 45, think 45 + 5 = 50; 50 + 30 is 80; 80 +3 = 83, so the answer is 38 (5+30+3).

- Recall basic addition facts to 18 and related subtraction facts

- Solve addition and subtraction equations that include a symbol to represent an unknown number

  $17 + \square = 25$ $20 = \square + 10$ $16 - \triangle = 9$ $\triangle - 6 = 11$

- Addition and subtraction with answers to 1000 (limited to one-, two-, and three-digit numbers)

- Multiplication and division up to 5×5 using a variety of strategies

  3×4 can be solved by: - skip counting $\longrightarrow$ 4 + 4 + 4 = 12
                                  - making sets of equal groups
                                  - making an array

- Fractions (parts of a whole) name, record, model, and compare

  $\frac{1}{4}$ $\longrightarrow$ one fourth $\longrightarrow$ $\frac{4}{6}$ is more than $\frac{2}{6}$

- Increasing and decreasing patterns: describe, continue, compare, and represent patterns

- Time: solve problems involving seconds, minutes, hours, days, weeks, months, and years

- Measure and estimate length using centimetres and metres; develop personal referents for these

  My finger is about 1 centimetre wide   a doorknob is about 1 metre from the floor   1m = 100 cm

- Measure and estimate mass using grams and kilograms; develop personal referents for these

  A paperclip is about 1 gram   1 litre of water is about 1 kilogram   1 kg = 1000 g

- Perimeter of regular and irregular shapes; measure and estimate using centimetres and metres

- Describe 3-D objects: shape of the faces and the number of vertices and edges

  vertex
  face (also a base) — edge — face (also a base)
  face
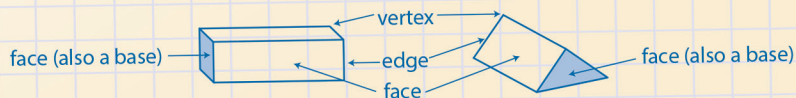
- Polygons: sort and identify according to the number of sides

  triangle   quadrilateral   pentagon   hexagon   octagon

- Collect, organize, and display data using lists, charts, tally marks, line plots, and bar graphs

Books that Make Math Fun

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

- **How Much, How Many, How Far, How Heavy, How Long, How Tall Is 1000?** by *Helen Nolan*
- **Big Numbers and Pictures that Show Just How Big They Are!** by *Edward Packard*
- **Shark Swimathon** by *Stuart J. Murphy*
- **Measuring Penny** by *Loreen Leedy*
- **Fraction Fun** by *David A. Adler*
- **Grandfather Tang's Story** by *Ann Tompert*
- **The Doorbell Rang** by *Pat Hutchins*
- **Amanda Bean's Amazing Dream** by *Cindy Neuschwander*

Internet Resources for Grade 3 Math Students:

The Internet is a source of many resources to help you and your child understand and practice math at the Grade 3 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.

- **Interactive Math Dictionary** - a great resource for you and your child: www.teachers.ash.org.au/jeather/maths/dictionary.html
- **National Council of Teachers of Mathematics** - "Illumination" interactive activities: http://illuminations.nctm.org/Activity Search.aspx
- **National Council of Teachers of Mathematics** - "Figure This" puzzles and problems: http://www.figurethis.org
- **National Library of Virtual Manipulatives** - interactive activities for all grade levels: http://nlvm.usu.edu/en/nav/vlibrary.html
- **TVO kids** - collection of videos and games for math and other subjects: http://www.tvokids.com/6-11
- **NRich** - activities, games, and problems: http://nrich.maths.org/forstudents
- **Education Place Math a Rama** - interactive games and activities, glossary and more: http://www.eduplace.com/kids/mw
- **BBC Bitesize Maths** - activities and games to practice skills: http://www.bbc.co.uk/schools/ks2bitesize/maths
- **Cool Math 4 Kids** - puzzles, games and much more: http://www.coolmath4kids.com

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.