

### **Every child can learn mathematics.**

Mathematically literate students understand and value the mathematical information they encounter in the world outside school, and have the knowledge and confidence to make sense of this information.

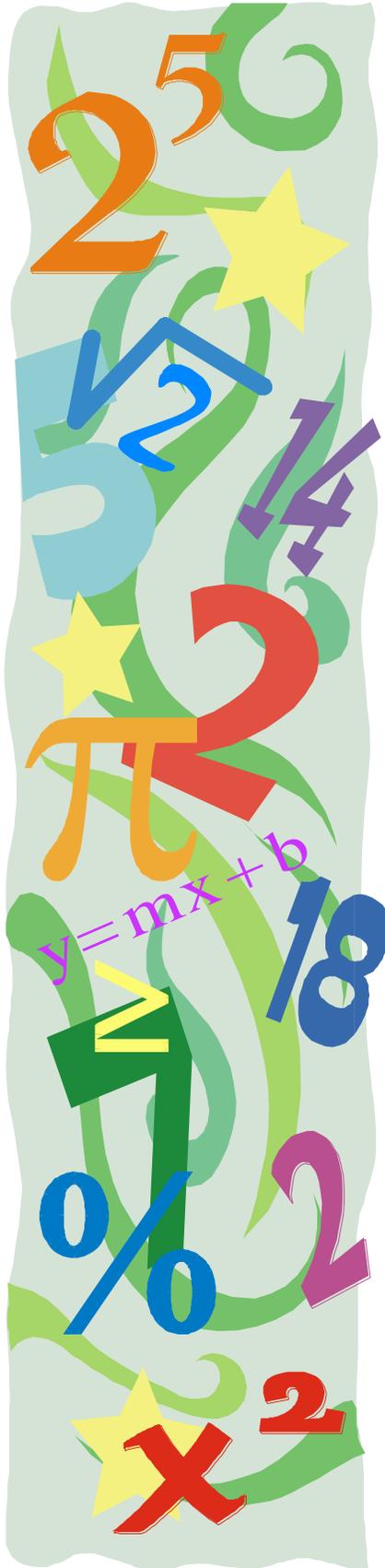
To be successful in many occupations and function well in today's knowledge-based economy, the ability to process and interpret data, communicate effectively and apply mathematical reasoning is essential.

### **Mathematics students are problem solvers**

Math involves solving problems and investigating mathematical patterns and relationships. A successful problem solver questions, investigates, and explores new situations to gain new understanding of a problem.

### **Mathematics students persevere**

Students who persevere through a problem when the answer is not readily available have a greater chance of success. Students are encouraged to recognize that there is probably more than one way to solve a problem and that there might be more than one correct answer.



### Mathematics students apply what they have learned

Students need to be able to apply mathematics to everyday situations and recognize that mathematics is present in the world around them. Students who are able to make links with their prior knowledge to help solve unfamiliar problems have a greater chance of being successful in mathematics.

### Mathematics students communicate effectively.

Students need good communications skills to explain mathematical ideas, listen to other people's interpretations, and to use those ideas to increase their own understanding. Students who know the answer but cannot communicate their solution strategies, usually have a limited amount of knowledge and are likely to be unsuccessful when working with new or more involved problems.



*I discovered that*

### Mathematics students have solid foundational skills

Certain mathematical skills have to be automatic in order to successfully investigate relationships and solve problems. Students must have a thorough grounding in basic skills and concepts e.g., the ability to perform simple operations such as multiplication and division - as a foundation for more advanced exploration and problem solving.

## How can I support my child's mathematics learning?



**Everyone can learn math.** First and foremost, believe in your child's ability to learn mathematics. Everyone can improve when provided with good teaching, coaching, encouragement and practice.

**Do** have high expectations for your child. Research shows that when you believe your children can learn, they will rise to the expectation.

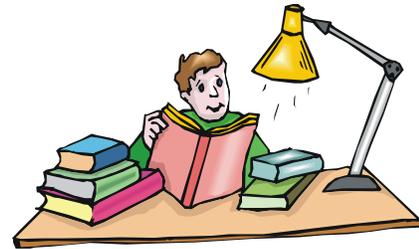
**Do** talk with your child's teacher about how you can help and support your child's mathematical development.

**Do** talk about mathematics in a positive way. Your positive attitude and valuing of mathematics are infectious.

**Do** share your day-to-day math experiences with your child, and discuss:

- video and computer games
- television shows, e.g., the learning channel
- travelling (calculating distances, destination estimation, budget, gas prices)
- banking (loans, mortgages, interest rates)

**Do** encourage personal responsibility for learning. Emphasize that effort is as important as ability.



**Do** support your child through homework by listening and asking questions:

- Allow your child to struggle through the process of problem solving.
- Discuss mistakes as learning opportunities.
- Help your child by asking questions:
  - What do you need to find out?
  - Tell me what you know...
  - Show me what you started...
  - What can you try first?
  - Can you make a drawing or picture?
  - Will a list or table help?

**Do** encourage persistence. Some problems take time to solve. Taking a break often provides fresh enthusiasm and alternative strategies.

**Do** build on your child's strengths and what he/she already knows. Make links between math and daily life.

**Do** engage in math-related home activities:

- Play games - Chess, Checkers, Cribbage, Bridge, Euchre, Memory Games, Backgammon...
- Make puzzles.
- Involve your child with shopping.
- Engage in the mathematics of cooking and baking.
- Plan and execute home renovations.

**Do** explore your child's thinking process:

- Why did you...?
- What can you do next?
- Do you see any patterns?
- Does the answer make sense?
- Tell me in a different way...
- What would happen if...?

**Do** appreciate the value of *not knowing* and use these occasions as opportunities for growth rather than anxiety. Develop strategies and resources for getting help with the problems.

**Do** encourage your child to experiment with different approaches to a problem. We learn a lot from our errors when we examine them.

Source: EduGains, Ministry of Education of Ontario

