

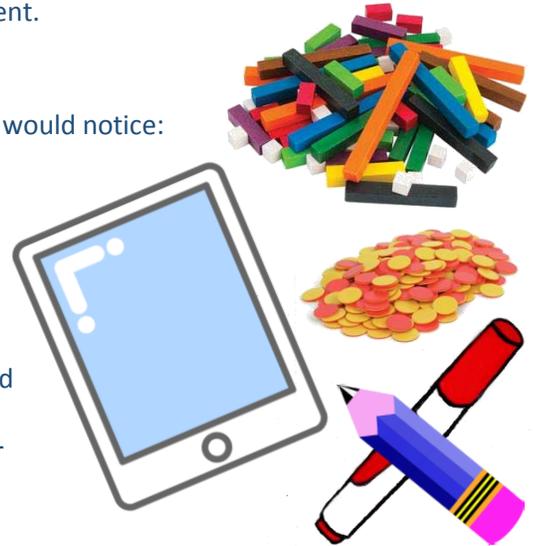
Today's Math Classroom

Students used to spend almost all their time working at their desks, with the teacher at the chalkboard and with little discussion. Math classes today look, sound, and feel quite different.

How and Why it is Different

If you peeked inside your child's math class, here are some things you would notice:

- students working on their own, in pairs, in small groups, independently and with teacher direction
- students engaged in a wide variety of tasks — solving problems about real-life situations, practising skills, playing games, and applying math concepts to design challenges
- students using a variety of physical and digital learning tools as they explore math ideas, write and record their math thinking and solve problems
- students talking about connections they have made personally or exploring new math concepts and skills
- students sharing their strategies for solving a problem



Learning math involves understanding concepts and procedures, acquiring skills, and applying math processes. Each of these aspects of learning requires different learning and teaching strategies. As well, individual students learn differently hence, it is important for students to have opportunities to learn in a variety of ways.

How You Can Support at Home

Talk is a fundamental way children learn, even before they understand what is being said. The more we talk with our children about math, the more their mind is stimulated to think about math. Letting children talk through their solutions and math thinking is very important. Try not to correct them or interrupt them. Even wrong answers provide opportunities. Here are five ways to talk math with your child.

- 1. Relate Math to activities you and your child do together.** For example, when shopping, talk about price, mass, quantity, bargains. When cooking, talk about units of measure, reading recipes, serving size. When out for a walk or drive, note numbers on signs when you are walking or driving with your child: speed limits and exit numbers, building addresses, sale prices in store windows. Use numbers when you refer to time, dates, and temperatures: how many hours and minutes until bedtime, how many weeks and days until a holiday, the high and low the weatherperson predicts for that day. With older children, math can become a part of talking about sports, science, history, video games, or whatever else that interest them.
- 2. Look for opportunities to add, subtract, multiply, and divide.** Skip count the number of green tiles on the floor of the grocery store or the number of cracks you skip over on the sidewalk. On a drive or a walk you might say, "I



As a parent, there is a lot you can do to help your child learn and love math. Learn about the math that your child is studying in school. Look for math in everyday activities. Offer encouragement and have a positive attitude toward math. Parents can be a great role model, math mentor and coach.

see two geese on this side of the lake and three geese on the other side. How many geese does that make?” When noticing speed limits, talk about how long it would take to travel a certain distance.

- 3. Look for opportunities to problem solve.** For example, the problem solving involved in an everyday discussion about how much of a specific food your family needs involves a lot of math concepts and content. For example, asking, “How many apples do you think we need to buy?” then following up with ‘why’ may often involve explanations about the number of days in a week, how many people are in the family, who likes apples and who does not. Allowing your child to talk about their why, helps to better understand how they logically think through a problem.
- 4. Ask open-ended questions to sustain math talk as long as possible.** The goal of math talk is to keep your child talking. Instead of simply telling your child how many apples you think are needed and putting them in a bag and moving on, take the time to stop and ask open-ended questions and listen carefully to the responses. Math talk means being ready with follow-up questions that can extend and deepen your math discussions. For example, during the same discussion about apples, you could ask, “Should we buy the bag of apples or buy individual apples?” Sustaining the talk as long as possible is the key.
- 5. Be prepared to take extra time for math talk.** Discussion about something like how many apples are needed to buy takes time, but these types of interactions are wonderful opportunities for learning.



Further resources and supports:

Website: Talking Math with Your Kids, by Christopher Danielson (<https://talkingmathwithkids.com/>)

This blog includes various conversation topics, activities and resources you can use to encourage “math-talk” at home.

What Works? Research into Practice: Student Interaction in the Math Classroom: Stealing Ideas or Building Understanding (<http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Bruce.pdf>)

This article explains how “math-talk” is used in the classroom to encourage deeper math thinking and understanding. By working on math problems, thinking about math concepts, and talking about math together, students are collectively engaging in powerful math.

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