

Resources – Homework Help for Parents

Helping teens with math homework

- http://www.ontariodirectors.ca/parent_engagement-math/en “**Inspiring Your Child to Learn and Love Math.**” This online tool kit has links to many Ontario education resources that focus on the importance of math. The Council of Ontario Directors of Education (CODE) is a professional association that represents all Chief Executive Officers of the 72 district school boards in Ontario.
- [http://www.peelschools.org/Documents/15.Help your child succeed in math - \(M\).pdf](http://www.peelschools.org/Documents/15.Help%20your%20child%20succeed%20in%20math%20-%20(M).pdf). “**Help Your Child Succeed in Math: For Parents of Students in Middle School.**”
- <http://www.pbs.org/parents/education/math/math-tips-for-parents>. “**Math Tips for Parents.**”
- <http://mashupmath.com>. A guide for teachers and parents helping students learn math.

Math education in Ontario

- <http://www.edu.gov.on.ca/eng/curriculum/grades.html>. You can read about the details of the Ontario curriculum for each grade.
- <http://www.edu.gov.on.ca/elearning>. Find out about e-learning in Ontario.
- <https://resources.elearningontario.ca/d2l/loginh>. **Ontario Educational Resource Bank (OERB)**. This is a password-protected source of information and e-learning resources for teachers, students, and parents of Ontario’s district school boards.

Parental influence

- Bonnie Schmidt. “**Exploring Parental Influence: Shaping Teen Decisions Regarding Science Education.**” *Spotlight on Science Learning*. Let’s Talk Science and Amgen Canada, 2015. Let’s Talk Science is a Canadian charity that focuses on “education and outreach to support youth development.”
<http://www.letstalkscience.ca/Portals/0/Documents/RPS/Spotlight/LTS-Exploring-parental-influence-EN.pdf>.
- Jo Boaler. ***What’s Math Got to Do with It?: How Teachers and Parents Can Transform Mathematics Learning and Inspire Success.*** Rev. Ed. New York, NY: Penguin Books, 2015.
- W. Jeynes. ***Parental Involvement and Academic Success.*** New York, NY: Routledge, 2011.
- Diana Goldberg. “**Supporting Your Child in Middle School Math.**”
<http://www.pbs.org/parents/education/math/math-tips-for-parents/middle-school-math>.
- Alyson Schafer. ***Breaking the Good Mom Myth: Every Mom’s Modern Guide to Getting Past Perfection, Regaining Sanity, and Raising Great Kids,*** HarperCollins, 2013; ***Honey, I Wrecked the Kids: When Yelling, Screaming, Threats, Bribes, Time-outs, Sticker Charts and Removing Privileges All Don’t Work,*** HarperCollins, 2014; ***Ain’t Misbehavin’: Tactics for***



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Tantrums, Meltdowns, Bedtime Blues and Other Perfectly Normal Kid Behaviours, HarperCollins, 2014. <http://alysonschafer.com>.

General interest

- <https://www.facebook.com/HelloParentCo>.
- Educational platforms: **Google Classroom**; D2L.com; Socrative.com; Moodle.org.
- **Partnership for 21st Century Skills**. This organization forms educational partnerships among “education, business, government and community leaders.” <http://www.p21.org/index.php>.



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Problem-Solving

*“Inexperienced problem solvers don’t know what to do when they don’t know what to do.
Experienced problem solvers know what to do when they don’t know what to do.”*

- Cindy Bryant, Independent Educational Specialist

What is a problem? It is something you do not immediately know how to solve. Think about what you do in life when a problem arises. Before you can find a solution, you need to take some time to think about the problem in different ways. After deciding on a Plan A, you implement its steps. What if you come up against a dead end? You stand back again and think about what went wrong and why. Through this process, you learn from the first idea you tested, perhaps talk about your idea with someone else, then devise a Plan B. The next step is to follow your new plan, taking all factors into consideration. In time, the problem will be solved!

A problem in math is exactly the same as a problem in life. In fact, problem-solving is at the heart of mathematics. One of the main reasons for studying math is to develop the ability to solve problems. Problem-solving is the process of applying what we already know to new and unfamiliar situations. In school, many math problems involve word problems that take math concepts—such as arithmetic, geometry, and algebra—and relate them back to the rest of the world. While research shows that many students find math problems intimidating, it also emphasizes that the best way to become a good problem-solver is to solve problems, lots of problems! Developing problem-solving skills takes time, practice, experience, and reflection. After solving a problem, it is important to think about how the problem was solved and how this same strategy could be used to solve similar problems in the future.

Problem-solving is interesting and shows the usefulness of math. Teens often ask “When am I ever going to use this stuff?” But we apply the math we learn in school to solve real-world problems every day! We use probability to make decisions, geometry to design bridges, and statistics to create surveys.

Supporting problem-solving at home

Understanding what problem-solving is and why it is important

- Talk with your teen about why mathematical competence is important. This includes knowing not only how to do basic mathematical procedures, such as calculating and applying the correct formula, but also why it is important to know which procedures to choose, when to choose them, and for what purpose.
- Encourage your teen to see parallels between problem-solving in life (e.g. choosing a particular cell phone plan) and problem-solving in math. In both cases, the person solving the problem must analyze the problem, implement a strategy, look for and use connections (e.g.

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decide on the best tools to use), and reflect on the solution to be sure the best choice was made. Problem-solving is about reasoning and making sense, and it applies to all subjects.

- Remind your child about a non-math problem that she or he solved in the past. Emphasize that she did not solve the problem all at once. Remind her that she reorganized the problem into simpler parts, broke it down into steps, made a plan about how to proceed, determined the best approach, and identified key ideas. Being methodical or systematic helped her find a solution.
- Remind your child that it is a myth that mathematicians solve problems quickly and never make mistakes. Albert Einstein, one of the world's great mathematicians, once claimed: "It's not that I'm so smart, it's just that I stay with problems longer." Talk about the importance of persevering, even when the material is difficult and your Plan A does not work.
- Talk to your teen about the fact that math is more than mechanical skills. Everyone can demonstrate creativity, ingenuity, and resourcefulness by applying problem-solving strategies to unexpected situations in life.
- Ask your teen to compare textbook word problems to real-life situations. For example, a textbook math problem might say that "Jill bought three CDs at \$14.99 each. How much money did she spend?" In a real-life situation, a student would consider other factors, too, such as sales tax, customer discounts, and the cost of gas to drive to the mall.

Jump-starting the problem-solving process

Here are some questions you can ask when a student is struggling with a math problem:

- What does this question remind you of?
- What is this problem about? What are the important facts or numbers? Explain the problem to me in your own words. Does this problem make sense to you?
- What does your answer mean? How can you check to see if your answer is correct? How would you convince someone else that your answer is correct?
- How could you organize your solution so someone else can follow your thinking?

Resources

- <https://homeworkhelp.ilc.org/>. Math students in grades 7 to 10 can access free and interactive online math tutoring from certified Ontario teachers. The site is available from Sunday to Thursday. It offers 24/7 discussion rooms for each grade level, where students can ask questions, see questions from other students, and watch tutors draw on the whiteboard. This resource also has video lessons, math games, and a virtual locker where students can save their work.