

"Young people are in constant motion and tension between **being** and **becoming**. They are in process of **being** themselves in their everyday lives ... However, young people are also in a state of **becoming** young adults."

Kate Tilleczek,
Professor in the Faculty
of Education,
University of Prince
Edward Island

Recommended Resources

There is a wealth of information on the internet in addition to the links and other resources listed below. For an up-to-date list, please check our website.

Math support

TVO Independent Learning Centre

"Homework Help" is a free online resource for students in grades 7 to 10. Ontario teachers provide free, live, one-on-one tutoring.

homeworkhelp.ilc.org/

Ontario-based "gap closing" support

ePractice is a series of digital, interactive math activities. Students receive immediate feedback on their work.

edugames.ca/newsite/math/index.html

Mathies, a website designed for Ontario K-12 students and parents.

mathies.ca

Books

A Gebra Named Al, Wendy Isdell

Julie hates algebra until she meets a geбра named Al and, along with the Periodic horses, travels through the Land of Mathematics.

Chasing Vermeer, Blue Balliett

Two children work together to recover a famous Johannes Vermeer painting. The book explores themes of art, chance, coincidence, deception, and problem-solving.

Career Support

Career Cruising

This career-planning tool includes skills assessments, career profiles, interviews with real professionals, and information about university, college, and apprenticeship programs. www.careercruising.com

Canadian Women in STEM Careers Videos

This website promotes science and engineering careers for girls.

wiseatlantic.ca/teachers.asp

Module Five

Fact Sheet

Grades 7 and 8

Countless Opportunities

CODE

Coalition of Ontario Developers of Education

Created by the  Ontario

1123 Glenborough Drive
Oakville, Ontario L6H 5K1
Tel: 905.675-0257
Fax: 905.675-2011

Handy math facts for the intermediate division

Characteristics of the intermediate division student

Most students in the intermediate division:

- Start thinking about the future.
- Thrive in settings that encourage them to interact with others and to develop strong friendships and close one-to-one relationships.
- Generally have longer attention spans than they used to, and are capable of high levels of abstract thought.
- Want to assert their individuality and independence, but want to conform, too—for example, by dressing and behaving like their peers.
- Can be highly critical of adults, often identifying with only one special adult mentor.
- Experience significant changes that affect them in many ways:
 - Physical changes affect personal appearance and often result in self-consciousness.
 - Psychological and emotional changes can result in mood swings and feeling insecure one minute, then testing limits with a “know it all” attitude the next.
 - Changing sleep patterns and diet can result in low energy levels.

Math milestones for the intermediate division student

By the end of grade 8, your child should be able to:

- Solve multi-step problems involving whole numbers, decimals, and percentages.
- Multiply and divide fractions and integers.
- Apply order of operations in math problems with brackets and exponents.
- Develop circumference and area relationships for a circle, surface-area relationships for cylinders, and angle relationships for parallel and intersecting lines.
- Solve equations involving one unknown—for example $2x + 3 = 11$.
- Display data using various graphs, such as histograms and scatter plots.
- Calculate the probability of complementary events—for example, what are the odds of rolling either an odd (1, 3, 5) or even (2, 4, 6) number with a die?

Supporting your intermediate learner at home

- Be supportive during this period of change in your child's life. Encourage your child to look forward to new friends, experiences, and learning.
- Help your child to look ahead to the future and to set goals.
- Encourage your child to keep doors open by taking math and science courses in secondary school.

- Ask your child to teach you how to use math software that is licensed for Ontario students to use at home, such as “The Geometer’s Sketchpad,” “Tinkerplots,” or “Fathom.”

- Show your child that math is important in everyday life:
 - Use a spreadsheet such as Excel to determine an affordable cell phone plan.
 - Calculate a reasonably priced take-out dinner for the family using coupons or discounts.
 - Review the latest hockey or baseball stats.
- If you believe that your child would benefit from extra help or tutoring:
 - Seek advice from a trusted adviser, such as your child’s teacher or a member of a community outreach program.
 - MIT’s “MathScore” is an example of a high quality remediation program. mathscore.com/mathInterventionRIT.html
- If you believe that your child would benefit from enrichment:
 - Ask your child’s math teacher about *The Gauss* math competition at the University of Waterloo, or challenge your child to try questions from previous years. cemc.math.uwaterloo.ca/contests/past_contests.html
 - Talk to your child’s teacher about the Ontario Mathematics Olympiad in your area, produced by the Ontario Association of Mathematics Education (OAME).
 - Encourage your child to believe that success results from effort, determination, and learning from mistakes.