

# OJCS Grade 6 Mathematics 2024 - 2025

Chelsea Cleveland - [c.cleveland@theojcs.ca](mailto:c.cleveland@theojcs.ca)

## **Course Description:**

The Grade 6 Mathematics Program at The OJCS, delivers and fosters math learning and exploration of skills and concepts, as per the Ontario Ministry Guidelines; Math Curriculum (2020) as a foundation. When and where applicable, students are provided additional opportunities, both inside and outside, of the regular classroom to deepen their mathematical understanding once mastery and evidence of grade level foundational skills are evident. These concepts fall into six main strands: SEL (Social-Emotional Learning), Algebra, Number, Data, Spatial Sense, and Financial Literacy. Within each strand, (with the exception of SEL), students are assessed and evaluated on a regular basis and using the four categories of knowledge; Knowledge and Understanding, Thinking, Communication, and Application.

Students will be exposed to and investigate math skills each week through a variety of learning models such as; hands-on investigations, 3-part/act lessons, real-world scenarios, guided, group, and independent practice and investigations, as well as problem based activities. Through these various formats, students also explore various methods and strategies of process;

- problem solving
- reasoning and proving
- reflecting, connecting
- communicating
- representing
- selecting tools and strategies

To move forward on their own math journey with more confidence and efficacy. Additionally, this method fosters and strengthens problem solving strategies and necessary learning skills required for mathematical synthesis, analysis, and evaluation for curriculum expectations in High School as well as required skills for real world applications and future careers.

The overall curriculum content and expectations are those within [The Ontario Mathematics Curriculum, Grade 6 \(2020\)](#) through the Ontario Ministry of Education. Social-Emotional Learning (SEL) is not formally assessed; however, it is imperative and meaningful toward overall mathematical success.

STRAND	Grade 6 Expectations and Curriculum
<u><b>SEL</b></u>	Identify and manage emotions to engage positively in mathematics activities. Recognize sources of stress and apply strategies to work through challenging problems to build resilience. Maintain positive motivation and perseverance through testing various approaches and recognizing mistakes as a part of learning. Build relationships and communication skills to express thinking, practise inclusivity, and validation of ideas and processes of others;. Develop self-awareness to see themselves as capable math learners and ownership of learning. Think critically and creativity to make connections to everyday contexts to help make informed judgements and decisions along their math journey.
<u><b>NUMBER</b></u>	<p><b>Number Sense:</b> numbers <math>\leq 1</math> million, integer relations and understanding, decimal numbers and fractions to thousandths. Round terminating and repeating decimals to thousandths, hundredths, tenths, and whole numbers. Model and describe equivalent decimals and fractions in various ways.</p> <p><b>Operations:</b> Operational and computation strategies including decimal numbers, fractions, ratios, rates, whole percents with multiple steps and operations. Order of operations and properties included. Math facts around divisibility rules. Mental math strategies of common percents of whole numbers. Addition and subtraction of whole numbers and decimal numbers using estimation, algorithms, and higher order thinking skills. Multiplication and division of prime and composite numbers, factor trees and product relationships. Three-digit whole number and decimal tenths computation strategies. Whole numbers by proper fractions. Scale factors and equivalents involving ratios, percents, and rates.</p>
<u><b>ALGEBRA</b></u>	<p><b>Patterns and Relationships:</b> identifying and using linear patterns and their relationships. Identifying and exploring algebraic expressions and equations from a table of values, graphs, and series of terms. Computational steps and rules to solve for unknown values in linear patterns.</p> <p><b>Equations and Inequalities:</b> Add monomials (one term) with whole numbers. Evaluate algebraic expressions involving decimal tenths and whole numbers. Solve equations with multiple terms with whole numbers. Inequalities with two operations up to 100 and graphing solutions.</p> <p><b>Coding:</b> Write, execute efficient code that involves conditional statements and one control. Read and alter existing code involving conditional statements and identify and predict possible outcomes.</p>
<u><b>DATA</b></u>	<p><b>Data Literacy:</b> Discrete vs continuous data. Use, apply, and organize qualitative, discrete, and continuous data using and choosing appropriate intervals. Graphing of histograms and broken-line graphs. Central tendency involving: mean, median, mode, and range between two or more data sets. Recognizing and altering potential biased or misleading graphs.</p> <p><b>Probability:</b> Probability of events using decimals, fractions, and percents. Determine and compare the theoretical and experimental probabilities of two independent events happening.</p>
<u><b>SPATIAL</b></u>	<p><b>Geometric and Reasoning:</b> Quadrilateral properties; diagonals, rotational and line symmetry. 3-D objects with nets and multiple views, (top, bottom, sides etc.)</p> <p><b>Location and Movement:</b> Cartesian Plane (all 4 quadrants) to translate coordinates through translation, rotation, and reflection.</p> <p><b>Metric System and Measurement:</b> Length, area, mass, and capacity with metric units and conversions. Area and surface area trapezoids, rhombuses, kites, and composite polygons through decomposition. Surface area of prisms and pyramids.</p> <p><b>Angles:</b> Identify, create, and analyze angles to <math>360^\circ</math> with a protractor. Properties of angles including: supplementary, complementary, opposite, interior and exterior.</p>
<u><b>FINANCIAL</b></u>	<b>Money and Finances:</b> Methods of payment and the disadvantages and advantages of various methods. Financial goal setting around saving and earning, various institutions and factors that can increase or decrease attaining desired goals. Recognizing and understanding various interest rates, fees, loans and their benefits. Methods of trading, lending, borrowing and donating to distribute finances.

## Materials, Evaluation, and OJCS Policies

<u>Materials/Texts</u>	<u>Important Links</u>	<u>Student Evaluation</u>
<input type="checkbox"/> Assessment Folder <input type="checkbox"/> Binder (materials provided) <input type="checkbox"/> Online teacher provided and creative math slides <input type="checkbox"/> Student-created Math Tool Box	<input type="checkbox"/> Blog <input type="checkbox"/> Homework Board <input type="checkbox"/> IXL (Math)	<div>Formal (i.e. unit tests) 50%</div> <div>Informal (i.e. quizzes &amp; in-class assignments) 30%</div> <div>Participation 10%</div> <div>Homework 10%</div>

### Homework and Additional Policies

#### **Late Assignments/Missed Evaluations:**

- Homework and assignments are due at the beginning of class. Late assignments will be deducted 5% per day unless previous arrangements have been made with your teacher in advance. A student who has not turned in their assignment by the due date will also be referred to study hall until the assignment is complete.

#### **Absences:**

- Students are responsible for make-up work when they are absent. Students will be held accountable for making the appropriate arrangements with their teacher as soon as possible. If a student misses an assessment, they are responsible for completing that assessment the following day. Students are encouraged to reach out to their teachers via email and check their homework board to ensure that they are prepared upon their return.

#### **Technology Use:**

- OJCS encourages students to make use of devices for their learning. However, students must follow the OJCS guidelines for technology usage while in school. When on devices and online, students are expected to conduct themselves in a responsible, ethical, and polite manner following the OJCS Code of Conduct (see below) and may be disciplined accordingly.
  - Technology is to be used only for educational purposes.
  - Devices should only be opened after the teacher has prompted the students to do so.
  - Devices are not permitted during transition periods, recess, or lunch.

#### **Plagiarism:**

- Students must not submit someone else's work (including thoughts, writings, or inventions) as their own. Using AI programs like ChatGPT is encouraged to enhance learning, such as for explaining difficult concepts, generating ideas or writing prompts, and creating text and images, as long as the content is properly attributed. Using AI-generated content without proper attribution is considered plagiarism according to OJCS's Code of Conduct. Any student found plagiarizing
- someone else's work shall lose 30% of the mark on any given assignment. The given student will need to resubmit the assignment utilizing their own words. Instances of plagiarism will also result in an office referral and additional disciplinary action..