

Ontario Curriculum Grades 1-8 Mental Math Trajectory

Big Ideas	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Mental Math Operations with whole numbers	solve problems involving the addition and subtraction of single-digit whole numbers , using a variety of mental strategies	solve problems involving the addition and subtraction of whole numbers to 18 , using a variety of mental strategies	solve problems involving the addition and subtraction of two-digit numbers , using a variety of mental strategies multiply to 7 x 7 and divide to 49 ÷ 7 , using a variety of mental strategies	add and subtract two-digit numbers , using a variety of mental strategies multiply to 9 x 9 and divide to 81 ÷ 9 , using a variety of mental strategies solve problems involving the multiplication of one-digit whole numbers , using a variety of mental strategies multiply whole numbers by 10, 100, and 1000 , and divide whole numbers by 10 and 100 , using mental strategies	solve problems involving the addition, subtraction, and multiplication of whole numbers , using a variety of mental strategies	use a variety of mental strategies to solve addition, subtraction, multiplication, and division problems involving whole numbers	generate multiples and factors , using a variety of tools and strategies represent perfect squares and square roots, using a variety of tools	Continue to practise mental strategies to solve addition, subtraction, multiplication and division problems
Mental Math with Decimal Numbers /fractions					multiply decimal numbers by 10, 100, 1000, and 10 000 , and divide decimal numbers by 10 and 100 , using mental strategies	multiply whole numbers by 0.1, 0.01, and 0.001 using mental strategies multiply and divide decimal numbers by 10, 100, 1000, and 10 000 using mental strategies	use a variety of mental strategies to solve problems involving the addition and subtraction of fractions and decimals	Continue to practise mental strategies to solve problems involving addition and subtraction of fractions and decimals
Estimation/ Rounding - Quantity	estimate the number of objects in a set, and check by counting	determine, using concrete materials, the ten that is nearest to a given two-digit number , and justify the answer	round two-digit numbers to the nearest ten, in problems arising from real-life situations;	round four digit whole numbers to the nearest ten, hundred, and thousand, in problems arising from real-life situations	round decimal numbers to the nearest tenth, in problems arising from real-life situations	round decimal numbers to the nearest tenth, in problems arising from real-life situations	estimate quantities using benchmarks of 10%, 25%, 50%, 75%, and 100%	
Estimation - Operational sense			use estimation when solving problems involving addition and subtraction , to help judge the reasonableness of a solution	use estimation when solving problems involving the addition, subtraction, and multiplication of whole numbers, to help judge the reasonableness of a solution	use estimation when solving problems involving the addition, subtraction, multiplication, and division of whole numbers, to help judge the reasonableness of a solution.	use estimation when solving problems involving the addition, subtraction, of whole numbers and decimals , to help judge the reasonableness of a solution.	use estimation when solving problems involving operations with whole numbers, decimals, and percents , to help judge the reasonableness of a solution	use estimation when solving problems involving operations with whole numbers, decimals, percents, integers, and fractions , to help judge the reasonableness of a solution estimate , and verify using a calculator, the positive square roots of whole numbers