Scope & Sequence
6th Grade Mathematics
(Aligned to eMath Instruction and Next-Gen. Standards)

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In Grade 6, instructional time should focus on five areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; (4) deepening understanding of area, surface area and volume; and (5) developing understanding of simple probabilities and statistical thinking. Please note that while every standard/topic in the grade level has not been included in this overview, all standards should be included in instruction.

Next Generation Learning Standards:
https://www.nysed.gov/sites/default/files/programs/curriculum-instruction/nys-next-generation-mathematics-p-12-standards.pdf

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

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6th Grade Math

<u>Quarter 1</u>

Unit 1. Whole Numbers (2 Weeks)

1. Whole Number Multiplication
2. Multiples of Whole Numbers
3. Division of Whole Numbers
4. Multi-Digit Multiplication and Division
5. Factoring and Prime Numbers
6. Prime Factoring
7. Greatest Common Factors
8. Turning Sums into Products

(IXL 6A, B, C, D)

1 Minor Assessment

Unit 2. Fractions (4 Weeks)

1. Fractions and Mixed Numbers
2. Equivalent Fractions
3. Fractions as Division
4. Adding and Subtracting Fractions
5. Multiplying Fractions by Whole Numbers
6. Finding a Fraction of the Whole
7. Multiplying Fractions
8. Dividing Fractions
9. More Work Dividing Fractions

(IXL 6I, J, K, L)

*Polypad Fraction Bar Exploration

1-2 Minor Assessments

1 Major Assessment

Unit 3. Decimals (3 Weeks)

1. The Base-Ten Number System
2. Adding & Subtracting Decimals
3. Multiplying Decimals
4. More Work Multiplying Decimals
5. Dividing Whole Numbers with Decimal Remainders
6. Dividing Decimals
7. More Practice Dividing Decimals.
8. Mixed Up Decimal Practice

(IXL 6F, G, H)

1 Minor Assessment

1 Major Assessment

updated Jan. 2025

6th Grade Math

Quarter 2

Unit 4. Negative Numbers (2 Weeks)

1. Ordering Positive Numbers
2. Introduction to Negative Numbers
3. Ordering the Rational Numbers
4. The Absolute Value of a Number
5. Plotting Points in the Coordinate Plane
6. More Work in the Coordinate Plane

(IXL 6M, N, P)
*DESMOS Coordinate Plane Activity
1 Minor Assessment
1 Major Assessment

Unit 5. Algebraic Expressions (4 Weeks)

1. Exponents
2. Order of Operations
3. Variables and Algebraic Expressions
4. Parts of an Algebraic Expression
5. Equivalent Expressions
6. Combining Like Terms

(IXL 6Y)
1-2 Minor Assessments
1 Major Assessment

Unit 6. Equations & Inequalities (4 Weeks)

1. Equations and Their Solutions
2. Solving One-Step Equations with Addition and Subtraction
3. Solving One-Step Equations with Multiplication and Division
4. Messy Equations
5. Translating into Math Equations
6. Solutions to Inequalities
7. Translating Phrases into Inequalities

Desmos Equation Activity
(IXL 6Z, AA, BB)
1-2 Minor Assessments
1 Major Assessments

updated Jan. 2025

6th Grade Math

Quarter 3

Unit 7. Ratios and Rates (4 Weeks)

1. Introduction to Rates
2. Using Tables to Solve Ratio Problems
3. Equivalent Ratios
4. Investigating Ratios Using Tape Diagrams
5. Ratios as Fractions
6. Ratios and Unit Rates
7. More Work with Rates
8. Converting Units
9. Variables Related by Rates

(IXL 6R)

1 - 2 Minor Assessments

1 Major Assessment

Unit 8. Percent (2 Weeks)

1. Introduction to Percent
2. Percent and Equivalent Ratios
3. Finding Percent Using a Product
4. Everyday Percent Problems

(IXL 6S)

1 Minor Assessment

Unit 9. Area (3 Weeks)

1. The Area of a Rectangle
2. Areas of Triangles
3. Trapezoids and Their Areas
4. Parallelograms
5. Perimeter, Area, and Algebra

~~* Add Basic Transformations of Translation, Reflection, and Rotation about the origin only from MYP 6, Ch. 16~~

(IXL 6FF)

Desmos Activity - Shapes on a Plane

1-2 Minor Assessments

1 Major Assessment

updated Jan. 2025

6th Grade Math

Quarter 4

Unit 10. Solids (2 Weeks)
~~* Add MYP 6, Chap 5 Solids, Sketching~~
~~Solids, Nets of Solids~~

1. Types of Solids
2. Volumes of Right Rectangular Prisms (Boxes)
3. Surface Area
4. Modeling with Volume and Surface Area

(IXL 6EE)
1 Minor Assessment

Unit 11. Statistics (3 Weeks)

1. Statistical Questions
2. Populations and Samples
3. Displaying Data in Histograms
4. Measuring the Center of a Data Set
5. Variation in a Data Set
6. Data Distribution Shapes
7. Outliers
8. Sampling a Population

(IXL 6HH)
*Desmos Statistics Activity
1 - 2 Minor Assessments
1 Major Assessment

Unit 12. Probability (3 Weeks)

1. Measuring Chance
2. Predicting Outcomes
3. Probability and Percent
4. Non-uniform Probabilities

(IXL 6II)
1 - 2 Minor Assessments
1 Major Assessment

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