See draft link <https://docs.google.com/document/d/1PDyQ_3dmOvt19-Om9POCwX2PD6n9bvvyMWmZV6S1e6A/edit?ts=5d6eabfc>

Curriculum Map for **Accelerated Math 6**

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| **5th grade math review: 10 days** |
| **Targeted NJ Student Learning Standards:**5.NBT.A.1, 5.NBT.A.2, 5.NBT.A.4, 5.NBT.B.5, 5.NBT.B.6, 5.OA.A.1 |
| **Enduring Understandings:**1. Rounding numbers to a given place value.
2. The value of a digit in a multi-digit number increases or decreases by powers of 10.
3. The Order of Operations is the process used to simplify expressions.
4. Patterns exist within the base-ten system.
 |
| **Essential Questions:**1. How can you describe the relationship between any two place-value positions?
2. How can you use place value to round decimals to a given place value?
3. How do you multiply two digit numbers?
4. How is multiplication used to solve a division problem?
5. How can powers of 10 help you determine a digits placement in relation to a decimal point?
6. How can you use a formula to find the perimeter and area of squares and rectangles?
7. How do you evaluate an expression using the Order of Operations?
 |
| **Core Content/Objectives** | **Instructional Actions** |
| **Concepts***What students will know* | **Skills***What students will be able to do* | **Activities/Strategies***Learning Activities/ Differentiation**Interdisciplinary Connections* | **Assessment***How learning will be assessed* |
| 1. Understand the place value system
2. Perform operations with multi digit whole numbers.
3. Order of Operations
4. How to multiply and divide numbers by powers of 10
5. Understand perimeter and area of squares and rectangles.
 | 1. Use place value to round whole numbers and decimals to any place
2. Multiply multi-digit whole numbers using the traditional algorithm
3. Find whole number quotients of whole numbers with up to 4 digit dividends and 2 digit divisors
4. Simplify a multi-step expression involving parentheses using the order of operations
5. Use mental math to multiply and divide numbers by powers of 10
6. Calculate perimeter and area of squares and rectangles.
 | * Modifications
* Accommodations
* Enrichment
* ELL
* Vocabulary
* Technology
 | * Teacher observation
* Daily Homework
* Formative Assessments
* Summative Assessments
* Benchmark Assessments
* Alternate Assessments
* Self-Assessment
* Exit Slips
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| Resources/Technology:Videos to guide review, Promethean Board |

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| **Unit 1: Operations and Statistical Variability** |
| **Targeted NJ Student Learning Standards:** 6.NS.1, 6.NS.2, 6.NS.3, 6.NS.5, 6.SP.1, 6.SP.2, 6.SP.3, 6.SP.5c, d |
| **Enduring Understandings:**1. Numbers can be represented in various ways including decimal form.
2. Operations with decimals can facilitate solving real life problems.
3. Place value is important when establishing the algorithms for each decimal operation.
4. Dividing fractions - rule is to multiply by the reciprocal.
5. When dividing mixed numbers, rename first and then divide as with fractions.
6. A number less than zero is negative and is the opposite of a whole number.
7. Data can be summarized and described using measures of central tendency.
 |
| **Essential Questions:**1. How do mathematical operations relate to each other?
2. How do I know which mathematical operation to use?
3. Why is place value important when performing decimal operations?
4. How does fraction division compare to whole number division?
5. How do you apply strategies to real world application fraction problems?
6. What does it mean to have less than zero?
7. Why are measures of central tendency useful?
 |
| **Core Content/Objectives** | **Instructional Actions** |
| **Concepts***What students will know* | **Skills***What students will be able to do* | **Activities/Strategies***Learning Activities/ Differentiation**Interdisciplinary Connections* | **Assessment***How learning will be assessed* |
| 1. Explain the relationship between multiplication and division of fractions.
2. Solve real-world problems and interpret solutions using fractions
3. Fluent computation of whole number and decimal operations.
4. How to use positive and negative numbers to describe quantities in real-world situations.
5. Calculate, compare, and interpret measures of center and variability in a data set to answer a statistical question.
 | 1. Compute quotients of fractions
2. Determine the appropriate operation needed to solve a real-world problem
3. Add, subtract, multiply, and divide multi-digit decimals and whole numbers.
4. Identify a quantity using positive or negative numbers.
5. Use mean, median, mode, range, quartiles, IQR, and MAD to describe a data set.
 | * Modifications
* Accommodations
* Enrichment
* ELL
* Vocabulary
* Technology
 | * Teacher observation
* Daily Homework
* Formative Assessments
* Summative Assessments
* Benchmark Assessments
* Alternate Assessments

https://www.nj.gov/education/modelcurriculum/assessment/pw/math/6u1.pdf |
| **Resources/Technology:**Possible videos to guide review, Promethean Board |

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| **Unit 2: Expressions** |
| **Targeted NJ Student Learning Standards:** 6.EE.1, 6.EE.2, 6.EE.3, 6.EE.4, 6.NS.4 |
| **Enduring Understandings:**1. Key terms that identify parts of a variable expression - constant, coefficient, variable.
2. How to write an expression from a scenario and then represent it in equivalent ways.
3. A number/term can be represented with factors and the Distributive property
 |
| **Essential Questions:**1. Why would we write a variable expression to represent a scenario and then substitute possible numbers?
2. What does it mean for two expressions to be equivalent?
3. How can we use factors to represent a number?
4. Why do we use dependent and independent variables to help solve problems?

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| Core Content/Objectives | Instructional Actions |
| Concepts*What students will know* | Skills*What students will be able to do* | Activities/Strategies*Learning Activities/ Differentiation**Interdisciplinary Connections* | Assessment*How learning will be assessed* |
| 1. Use mathematical language to identify parts of an expression.
2. Write and evaluate expressions involving whole number exponents.
3. Read and interpret variable expressions.
4. How to generate and recognize equivalent expressions
5. How to find the GCF and LCM between two whole numbers.
 | 1. Identify terms, like terms, coefficients, variables, and constants in expressions.
2. Write numerical exponential expressions
3. Evaluate numerical exponential expressions.
4. Write and evaluate variable expressions
5. Apply the properties of operations to generate equivalent expressions.
6. Find the greatest common factor of two whole numbers less than or equal to 100.
7. Find the least common multiple of two whole numbers less than or equal to 12.
 | * Modifications
* Accommodations
* Enrichment
* ELL
* Vocabulary
* Technology
 | * Teacher observation
* Daily Homework
* Formative Assessments
* Summative Assessments
* Benchmark Assessments
* Alternate Assessments

<https://www.nj.gov/education/modelcurriculum/assessment/pw/math/revised/6u2.pdf> |
| **Resources/Technology:**Promethean Board |

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| **Unit 3: Equations and Inequalities** |
| **Targeted NJ Student Learning Standards:** 6.EE.6, 6.EE.5, 6.EE.7, 6.EE.8, 6.G.1, 6.G.2, 6.G.4 |
| **Enduring Understandings:**1. Real world situations can be represented symbolically and graphically.
2. The use of variables represents the unknown in equations.
3. The solutions to an equation are the values of the variables that make the equation true.
4. An equation is true when both sides of the equation are equal.
5. Using properties of operations and the idea of maintaining equality of both sides of an equation to solve.
6. Constructing and analyzing tables, such as tables of quantities that are equivalent ratios, use equations to describe relationships between quantities.
 |
| **Essential Questions:**1) How do I use algebraic expressions to analyze or solve problems? 2) How is an equation different from an expression?3) How does adding and subtracting the same number from both sides of the equation not change the equality?4) How does multiplying and dividing both sides of the equation by a non zero number not change the equality?5) Why do we use dependent and independent variables to help solve problems? |
| Core Content/Objectives | Instructional Actions |
| Concepts*What students will know* | Skills*What students will be able to do* | Activities/Strategies*Learning Activities/ Differentiation**Interdisciplinary Connections* | Assessment*How learning will be assessed* |
| 1. How to use variables to represent numbers and write expressions when solving mathematical problems
2. How to solve an equation and/or inequality
3. How to interpret and explain the meaning of a solution to an equation or inequality
4. How to write and solve a one step equation
5. How to interpret inequalities when given a constraint such as < or >
6. How to find the area of composite figures
7. How to represent 3D figures using nets
8. How to find the volume of right prisms
 | 1) Effectively use variables in the place of unknown numbers when writing and solving mathematical problems2) Solve an equation or inequality by using inverse operations3) Interpret the meaning of a solution to an equation or inequality4) Check solutions to equations or inequalities by plugging numerical answers into original problem5) Write and solve a one-step equation when given a real world mathematical problem.6) Write an inequality when given a constraint (ex. < or >)7) Find the area of triangles, polygons, and other quadrilaterals (composite figures) by breaking the figures down into triangles and other known shapes8) Find the surface area of 3D figures using nets9) Find the volume of right rectangular prisms | * Modifications
* Accommodations
* Enrichment
* ELL
* Vocabulary
* Technology
 | * Teacher observation
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* Formative Assessments
* Summative Assessments
* Benchmark Assessments
* Alternate Assessments

<https://www.nj.gov/education/modelcurriculum/assessment/pw/math/revised/6u3.pdf> |
| **Resources/Technology:**Promethean Board |

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| **Unit 4: Rational Numbers** |
| **Targeted NJ Student Learning Standards:** 6.NS.6, 6.NS.7, 6.NS.8, 6.G.3, 6.SP.4, 6.SP.5a,b |
| **Enduring Understandings:**1. Negative numbers are used to represent situations with debt and measuring.
2. Absolute value is the distance from zero.
3. Composite figures can be broken down into familiar figures. Then, you can find the area of each and combine.
4. A net is a 2-dimensional representation of a 3-dimensional figure.
5. Volume is represented by the number of cubes.
6. Interpreting graphs and analyzing the effects of outliers
7. The coordinate plane can be used to determine real-life measurements such as area and perimeter.
 |
| **Essential Questions:**1. What does absolute value mean?
2. What do negative integers mean?
3. How can we decompose shapes into familiar ones?
4. How can we represent the surfaces of a 3D shape into 2-dimensions?
5. What is surface area?
6. What is volume?
7. Which data displays are most useful in various situations?
8. What is a statistical question?
9. How can plotting points on a coordinate plane help us determine specific locations in real life?
 |
| **Core Content/Objectives** | **Instructional Actions** |
| **Concepts***What students will know* | **Skills***What students will be able to do* | **Activities/Strategies***Learning Activities/ Differentiation**Interdisciplinary Connections* | **Assessment***How learning will be assessed* |
| 1. How to locate positive and negative integers on a number line
2. The meaning of the absolute value of a number in relation to zero.
3. How to compare rational numbers
4. How to locate and graph points in the coordinate plane
5. Describe reflections of points in the coordinate plane
6. The concept of absolute value in real-world situations
7. How to solve distance problems using the coordinate plane and points with the same x or y value.
8. How to find distance/area/perimeter of polygons in the coordinate plane
9. Interpret numerical data from dot plots, histograms, and box plots
 | 1. Locate positive and negative integers on a number line
2. Explain the meaning of a number in relation to zero (absolute value)
3. Use inequality signs to compare rational numbers
4. Plot points in all 4 quadrants of the coordinate plane
5. Reflect points in the coordinate plane
6. Interpret and explain absolute value as a positive or negative magnitude in real-world situations
7. Use absolute value to solve distance problems involving graphing in the coordinate plane
8. Draw polygons in the coordinate plane, and use the coordinates to find distance, perimeter, and/or area.
9. Display numerical data on a number line by displaying a dot plot, histogram, and/or box plot
 | * Modifications
* Accommodations
* Enrichment
* ELL
* Vocabulary
* Technology
 | * Teacher observation
* Daily Homework
* Formative Assessments
* Summative Assessments
* Benchmark Assessments
* Alternate Assessments

<https://www.nj.gov/education/modelcurriculum/assessment/pw/math/revised/6u4.pdf> |
| **Resources/Technology:**Promethean Board |

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| **Unit 5: Ratio and Proportion** |
| **Targeted NJ Student Learning Standards:** 6.RP.1, 6.RP.2, 6.RP.3, 6.EE.9 |
| **Enduring Understandings:**1. A ratio is a comparison of two quantities.
2. Ratios are used to make equivalent fractions and can be displayed in tables and graphs.
3. A proportion consists of two equal ratios.
4. Proportions can be used to compare ratios.
5. Fractions and decimals have equivalent percents.
 |
| **Essential Questions:**1. When and why do I use proportional comparisons?
2. How can ratios help show relationships between two quantities?
3. How can unit rates help compare and solve real life problems?
4. What is the relationship between a ratio and a proportion?
5. How does a proportion compare two equivalent ratios?
6. What are percents and how are they related to ratios?
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| **Core Content/Objectives** | **Instructional Actions** |
| **Concepts***What students will know* | **Skills***What students will be able to do* | **Activities/Strategies***Learning Activities/ Differentiation**Interdisciplinary Connections* | **Assessment***How learning will be assessed* |
| 1. How to explain the relationship of two quantities of a given ratio
2. Use ratio language to describe the relationship between two quantities
3. Use rate language in the context of a ratio relationship to describe a unit rate
4. How to use ratio/rate reasoning to solve a problem including equivalent ratio tables, solving unit rate problems, and finding percent of a quantity as a rate per 100
5. Use ratio and rate reasoning to convert measurement units
6. Use variables to represent quantities that change in relationship. (independent and dependent variables)
7. How to write an equation with variables when given a table or a graph
 | 1. Explain the meaning of a ratio when given two quantities
2. Describe a unit rate when given a ratio relationship
3. Solve ratio/rate problems using ratio tables (equivalent ratios)
4. Solve ratio/rate problems by finding the unit rate
5. Solve ratio/rate problems by finding the percent of a quantity as a rate per 100
6. Convert measurement units using ratios
7. Write equations using variables to represent quantities that change in relationship to one another (independent and dependent variables)
8. Write an equation analyzing independent and dependent variables when given a graph or a table
 | * Modifications
* Accommodations
* Enrichment
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* Alternate Assessments

<https://www.nj.gov/education/modelcurriculum/assessment/pw/math/revised/6u5.pdf> |
| **Resources/Technology:**Promethean Board |