NORTHFIELD COMMUNITY SCHOOL
MATHEMATICS CURRICULUM FRAMEWORK
BOE APPROVED AUGUST 2024

GRADE : 7

PACING

PACING	SEPT -OCT 3 weeks	OCT-NOV 4 weeks	NOV-DEC 4 weeks	JAN 3 weeks	JAN-FEB 4 weeks	FEB-MAR 4 weeks	MAR-APR 4 weeks	APR-MAY 4 weeks	MAY 3 weeks	MAY-JUNE 3 weeks
Topic	Integers	Rational Numbers	Expressions and Equations	Inequalities	Ratios and Proportions	Percents	Constructions and Scale Drawings	Probability and Statistics	Circles and Area	Surface Area and Volume
NJSLA Domain	The Number System	The Number System	Expressions and Equations	Expressions and Equations	Ratios and Proportional Relationships	Ratios and Proportional Relationships	Geometry	Statistics and Probability	Geometry	Geometry
District Assessments	MAP – Fall, Winter, Spring Fluency Test and Constructed Response 2-3 times per year, Fall, Winter (optional), Spring Lesson quizzes - Pre-Assessment and Skill Assessment (Form A or B), teacher made quizzes, modified quizzes Unit Test Assessments- Big Ideas Math Assessments, modified tests, teacher made tests NJSLA Spring									
Mathematical Practices	MP1. Make sense of problems and persevere in solving them. MP2. Reason abstractly and quantitatively. MP3. Construct viable arguments and critique the reasoning of others. MP4. Model with Mathematics. MP5. Use appropriate tools strategically. MP6. Attend to precision. MP7. Look for and make use of structure									

	MP8. Look for and express regularity in repeated reasoning.									
NJSLS Technology	8.1.8.A.1 ,8.1.8.A. 4	8.1.8.A. 1,8.1.8. A.4	8.1.8.A.1	8.1.8.A.1	8.1.8.A.1, 8.1.8.A.4	8.1.8.A.1, 8.1.8.A.4	8.1.8.A.1 , 8.1.8.A.4	8.1.8.A.1, 8.1.8.A.4	8.1.8.A.1, 8.1.8.A.4	8.1.8.A.1, 8.1.8.A.4
NJSLS Career Readiness Practices	CRP2 CRP4 CRP8	CRP2 CRP4 CRP8	CRP2 CRP4 CRP.8	CRP2 CRP4 CRP.8	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8
9.1 Personal Financial Literacy Standards	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E	9.1.8.A 9.1.8.B 9,1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E	9.1.8.A 9.1.8.B 9,1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9,1.8.C 9.1.8.D 9.1.8.E 9.1.8.G

<u>Mathematics in Grade 7, instructional time should focus on four critical areas</u>:

(1) developing understanding of and applying proportional relationships;
(2) developing understanding of operations with rational numbers and working with expressions and linear equations;
(3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and
(4) drawing inferences about populations based on samples.

(1) Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.
(2) Students develop a unified understanding of numbers, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative

numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.
(3) Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.
(4) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Grade 7 Overview:

Ratios and Proportional Relationships
- Analyze proportional relationships and use them to solve real-world and mathematical problems.

The Number System
- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Expressions and Equations
- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Geometry
- Draw, construct and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Statistics and Probability
- Use random sampling to draw inferences about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

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

Social Emotional Learning (SEL) in MATHEMATICS:

Provide students with opportunities to express themselves through discussions that connect to each topic and allow them to explore their feelings about math. Thinking deeply about each topic will help students apply problem solving and critical thinking strategies that will help them reflect on their work and overall performance as well as confidence in mathematics.

- What parts of math make you feel successful?
- What can we learn from our mistakes?
- What self-talk can you use to help you persevere?
- What are positive ways to respond when math starts to feel challenging?
- What can friends say to help us feel better and more successful in math?
- What can we learn from our mistakes in math?
- How can you be a good group member?
- How will you help yourself get “unstuck?”
- Where or when can you use today’s math lesson when you are not in school?
- How do we respond if we don’t agree with someone’s answer or if we know the answer is incorrect?
- How do we feel about solving problems in a different way when asked?
- Did everyone get a fair chance to talk and/or use the manipulatives?

UNIT 1		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Rational Number Operations	7.NS.A.1a,7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d, 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c,7.NS.A.2d, 7.NS.A. 3, 7.EE.B.3	Is the sum of two rational numbers positive, negative, or zero? How can you tell? How are adding and subtracting rational numbers related? Are the product and quotient of two rational numbers positive, negative, or zero? How can you tell? How can you use a number line to compare and order rational numbers?

		How do operations with integers relate to the same operations with rational numbers? How can you determine the correct operation to use to solve problems?

Learning Goals:

- Classify numbers.
- Find opposites and absolute values of rational numbers.
- Compare and order rational numbers.
- Add, subtract, multiply and divide integers.
- Add, subtract, multiply and divide rational numbers.

Fluency Expectations:

Students will be able to apply and extend previous understandings of addition and subtraction to add and subtract rational numbers.
Students will be able to represent addition and subtraction on a horizontal or vertical number line diagram.
Students will be able to apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):

ELL:

- Work toward longer passages as skills in English increase
- Use visuals
- Introduce key vocabulary before lesson
- Teacher models reading aloud daily
- Provide peer tutoring
- Use of Bilingual Dictionary
- Guided notes and/or scaffold outline for written assignments
- Provide students with English Learner leveled readers.

SE:

- Allow extra time to complete assignments or tests
- Guided notes and/or scaffold outline for written assignments
- Work in a small group
- Allow answers to be given orally or dictated
- Use large print books, Braille, or books on CD (digital text)
- Follow all IEP modifications

BSI:
- Guided notes and/or scaffold outline for written assignments
- Introduce key vocabulary before lesson
- Work in a small group
- Lesson taught again using a differentiated approach
- Allow answers to be given orally or dictated
- Use visuals / Anchor Charts
- Leveled texts according to ability

G&T:
- Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles)
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Organize and offer flexible small group learning activities
- Provide whole group enrichment explorations
- Teach cognitive and methodological skills
- Use center, stations, or contracts
- Organize integrated problem-solving simulations
- Propose interest-based extension activities
- Expose students to beyond level texts.

504:
- Follow all the 504 plan modifications
- Text to speech/audio recorded selections
- Amplification system as needed
- Leveled texts according to ability
- Fine motor skill stations embedded in rotation as needed
- Modified or constrained spelling word lists
- Provide anchor charts with high frequency words and phonemic patterns

Vocabulary:
Rational number, Integer, Opposite, Additive inverse, Absolute value, Terminating decimal, Repeating decimal

Resources:
Math textbook, online sites and programs, classroom library, etc

UNIT 2		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Expressions, Equations, and Inequalities	7.EE.A.1, 7.EE.A.2 ,7.EE.B.3, 7.EE.B.4, 7.EE.B.4a, 7.EE.B.4b	What is the difference between an expression, an equation and an inequality? How is an equation like a balance scale? How can the idea of balance help me solve an equation? How can properties of operations help to generate equivalent expressions that can be used in solving problems? How can you solve real-world and mathematical problems with numerical and algebraic equations and inequalities?

Learning Goals:

- Combine like terms.
- Simplify expressions by combining like terms and using the Commutative, Associative, and Distributive Properties.
- Factor expressions.
- Solve one-step equations.
- Solve two-step equations.
- Solve multi-step equations.
- Translate between words and equations.
- Write and graph inequalities with one variable.
- Solve simple inequalities involving addition and subtraction.
- Solve simple inequalities involving multiplication and division.

Fluency Expectations:

Students will be able to apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
Students will be able to solve multi-step equations by simplifying and using inverse operations.
Students will use variables to represent quantities in a real-world or mathematical problems and construct equations and inequalities to solve the problems.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):

ELL:

- Work toward longer passages as skills in English increase
- Use visuals
- Introduce key vocabulary before lesson

● Teacher models reading aloud daily
● Provide peer tutoring
● Use of Bilingual Dictionary
● Guided notes and/or scaffold outline for written assignments
● Provide students with English Learner leveled readers.

SE:
● Allow extra time to complete assignments or tests
● Guided notes and/or scaffold outline for written assignments
● Work in a small group
● Allow answers to be given orally or dictated
● Use large print books, Braille, or books on CD (digital text)
● Follow all IEP modifications

BSI:
● Guided notes and/or scaffold outline for written assignments
● Introduce key vocabulary before lesson
● Work in a small group
● Lesson taught again using a differentiated approach
● Allow answers to be given orally or dictated
● Use visuals / Anchor Charts
● Leveled texts according to ability

G&T:
● Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles)
● Provide options, alternatives and choices to differentiate and broaden the curriculum
● Organize and offer flexible small group learning activities
● Provide whole group enrichment explorations
● Teach cognitive and methodological skills
● Use center, stations, or contracts
● Organize integrated problem-solving simulations
● Propose interest-based extension activities
● Expose students to beyond level texts.

504:
● Follow all the 504 plan modifications
● Text to speech/audio recorded selections
● Amplification system as needed
● Leveled texts according to ability

● Fine motor skill stations embedded in rotation as needed ● Modified or constrained spelling word lists ● Provide anchor charts with high frequency words and phonemic patterns
Vocabulary: Like terms, Simplest form, Linear expression, Factoring an expression, Equivalent expression, Equation, Inequality, Solution of an inequality, Solution set, Graph of an inequality
Resources: Math textbook, online sites and programs, classroom library, etc

UNIT 3		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Proportions and Percents	7.RP.A.1,7.RP.A2,7.RP.A.3,7.RP.A.2a,7.RPA2b, 7.RP.A2c,7.RP.A2d, 7.EE.2, 7.EE.3	How can ratios be written and interpreted? How do we describe ratio and proportional relationships? How can we represent equivalent ratios? How can we use ratio and proportional relations to model and solve real-life problems? How are fractions, decimals and percents related? How can I use proportions and equations to help me solve percent problems? How can the properties of operations be used to solve problems involving integers and rational numbers? How can percents show proportional relationships between quantities and be used to solve problems? How do I determine unit rate in tables, graphs, equations, and real-world problems?
Learning Goals: ● Convert between decimals and percents. ● Use proportions to solve three types of percent problems. ● Use equations to solve three types of percent problems. ● Find percent of change.		

● Represent percent problems algebraically.
● Solve real-life percent problems.

Fluency Expectations:

Students will be able to use proportional relationships and equations to solve percent problems.
Students will be able to rewrite problems in different formats, converting numbers into different forms in order to solve percent problems with more fluency and efficiency.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):

ELL:
● Work toward longer passages as skills in English increase
● Use visuals
● Introduce key vocabulary before lesson
● Teacher models reading aloud daily
● Provide peer tutoring
● Use of Bilingual Dictionary
● Guided notes and/or scaffold outline for written assignments
● Provide students with English Learner leveled readers.

SE:
● Allow extra time to complete assignments or tests
● Guided notes and/or scaffold outline for written assignments
● Work in a small group
● Allow answers to be given orally or dictated
● Use large print books, Braille, or books on CD (digital text)
● Follow all IEP modifications

BSI:
● Guided notes and/or scaffold outline for written assignments
● Introduce key vocabulary before lesson
● Work in a small group
● Lesson taught again using a differentiated approach
● Allow answers to be given orally or dictated
● Use visuals / Anchor Charts
● Leveled texts according to ability

G&T:
● Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles)

● Provide options, alternatives and choices to differentiate and broaden the curriculum ● Organize and offer flexible small group learning activities ● Provide whole group enrichment explorations ● Teach cognitive and methodological skills ● Use center, stations, or contracts ● Organize integrated problem-solving simulations ● Propose interest-based extension activities ● Expose students to beyond level texts. 504: ● Follow all the 504 plan modifications ● Text to speech/audio recorded selections ● Amplification system as needed ● Leveled texts according to ability ● Fine motor skill stations embedded in rotation as needed ● Modified or constrained spelling word lists ● Provide anchor charts with high frequency words and phonemic patterns
Vocabulary: Ratio, Rate, Unit rate, Complex fraction, Proportion, Proportional, Cross products, Slope, Direct variation, Constant of proportionality, Discount, Markup, Tax, Interest, Simple interest, Percent of change, Percent of increase, Percent of decrease, Percent error, Principal
Resources: Math textbook, online sites and programs, classroom library, etc

UNIT 4		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Statistics and Probability	7.SP.1, 7.SP.2, 7.SP.3, 7.SP.4, 7.SP.5, 7.SP.6, 7.SP.7, 7.SP.8.	How can sampling be used to draw inferences about one or more populations? How can you investigate chance processes and develop, use and evaluate probability models? How can measures of center and variation be used to compare two sets

		of data? What is the difference between theoretical and experimental probability? What is the difference between independent and dependent events? What is the significance of a large number of trials?

Learning Goals:

- Use samples to draw inferences about populations.
- Compare two populations from random samples using measures of center and variability.
- Express probability, the likelihood of an event occurring, as a number from 0 to 1.
- Develop probability models and use them to find probabilities.
- Find probabilities of compound events.

Fluency Expectations:

Students will use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.
Students will approximate probability by conducting experiments and collecting data and/or by using computer-generated simulations.
Students will use probability to make predictions.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):

ELL:

- Work toward longer passages as skills in English increase
- Use visuals
- Introduce key vocabulary before lesson
- Teacher models reading aloud daily
- Provide peer tutoring
- Use of Bilingual Dictionary
- Guided notes and/or scaffold outline for written assignments
- Provide students with English Learner leveled readers.

SE:

- Allow extra time to complete assignments or tests
- Guided notes and/or scaffold outline for written assignments
- Work in a small group
- Allow answers to be given orally or dictated
- Use large print books, Braille, or books on CD (digital text)
- Follow all IEP modifications

BSI:
- Guided notes and/or scaffold outline for written assignments
- Introduce key vocabulary before lesson
- Work in a small group
- Lesson taught again using a differentiated approach
- Allow answers to be given orally or dictated
- Use visuals / Anchor Charts
- Leveled texts according to ability

G&T:
- Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles)
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Organize and offer flexible small group learning activities
- Provide whole group enrichment explorations
- Teach cognitive and methodological skills
- Use center, stations, or contracts
- Organize integrated problem-solving simulations
- Propose interest-based extension activities
- Expose students to beyond level texts.

504:
- Follow all the 504 plan modifications
- Text to speech/audio recorded selections
- Amplification system as needed
- Leveled texts according to ability
- Fine motor skill stations embedded in rotation as needed
- Modified or constrained spelling word lists
- Provide anchor charts with high frequency words and phonemic patterns

Vocabulary:

Experimental, Favorable outcomes, Probability, Random sample, Fundamental counting principle,Outcomes, probability, Event, Theoretical probability, Experimental probability, Independent Events, Dependent Events, Relative frequency, Sample space, Compound event, Simulation, Experimental probability, Representative sample, Valid inference, Population, Sample, Unbiased sample, Biased sample

Resources:

Math textbook, online sites and programs, classroom library, etc

UNIT 5		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Geometry	7.G.1, 7.G.2, 7.G3, 7.G.4, 7.G.5, 7.G.6	How can geometry be used to solve problems? What can I conclude about the angles formed by two intersecting lines? How can I construct triangles? How are the areas of geometric figures related to each other? How do I compute actual lengths and areas from a scale drawing? How do I reproduce a scale drawing at a different scale? How can I find the surface area of prisms, pyramids and cylinders? How can I find the volume of prisms and pyramids?

Learning Goals:

- Identify angle relationships and use them to find missing angle measures
- Determine whether three sides will form a triangle
- Find circumference of a circle
- Find perimeter of composite shapes
- Find area of a circle
- Find area of composite shapes and shaded regions
- Identify three-dimensional solids
- Describe cross sections of three-dimensional figures
- Find surface area of prisms, pyramids, and cylinders
- Find volume of prism and pyramids

Fluency Expectations:

Students will be able to describe the cross sections that result from slicing three-dimensional figures.
Students will be able to solve real-world problems involving surface areas and volumes of objects composed of prisms, pyramids, and cylinders.
Students will determine when the conditions produce a unique triangle, more than one triangle, or no triangle.
Students will use facts about angle types to write and solve simple equations for an unknown angle in a figure.
Students will understand and be able to use formulas for perimeter, circumference, and area of triangles, quadrilaterals,and circles.
Students will be able to use these formulas to solve for areas of irregular figures and shaded regions.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):

ELL:
- Work toward longer passages as skills in English increase
- Use visuals
- Introduce key vocabulary before lesson
- Teacher models reading aloud daily
- Provide peer tutoring
- Use of Bilingual Dictionary
- Guided notes and/or scaffold outline for written assignments
- Provide students with English Learner leveled readers.

SE:
- Allow extra time to complete assignments or tests
- Guided notes and/or scaffold outline for written assignments
- Work in a small group
- Allow answers to be given orally or dictated
- Use large print books, Braille, or books on CD (digital text)
- Follow all IEP modifications

BSI:
- Guided notes and/or scaffold outline for written assignments
- Introduce key vocabulary before lesson
- Work in a small group
- Lesson taught again using a differentiated approach
- Allow answers to be given orally or dictated
- Use visuals / Anchor Charts
- Leveled texts according to ability

G&T:
- Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles)
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Organize and offer flexible small group learning activities
- Provide whole group enrichment explorations
- Teach cognitive and methodological skills
- Use center, stations, or contracts
- Organize integrated problem-solving simulations
- Propose interest-based extension activities
- Expose students to beyond level texts.

504:
- Follow all the 504 plan modifications
- Text to speech/audio recorded selections
- Amplification system as needed
- Leveled texts according to ability
- Fine motor skill stations embedded in rotation as needed
- Modified or constrained spelling word lists
- Provide anchor charts with high frequency words and phonemic patterns

Vocabulary:

Scale drawing, Adjacent angles, Complementary angles, Supplementary angles, Vertical angles, Congruent angles, Circumference, Kite, Cross section, Scale drawing, Scale model, Scale, Scale factor, Composite figure, Lateral surface area, Regular pyramid, Slant height, Congruent sides, Circle, Center, Radius, Diameter, Circumference, Pi, Semicircle

Resources:

Math textbook, online sites and programs, classroom library, etc

Year Curriculum Map 7th Grade Advanced Mathematics

PACING	SEPT-OCT 3 weeks	OCT 3 weeks	OCT-NOV 4 weeks	NOV 4 weeks	DEC 3 weeks	JAN 2 weeks	JAN-FEB 3 weeks	FEB 3 weeks	FEB-MAR 3 weeks	MARCH 2 weeks	APRIL 2 weeks	APRIL 3 weeks	MAY 3 weeks	MAY 3 weeks	JUNE 2 weeks
Topic	Equations	Inequalities	Constructions and Scale Drawings	Circles and Areas	Transformations	Angles and Triangles	Graphing and Writing Linear Equations	Systems of Linear Equations	Functions	Real Numbers and the Pythagorean Theorem	Surface Areas and Volumes	Volume and Similar Solids	Probability and Statistics	Data Analysis and Displays	Exponents and Scientific Notation
NJSLA Domain	Expressions and Equations	Expressions and Equations	Geometry	Geometry	Geometry	Geometry	Expressions and Equations	Expressions and Equations	Functions	Number System	Geometry	Geometry	Statistics and Probability	Statistics and Probability	Number System
District Assessments	MAP – Fall, Winter, Spring Fluency Test and Constructed Response 2-3 times per year, Fall, Winter (optional), Spring Lesson quizzes - Pre-Assessment and Skill Assessment (Form A or B), teacher made quizzes, modified quizzes Unit Test Assessments- Big Ideas Math Assessments, modified tests, teacher made tests NJSLA Spring														
Mathematical Practices	MP1. Make sense of problems and persevere in solving them. MP2. Reason abstractly and quantitatively. MP3. Construct viable arguments and critique the reasoning of others. MP4. Model with Mathematics. MP5. Use appropriate tools strategically. MP6. Attend to precision. MP7. Look for and make use of structure MP8. Look for and express regularity in repeated reasoning.														
NJSLS Technology	8.1A, 8.1C, 8.2C, 8.2E	8.1.8.A.1	8.1.8.A.1, 8.1.8.A.4	8.1.8.A.1, 8.1.8.A.4	8.1A, 8.1C, 8.1D, 8.1F, 8.2C, 8.2E	8.1A, 8.1B, 8.1C, 8.1D, 8.2E	8.1A, 8.1B, 8.1C, 8.1D, 8.1F, 8.2C, 8.2E	8.1A, 8.1B, 8.1C, 8.1D, 8.1F, 8.2C, 8.2E	8.1A, 8.1B, 8.1C, 8.1D, 8.1F, 8.2C, 8.2E	8.1A, 8.1C, 8.1D, 8.2E	8.1.8.A.1, 8.1.8.A.4	8.1.8.A.1, 8.1.8.A.4	8.1.8.A.1, 8.1.8.A.4	8.1A, 8.1B, 8.1C, 8.1D, 8.1E, 8.1F, 8.2C, 8.2E	8.1A, 8.1C, 8.1D, 8.2E
NJSLS Career Readiness Practices	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP2 CRP4 CRP.8	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8	CRP2 CRP4 CRP7 CRP8	CRP1, CRP2 CRP4, CR,6, CRP8,	CRP1, CRP2 CRP4, CR,6, CRP8,

	CRP12				CRP12	CRP12	CRP12	CRP12	CRP12	CRP12				CRP12	CRP12
9.1 Personal Financial Literacy Standards	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9,1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9,1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9,1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9,1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G	9.1.8.A 9.1.8.B 9.1.8.C 9.1.8.D 9.1.8.E 9.1.8.G

*Advanced 7th grade math Chapters 1 - 10 content specific information is 8th grade regular math content Chapter 1 - 10
*Advanced 7th grade math Chapters 11-15 content specific information can be found in 7th grade Chapters 6 - 10

Mathematics in Grade 7 advanced, instructional time should focus on six critical areas:

1. Developing understanding of and applying proportional relationships. (GRADE 7)

Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

2. Solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume. (GRADE 7)

Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems New Jersey Student Learning Standards for Mathematics 3 involving area, surface area,

and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.

3. Drawing inferences about populations based on samples. (GRADE 7)

Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

4. Formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations. (GRADE 8) Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \cdot A$. Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question and to interpret components of the relationship (such as slope and y-intercept) in terms of the situation. Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.

5. Grasping the concept of a function and using functions to describe quantitative relationships. (GRADE 8) Students grasp the concept of a function as a rule that assigns to each input exactly one output. They understand that functions describe situations where one quantity determines another. They can translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and they describe how aspects of the function are reflected in the different representations.

6. Analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem. (GRADE 8) Students use ideas about distance and angles, how

they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.