PITTSGROVE TOWNSHIP SCHOOL DISTRICT

Course Name: 7th Grade Math	**Grade Level(s):7**
Department: Math	**Credits:**
BOE Adoption Date: October 17, 2019	**Revision Date(s): June 18, 2020**

Course Description

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of operations with rational numbers and working with expressions and linear equations; (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 develop a unified understanding of number, 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.

2. 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.

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.

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.

Mission Statement

The Pittsgrove Township School District believes in growing all learners to thrive. *The district offers an intellectually rigorous, dynamic curriculum aligned to state and national standards coupled with research-based practices in classrooms. The Pittsgrove Township School District strives to highlight critical thinking, problem-solving, intercultural literacy, digital literacy, collaboration, innovation, and a growth mindset as part of the instructional core of learning. The district provides high quality resources to provide young people the knowledge they need to approach the future as leaders and learners.*

Curriculum & Instruction Goals

1. To ensure students are college and career ready upon graduation
2. To vertically and horizontally align curriculum PreK-12 to ensure successful transition of students at each grade level
3. To identify individual student strengths and weaknesses utilizing various assessment measures (formative, summative, alternative, etc.) so as to differentiate instruction while meeting the rigor of the applicable content standards
4. To improve student achievement as assessed through multiple measures including, but not limited to, state testing, local assessments, and ongoing progress monitoring

How to Read this Document

This curricular document contains both a *pacing guide* and *curriculum units*. The pacing guide serves to communicate an estimated timeframe as to *when* critical knowledge and skills will be taught throughout the year. The pacing, however, may differ slightly depending upon the unique needs of each learner. The *curriculum units* contain more detailed information as to the content, goals, objectives, instructional strategies, resources, and assessments.

NJ Administrative Code and Statutes Key
^=Amistad Law O=Diversity & Inclusion Law <>=Holocaust +=LGBT and Disabilities Law *=AAPI (Asian American and Pacific Islanders) $=Financial Literacy Use this key to understand where the NJ mandates are being implemented in the K-12 curriculum units.

Unit 1: Number Sense

Instructional Unit Map				
Course Title: 7th Grade Math				
Unit Title	Number System		**Start Date:**	September
			Length of Unit:	6 Weeks
Content Standards *What do we want them to know, understand, & do?*	**Power Standards** 7.NS.A - Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. **Supporting Standards** 7.NS.A.1 - Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. 7.NS.A.2 - Apply and extend previous	**Learning Goals**	The students will be able to solve mathematical and real-world problems involving addition, subtraction, multiplication, and division of both integers and signed rational numbers. <mark>$</mark>	

	understandings of multiplication and division and of fractions to multiply and divide rational numbers. 7.NS.A.3 - Solve real-world and mathematical problems involving the four operations with rational numbers		
Essential Questions	● How do operations affect numbers? ● How do we solve real world application problems? ● What is the order in which operations must be performed? ● How can we use rational numbers to solve real world application problems?		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Warm ups/Tickets out the door ● Whiteboards/ Communicators ● Choral and individual responses to questioning verbally and on the smartboard ● Thumbs up/down, and other interactive answering strategies.	● Quizzes and End of Chapter Tests ● Extended Constructed Response Questions ● Projects	● Unit 1 Menu Project ● Group presentation "How I use fractions in everyday life"

	• Graded Homework • Quizizz
Unit Pre-Assessment(s) *What do they already know?*	• Pre-assessment using iXL diagnostics • Fall NWEA Map testing results *(analyzed by standard, not overall score)* • Teacher-generated warm up questions
Instructional Strategies/Student Activities	• Direct Instruction • Guided Practice • Cooperative learning (group work) • Modeling • Learning Centers • Note-taking sheet • Whiteboards/communicators • Ixl/khan academy activities • Turn and talk/Think-pair-share • Student Choice Menu project • Graphing to the Edge (RAFT Lab from NJCTL)

Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	English Language Learners	Special Education Learners	Struggling Learners	Advanced Learners
	• Word Wall • Oral Directions (repeat if necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • "Classroom Buddy" • Key terms	• Class Agenda • Word Wall • Oral Directions (repeat if necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives	• Chunk long-term assignments • Provide extra time as needed • Class agenda/planner • Manipulatives • Pictures/Graphics • Provide examples/show work	• Tiered assignments • Flexible grouping • Independent Study • Peer teaching • Challenge problems and puzzles

	highlighted ● Immediate feedback ● Google Classroom (notes, reviews, and links) ● Provide extra time as needed ● Allow students to make corrections to tests for partial credit and/or Test retakes	● Key terms highlighted ● Provide extra time as needed ● Provide examples/show work ● Allow students to make corrections to tests for partial credit and/or Test retakes	● Google Classroom (notes, reviews, and links) ● Allow students to make corrections to tests for partial credit and/or Test retakes	

Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)		**Expression** (Products and/or Performance)
	● Interactive Notebook/note-taking sheet ● Online Google Resource Folder/Google Classroom ● Standard-aligned Learning Stations ● Weekly Conference ● Assign specific/targeted iXL lessons based on progress		● Menu Project ● Small group presentation ● Choice of learning stations

Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	**Tier II:** absolute value, inverse, decimal, difference, integer, opposites, product, quotient, sum, negative, positive, fraction, rational number, irrational number, terminating decimal, repeating decimal, withdraw, credit, debit, overdraft, deposit, profit, loss, least common denominator (LCD), greatest common factor (GCF) **Tier III:** Associative Property (of Multiplication & Addition), Commutative Property (of Multiplication & Addition), Distributive Property, Multiplicative Inverse

Integration of Technology SAMR	Quiz via Google Form (S/A) Differentiated iXL lessons assigned based on student strengths/weaknesses (A/M) Khan Academy (S/A/M) Small group Google Slides presentation on the use of fractions in everyday life (R) Kahoot! Review before test (A/R) Flocabulary Video: Multiplying & Dividing Integers (A) Flocabulary Video:Rational & Irrational Numbers (A)
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence. **Technology:** NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities. **21st Century Life and Careers:** NJ SLS 9.1.8.A.1 Explain the meaning and purposes of taxes and tax deductions and why fees for various benefits (e.g., medical benefits) are taken out of pay. NJ SLS 9.1.8.B.1 Distinguish among cash, check, credit card, and debit card. NJ SLS 9.1.8.D.1 Determine how saving contributes to financial well-being. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
21ˢᵗ Century Themes/Skills P21 Framework	Themes Skills

	Financial, Economic, Business, & Entrepreneurial Literacy Establish an understanding that career-ready individuals take regular action to contribute to their personal financial wellbeing, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.	**Critical Thinking and Problem Solving** **Life and Career Skills** **Technologies Literacy: Communication & Collaboration**
Resources/Materials	**Resources:** NJCTL: https://njctl.org/courses/math/7th-grade/numbers-and-operations-7th-grade/ iXL Khan Academy Teacher-generated worksheets/Google Form Google Classroom Pear Deck Illustrative Math: Drill Rig Flocabulary Video: Multiplying & Dividing Integers Flocabulary Video:Rational & Irrational Numbers **Materials:** Students' interactive notebooks Chromebooks Manipulatives	

Unit 2 - Expressions

Instructional Unit Map

Course Title: 7th Grade Math				
Unit Title	**2 - Expressions**		**Start Date:**	Mid-October
			Length of Unit:	6 Weeks
Content Standards *What do we want them to know, understand, & do?*	**Power Standards** 7.EE.A - Use properties of operations to generate equivalent expressions. 7.EE.B - Solve real-life and mathematical problems using numerical and algebraic expressions and equations. **Supporting Standards** 7.EE.A.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.A.2 - Understand that rewriting an expression in different forms in a problem context can shed light on the problem and	**Learning Goals**	● Apply the properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. ● Rewrite algebraic expressions in equivalent forms to highlight how the quantities in it are related.	

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	how the quantities in it are related. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05." 7.EE.B.3 - Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. 7.EE.B.4 - Use variables to represent quantities in a real-world or mathematical problem,		

	and construct simple equations and inequalities to solve problems by reasoning about the quantities.		
Essential Questions	● When and how are expressions and equations applied to real world situations? ● How can the order of operations be applied to evaluating expressions, and solving from one-step to multi-step equations?		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Warm ups/Tickets out the door ● Choral and individual responses to questioning verbally and on the smartboard ● Thumbs up/down, and other interactive answering strategies. ● Graded Homework ● Quizizz	● Quizzes and End of Chapter Tests ● Extended Constructed Response Questions ● Projects	● Unit 2 Menu Project ● Group presentation "How I use expressions in everyday life"
Unit Pre-Assessment(s) *What do they already know?*	● Pre-assessment using iXL diagnostics ● Fall NWEA Map testing results *(analyzed by standard, not overall score)* ● Teacher-generated warm up questions		
Instructional Strategies/Student Activities	● Direct Instruction ● Guided Practice ● Cooperative learning (group work) ● Modeling ● Learning Centers		

	● Note-taking sheet ● White boards/communicators ● Partner Work ● Math Games ● Task Cards ● Ixl/khan academy activities ● Turn and talk/Think-pair-share ● Student Choice Menu project			
Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	● Word Wall ● Oral Directions (repeat if necessary) ● Preferred Seating ● Calculator ● Pictures/Graphics ● Manipulatives ● "Classroom Buddy" ● Key terms highlighted ● Immediate feedback ● Google Classroom (notes, reviews, and links) ● Provide extra time as needed ● Allow students to	● Class Agenda ● Word Wall ● Oral Directions (repeat if necessary) ● Preferred Seating ● Calculator ● Pictures/Graphics ● Manipulatives ● Key terms highlighted ● Provide extra time as needed	● Chunk long-term assignments ● Provide extra time as needed ● Class agenda/planner ● Manipulatives ● Pictures/Graphics ● Provide examples/show work ● Google Classroom (notes, reviews, and links) ● Allow students to make corrections to tests for partial credit and/or Test retakes	● Tiered assignments ● Flexible grouping ● Independent Study ● Peer teaching ● Challenge problems and puzzles

	make corrections to tests for partial credit and/or Test retakes	- Provide examples/show work - Allow students to make corrections to tests for partial credit and/or Test retakes		

Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)		**Expression** (Products and/or Performance)
	- Interactive Notebook/note-taking sheet - Online Google Resource Folder/Google Classroom - Standard-aligned Learning Stations - Weekly Conference - Assign specific/targeted iXL lessons based on progress		- Menu Project - Small group presentation - Choice of learning stations

Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	**Tier II:** expression, variable, term, like terms, simplest form, **Tier III:** coefficient, constant, evaluate, expand, negative, order of operations, factor, distribute, Distributive Property
Integration of Technology [SAMR](#)	Quiz via Google Form (S and A) Differentiated iXL lessons assigned based on student strengths/weaknesses (A/M) Khan Academy (S/A/M) Small group Google Slides presentation on the use of expressions in everyday life (R)

	Kahoot! Review before test (A/R)
	Flocabulary Video: https://www.flocabulary.com/unit/expressions/ (A)
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence. **Technology:** NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities. **21st Century Life and Careers:** CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

21st Century Themes/Skills P21 Framework	Themes	Skills
	Financial, Economic, Business, & Entrepreneurial Literacy Establish an understanding that career-ready individuals take regular action to contribute to their personal financial wellbeing, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.	**Life and Career Skills** **Critical Thinking and Problem Solving** **Technologies Literacy: Communication & Collaboration**

Resources/Materials	**Resources:** NJCTL: https://njctl.org/courses/math/7th-grade/expressions-7th-grade/ iXL Khan Academy Teacher-generated worksheets/Google Form Google Classroom Illustrative Math: Writing Expressions, Ticket to Ride Flocabulary: https://www.flocabulary.com/unit/expressions/ **Materials:** Students' interactive notebooks Chromebooks Manipulatives

Unit 3 - Equations

Course Title: 7th Grade Math				
Unit Title	3 - Equations		**Start Date:**	November
			Length of Unit:	6 weeks
Content Standards *What do we want them to know, understand, & do?*	**Power Standards** 7.EE.A - Use properties of operations to generate equivalent expressions.	**Learning Goals**	● Students will be able to write and solve multi- step equations in real- world situations.	

| | 7.EE.B - Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Supporting Standards
7.EE.A.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
7.EE.A.2 - Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."

7.EE.B.3 - Solve multi-step real-life and mathematical problems posed with positive and negative | | |

	rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. 7.EE.B.4 - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.		
Essential Questions	● What are different properties of equations and how can they help solve them? ● What happens when two sides of an equation are not equal?		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Warm ups/Tickets out the door	● Quizzes and End of Chapter Tests	● Unit 3 Menu Project ● Group presentation

	● Choral and individual responses to questioning verbally and on the smartboard ● Thumbs up/down, and other interactive answering strategies. ● Graded Homework ● Quizizz	● Extended Constructed Response Questions ● Projects	"How I use equations in everyday life"
Unit Pre-Assessment(s) *What do they already know?*	● Pre-assessment using iXL diagnostics ● Fall NWEA Map testing results *(analyzed by standard, not overall score)* ● Teacher-generated warm up questions		
Instructional Strategies/Student Activities	● Direct Instruction ● Guided Practice ● Cooperative learning (group work) ● Modeling ● Learning Centers ● Note-taking sheet ● Ixl/khan academy activities ● Turn and talk/Think-pair-share ● Student Choice Menu project		
Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	● Word Wall ● Oral Directions (repeat if necessary) ● Preferred Seating ● Calculator	● Class Agenda ● Word Wall ● Oral Directions (repeat if	● Chunk long-term assignments ● Provide extra time as needed ● Class agenda/planner	● Tiered assignments ● Flexible grouping ● Independent

	• Pictures/Graphics • Manipulatives • "Classroom Buddy" • Key terms highlighted • Immediate feedback • Google Classroom (notes, reviews, and links) • Provide extra time as needed • Allow students to make corrections to tests for partial credit and/or Test retakes	necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • Key terms highlighted • Provide extra time as needed • Provide examples/show work • Allow students to make corrections to tests for partial credit and/or Test retakes	• Manipulatives • Pictures/Graphics • Provide examples/show work • Google Classroom (notes, reviews, and links) • Allow students to make corrections to tests for partial credit and/or Test retakes	Study • Peer teaching • Challenge problems and puzzles (Equations with variables on both sides)

Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)		**Expression** (Products and/or Performance)	
	• Interactive Notebook/note-taking sheet • Online Google Resource Folder/Google Classroom • Standard-aligned Learning Stations		• Menu Project • Small group presentation • Choice of learning stations	

	● Weekly Conference ● Assign specific/targeted iXL lessons based on progress
Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	**Tier II:** expression, equation, variable, term, like terms, simplest form, substitute, **Tier III:** coefficient, constant, evaluate, expand, negative, order of operations, inverse operations, factor, distribute, Distributive Property, equivalent equations
Integration of Technology SAMR	Quiz via Google Form (S/A) Differentiated iXL lessons assigned based on student strengths/weaknesses (A/M) Khan Academy (S/A/M) Small group Google Slides presentation on the use of equations in everyday life (R) Kahoot! Review before test (A/R) Flocabulary Video: https://www.flocabulary.com/unit/equations/ (A) Two Step Equation Game: http://www.crctlessons.com/two-step-equations-game.html (A)
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence. **Technology:** NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities. **21st Century Life and Careers:** CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason.

	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.	
21ˢᵗ Century Themes/Skills P21 Framework	Themes	Skills
	Financial, Economic, Business, & Entrepreneurial Literacy Establish an understanding that career-ready individuals take regular action to contribute to their personal financial wellbeing, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.	**Creativity & Innovation** **Critical Thinking and Problem Solving** **Technologies Literacy** **Communication & Collaboration**
Resources/Materials	**Resources:** NJCTL: https://njctl.org/courses/math/7th-grade/equations-inequalities-7th-grade/ iXL Khan Academy Teacher-generated worksheets/Google Form Google Classroom Illustrative Math: Drill Rig Flocabulary: https://www.flocabulary.com/unit/equations/ **Materials:** Students' interactive notebooks Chromebooks Manipulatives	

Unit 4 - Inequalities

Course Title: **7th Grade Math**			
Unit Title	4 - Inequalities	**Start Date:**	January
		Length of Unit:	3 weeks
Content Standards *What do we want them to know, understand, & do?*	**Power Standards** 7.EE.A - Use properties of operations to generate equivalent expressions. 7.EE.B.4 -Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. **Supporting Standards** 7.EE.A.4b - Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it	**Learning Goals**	• Students will be able to solve and graph word problems leading to inequalities.

	in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.			
Essential Questions	- When and how are inequalities applied to real world situations? - What are some possible real-life situations to which there may be more than one solution? - How do I determine the difference between equations and inequalities? - How can you use a number line to represent solutions of an inequality? - How do I solve and graph inequalities?			

Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	- Warm ups/Tickets out the door - Choral and individual responses to questioning verbally and on the smartboard - Thumbs up/down, and other interactive answering strategies. - Graded Homework	- Quizzes and End of Chapter Tests - Extended Constructed Response Questions - Projects	Unit 4 Menu Project

Unit Pre-Assessment(s) *What do they already know?*	- Pre-assessment using iXL diagnostics - Fall NWEA Map testing results *(analyzed by standard, not overall score)* - Teacher-generated warm up questions

Instructional Strategies/Student Activities	- Direct Instruction - Guided Practice - Cooperative learning (group work) - Modeling - Learning Centers - Note-taking sheet - Ixl/khan academy activities - Turn and talk/Think-pair-share - Student Choice Menu project			
Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	- Word Wall - Oral Directions (repeat if necessary) - Preferred Seating - Calculator - Pictures/Graphics - Manipulatives "Classroom Buddy" - Key terms highlighted - Immediate feedback - Google Classroom (notes, reviews, and links) - Provide extra time as needed - Allow students to	- Class Agenda - Word Wall - Oral Directions (repeat if necessary) - Preferred Seating - Calculator - Pictures/Graphics - Manipulatives - Key terms highlighted - Provide extra time as needed	- Chunk long-term assignments - Provide extra time as needed - Class agenda/planner - Manipulatives - Pictures/Graphics - Provide examples/show work - Google Classroom (notes, reviews, and links) - Allow students to make corrections to tests for partial credit and/or Test retakes	- Tiered assignments - Flexible grouping - Independent Study - Peer teaching - Challenge problems and puzzles

	make corrections to tests for partial credit and/or Test retakes	● Provide examples/show work ● Allow students to make corrections to tests for partial credit and/or Test retakes	

Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)		**Expression** (Products and/or Performance)
	● Interactive Notebook/note-taking sheet ● Online Google Resource Folder/Google Classroom ● Standard-aligned Learning Stations ● Weekly Conference ● Assign specific/targeted iXL lessons based on progress		● Menu Project ● Small group presentation ● Choice of learning stations

Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	**Tier II:** solution, greater than, less than, greater than or equal to, less than or equal to, At least At most, Inequalities **Tier III:** inequality, solution set, graph of an inequality, inverse operations, <,>
Integration of Technology SAMR	Quiz via Google Form (S/A) Differentiated iXL lessons assigned based on student strengths/weaknesses (A/M) Khan Academy (S/A/M) Small group Google Slides presentation on the use of expressions in everyday life (R)

	Kahoot! Review before test (A/R) Flocabulary Video: https://www.flocabulary.com/unit/inequalities/ (A) Desmos: Inequalities on the Number Line (M)
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence. **Technology:** NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities. **21st Century Life and Careers:** CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

21st Century Themes/Skills P21 Framework	Themes	Skills
	Financial, Economic, Business, & Entrepreneurial Literacy: Students engage in real world problem solving with inequalities to determine how much of something can be purchased based on money in both personal and business settings	Life and Career Skills Technologies Literacy - Communication & Collaboration
Resources/Materials	**Resources:** NJCTL: https://njctl.org/courses/math/7th-grade/equations-inequalities-7th-grade iXL Khan Academy	

	Teacher-generated worksheets/Google Form
	Google Classroom
	Illustrative Math: Fishing Adventures 1
	Flocabulary: https://www.flocabulary.com/unit/inequalities/
	Desmos: Inequalities on the Number Line
	Materials:
	Students' interactive notebooks
	Chromebooks
	Manipulatives

Unit 5 - Percents, Ratios & Proportional Relationship

Course Title: 7th Grade Math				
			Start Date:	February
Unit Title	**5 - Percents, Ratios & Proportional Relationships**		**Length of Unit:**	6 weeks
Content Standards *What do we want them to know, understand, & do?*	**Power Standards** **Supporting Standards** **Power Standards** 7.RP.A - Analyze proportional relationships and use them to solve real-world and mathematical problems.	**Learning Goals**	- Solve multi-step ratio and percent problems using proportional relationships (*simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error*) - Graph and interpret the unit rate and constant of proportional relationships, and compare and contrast proportional relationships in real world contexts - Use ratio and proportion to solve problems involving scale drawings of geometric figures	

	Supporting Standards 7.RP.A.1 - Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour. 7.RP.A.2 - Recognize and represent proportional relationships between quantities. 7.RP.A.3 - Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and		

	commissions, fees, percent increase and decrease, percent error.		
Essential Questions	● How do rates, ratios, percentages and proportional relationships apply to our world? ● What are the different ways percent problems are represented?		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Warm ups/Tickets out the door ● Choral and individual responses to questioning verbally and on the smartboard ● Thumbs up/down, and other interactive answering strategies. ● Graded Homework ● Quizizz	● Quizzes and End of Chapter Tests ● Extended Constructed Response Questions ● Projects	● Unit 5 Menu Project ● Text Messaging Plans
Unit Pre-Assessment(s) *What do they already know?*	● Pre-assessment using iXL diagnostics ● Fall NWEA Map testing results *(analyzed by standard, not overall score)* ● Teacher-generated warm up questions ● Ratio/Proportion Pre-test		
Instructional Strategies/Student Activities	● Direct Instruction ● Guided Practice ● Cooperative learning (group work) ● Modeling ● Learning Centers		

	● Note-taking sheet ● Ixl/khan academy activities ● Turn and talk/Think-pair-share ● Student Choice Menu project			
Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	● Word Wall ● Oral Directions (repeat if necessary) ● Preferred Seating ● Calculator ● Pictures/Graphics ● Manipulatives ● "Classroom Buddy" ● Key terms highlighted ● Immediate feedback ● Google Classroom (notes, reviews, and links) ● Provide extra time as needed ● Allow students to make corrections to tests for partial credit and/or Test retakes	● Class Agenda ● Word Wall ● Oral Directions (repeat if necessary) ● Preferred Seating ● Calculator ● Pictures/Graphics ● Manipulatives ● Key terms highlighted ● Provide extra time as needed ● Provide examples/show work ● Allow students to	● Chunk long-term assignments ● Provide extra time as needed ● Class agenda/planner ● Manipulatives ● Pictures/Graphics ● Provide examples/show work ● Google Classroom (notes, reviews, and links) ● Allow students to make corrections to tests for partial credit and/or Test retakes	● Tiered assignments ● Flexible grouping ● Independent Study ● Peer teaching ● Challenge problems and puzzles

		make corrections to tests for partial credit and/or Test retakes	

Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)	**Expression** (Products and/or Performance)
	- Interactive Notebook/note-taking sheet - Online Google Resource Folder/Google Classroom - Standard-aligned Learning Stations - Weekly Conference - Assign specific/targeted iXL lessons based on progress	- Menu Project - Small group presentation - Choice of learning stations

Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	**Tier II:** greatest common factor, proportion, proportional relationship, equivalent fractions, properties of equality, origin, steepness, interest **Tier III:** ratio, rate, unit rate, complex fraction, Cross Product, rate of change, constant of proportionality, slope, scale, scale drawing, scale factor, scale model, Direct proportion

Integration of Technology [SAMR]	Quiz via Google Form (S and A) differentiated iXL lessons assigned based on student strengths/weaknesses (A/M) Khan Academy (S/A/M) Small group Google Slides presentation on the use of expressions in everyday life (R) Kahoot! Review before test (A/R) Flocabulary Video: https://www.flocabulary.com/unit/equations/ (A) Rate Video: https://mathsnacks.com/ratey.html (A) Restaurant Project (A)

	Dueling Discounts (S)
Interdisciplinary Connections 	**ELA:** NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence. **Technology:** NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities. **21st Century Life and Careers:** NJ SLS 9.1.8.E.1 Explain what it means to be a responsible consumer and the factors to consider when making consumer decisions. NJ SLS 9.1.8.E.6 Compare the value of goods or services from different sellers when purchasing large quantities and small quantities. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

21st Century Themes/Skills 	Themes	Skills
	Financial, Economic, Business, & Entrepreneurial Literacy Establish an understanding that career-ready individuals take regular action to contribute to their personal financial wellbeing, understanding that	**Creativity & Innovation** **Critical Thinking and Problem Solving** **Technologies Literacy**

	personal financial security provides the peace of mind required to contribute more fully to their own career success.	**Communication & Collaboration**
Resources/Materials	**Resources:** NJCTL: https://njctl.org/courses/math/7th-grade/ratios-proportions/ and https://njctl.org/courses/math/7th-grade/percents/ iXL Khan Academy Teacher-generated worksheets/Google Forms Google Classroom Illustrative Math: Floor Plan, Map Distance, Rescaling Washington Park Math Snacks Video: https://mathsnacks.com/ratey.html Restaurant Project Dueling Discounts **Materials:** Students' interactive notebooks Chromebooks Manipulatives	

Unit 6 - Geometry

Course Title: 7th Grade Math			
		Start Date:	Mid - March
Unit Title	6 - Geometry	**Length of Unit:**	6 weeks

Content Standards	Power Standards	Learning Goals	
What do we want them to know, understand, & do?	**7.G.A** - Draw, construct, and describe geometrical figures and describe the relationships between them. **7.G.B** - Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. **Supporting Standards** **7.G.A.1** - Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. **7.G.A.2** - Draw (with technology, with ruler and protractor, as well as freehand) geometric shapes with given		• Use facts about angles to write and solve simple equations for an unknown angle in a figure and use angles to construct geometric shapes. • Understand and be able to find the circumference and area of circles and the area of composite figures. • Solve real-world and mathematical problems involving area, surface area and volume of two- and three-dimensional objects

	conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or notriangle. 7.G.A.3 - Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. 7.G.B.4 - Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.		

	7.G.B.5 - Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. 7.G.B.6 - Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	

Essential Questions	● Can we determine if three side lengths would create a triangle? ● What is the difference between area and perimeter? ● How does our understanding of geometry help us to describe real-world objects? ● How do you solve problems using formulas?

Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Warm ups/Tickets out the door	● Quizzes and End of Chapter Tests ● Extended Constructed Response	● Unit 6 Menu Project ● "How I use

	● Choral and individual responses to questioning verbally and on the smartboard ● Thumbs up/down, and other interactive answering strategies. ● Graded Homework	Questions ● Projects	measurement in everyday life"
Unit Pre-Assessment(s) *What do they already know?*	● Pre-assessment using iXL diagnostics ● Fall NWEA Map testing results *(analyzed by standard, not overall score)* ● Teacher-generated warm up questions		
Instructional Strategies/Student Activities	● Direct Instruction ● Guided Practice ● Cooperative learning (group work) ● Modeling ● Learning Centers ● Note-taking sheet ● Ixl/khan academy activities ● Turn and talk/Think-pair-share ● Student Choice Menu project ● Gizmo: <u>Surface and Lateral Areas of Prisms and Cylinders</u> ● Gizmo: <u>Prisms and Cylinders</u>		

Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	● Word Wall ● Oral Directions (repeat if necessary)	● Class Agenda ● Word Wall ● Oral	● Chunk long-term assignments ● Provide extra time as	● Tiered assignments ● Flexible

	Access (Resources and/or Process)		Expression (Products and/or Performance)	
	• Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • "Classroom Buddy" • Key terms highlighted • Immediate feedback • Google Classroom (notes, reviews, and links) • Provide extra time as needed • Allow students to make corrections to tests for partial credit and/or Test retakes	Directions (repeat if necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • Key terms highlighted • Provide extra time as needed • Provide examples/show work • Allow students to make corrections to tests for partial credit and/or Test retakes	needed • Class agenda/planner • Manipulatives • Pictures/Graphics • Provide examples/show work • Google Classroom (notes, reviews, and links) • Allow students to make corrections to tests for partial credit and/or Test retakes	grouping • Independent Study • Peer teaching • Challenge problems and puzzles
Differentiated Instructional Methods: *(Multiple means for students*	**Access** (Resources and/or Process)		**Expression** (Products and/or Performance)	

to access content and multiple modes for student to express understanding)	- Interactive Notebook/note-taking sheet - Online Google Resource Folder/Google Classroom - Formula sheet – Geometric Figures - Standard-aligned Learning Stations - Weekly Conference - Assign specific/targeted iXL lessons based on progress	- Menu Project - Small group presentation - Choice of learning stations
Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	**Tier II:** circle, polygon, triangle, angle, edges, vertices, faces, height, cubic units, cube, solid, intersection, **Tier III:** Area, Right Angle, Obtuse Angle, Degrees, Acute Angle, Angle Measure, Line Segment, adjacent angles, vertical angles, congruent angles, complementary angles, supplementary angles, congruent sides, center, radius, diameter, circumference, pi, semicircle, composite figure, lateral surface area, prism, rectangular prism, triangular prism, surface area, base, faces, plane, regular pyramid, slant height, cylinder, volume, cross section	
Integration of Technology SAMR	Quiz via Google Form (S and A) Differentiated iXL lessons assigned based on student strengths/weaknesses (A/M) Khan Academy (S/A/M) Kahoot! Review before test (A/R) Classify Triangles Game (S) Angles Jeopardy Review (S) Flocabulary: Angle relationships (A) Flocabulary: Prisms: Area and Volume (A) Gizmo: Surface and Lateral Areas of Prisms and Cylinders (M) Gizmo: Prisms and Cylinders (M)	
Interdisciplinary Connections NJ Student Learning Standards	**EELA:** NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning	

	and relevant and sufficient evidence. **Art**: NJ SLS 1.3.8.D.1 Incorporate various art elements and the principles of balance, harmony, unity, emphasis, proportion, and rhythm/movement in the creation of two- and three dimensional artworks, using a broad array of art media and art mediums to enhance the expression of creative ideas (e.g., perspective, implied space, illusionary depth, value, and pattern). **Technology**: NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities.

21st Century Themes/Skills P21 Framework	Themes	Skills
	Financial, Economic, Business, & Entrepreneurial Literacy	**Creativity & Innovation** **Critical Thinking and Problem Solving** **Communication & Collaboration**

Resources/Materials	**Resources:** NJCTL: https://njctl.org/courses/math/7th-grade/2d-geometry/ and https://njctl.org/courses/math/7th-grade/geometry/ iXL Khan Academy Teacher-generated worksheets/Google Form Google Classroom Illustrative Math: Circumference of a Circle, Floor Plan Flocabulary: Angle relationships Flocabulary: Prisms: Area and Volume

	Materials:
	Students' interactive notebooks
	Chromebooks
	Manipulatives

Unit 7 - Probability and Statistics

Course Title: 7th Grade Math			
Unit Title	7 - Probability and Statistics	**Start Date:**	May
		Length of Unit:	3 weeks
Content Standards *What do we want them to know, understand, & do?*	**Power Standards** 7.SP.A -Use random sampling to draw inferences about a population. 7.SP.B - Draw informal comparative inferences about two populations. 7.SP.C - Investigate chance processes and develop,	**Learning Goals**	● Interpret and express the likelihood of a chance event as a number between 0 and 1 ● Find probabilities of compound events using methods such as organized lists, tables and tree diagrams, and identify the outcomes in the sample space which compose the event. ● Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid

	use, and evaluate probability models. **Supporting Standards** 7.SP.A.1 - Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. 7.SP.A.2 - Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the		

	variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be. 7.SP.B.3 - Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean	

	absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable. 7.SP.B.4 - Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book. 7.SP.C.5 - Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A		

	probability near 0 indicates an unlikely event, a probability around 1/2 indicates an eventthat is neither unlikely nor likely, and a probability near 1 indicates a likely event.

7.SP.C.6 - Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.

7.SP.C.7 - 7. Develop a probability model and use it to find probabilities of | | |

	events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. 7.SP.C.8 - Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.		
Essential Questions	● What are the ways to organize, measure, and display data? ● How does probability relate to real world application problems? ● How do permutation and combinations fit into word problems? ● How are different events classified and what can I use to solve them?		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Warm ups/Tickets out the door ● Choral and individual responses to questioning verbally and on the smartboard ● Thumbs up/down, and other interactive answering strategies. ● Graded Homework	● Quizzes and End of Chapter Tests ● Extended Constructed Response Questions ● Projects	● Unit 7 Menu Project ● Probability Desmos/Gizmo

Unit Pre-Assessment(s) *What do they already know?*	• Pre-assessment using iXL diagnostics • Fall NWEA Map testing results *(analyzed by standard, not overall score)* • Teacher-generated warm up questions			
Instructional Strategies/Student Activities	• Direct Instruction • Guided Practice • Cooperative learning (group work) • Modeling • Learning Centers • Note-taking sheet • Turn and talk/Think-pair-share • Student Choice Menu project • Desmos: Chance Experiments			
Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	• Word Wall • Oral Directions (repeat if necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • "Classroom Buddy" • Key terms highlighted • Immediate feedback • Google Classroom (notes, reviews, and	• Class Agenda • Word Wall • Oral Directions (repeat if necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • Key terms	• Chunk long-term assignments • Provide extra time as needed • Class agenda/planner • Manipulatives • Pictures/Graphics • Provide examples/show work • Google Classroom (notes, reviews, and links) • Allow students to	• Tiered assignments • Flexible grouping • Independent Study • Peer teaching • Challenge problems and puzzles

links) ● Provide extra time as needed ● Allow students to make corrections to tests for partial credit and/or Test retakes	highlighted ● Provide extra time as needed ● Provide examples/show work ● Allow students to make corrections to tests for partial credit and/or Test retakes	make corrections to tests for partial credit and/or Test retakes

Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)	**Expression** (Products and/or Performance)
	● Interactive Notebook/note-taking sheet ● Online Google Resource Folder/Google Classroom ● Standard-aligned Learning Stations ● Weekly Conference ● Assign specific/targeted iXL lessons based on progress	● Menu Project ● Small group presentation ● Choice of learning stations ● Desmos: Chance Experiments

Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	**Tier II:** fraction, decimal, percent, ratio, event, experiment, outcomes, equally likely, more likely, less likely, fair, unfair, possible, statistics, similar, mean, median, mode, range, prediction **Tier III:** favorable outcome, probability, relative frequency, experimental probability, theoretical probability, sample space, Fundamental Counting Principle, compound event, independent events, dependent events,

	simulation, unbiased sample, biased sample, interquartile range (IQR), box and whisker plot, quartile, plots,, overlap, random, distribution, skewed distribution

Integration of Technology
SAMR
	Quiz via Google Form (S and A)
	Differentiated iXL lessons assigned based on student strengths/weaknesses (A/M)
	Khan Academy (S/A/M)
	Small group Google Slides presentation on the use of probability/statistics in everyday life (R)
	Kahoot! Review before test (A/R)
	Flocabulary: https://www.flocabulary.com/unit/probability/ (A)
	Desmos: Chance Experiments (R)
	Interactive Resources:
	   ● Interactive Spinner (M)
	   ● Coin/Dice Simulator (M)
	   ● Virtual Odd Dice (M)
	Dan Meyer: Three Act Lesson: Starburst Probability Video (M)

Interdisciplinary Connections NJ Student Learning Standards	**ELA:** NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence. **Technology:** NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities. **21st Century Life and Careers:** CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason.

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	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.	
21st Century Themes/Skills P21 Framework	Themes	Skills
	Financial, Economic, Business, & Entrepreneurial Literacy - Students apply probability and statistics concepts to real-world business situations.	**Critical Thinking and Problem Solving** **Life and Career Skills** **Technologies Literacy: Communication & Collaboration** **Media Literacy**
Resources/Materials	**Resources:** NJCTL: https://njctl.org/courses/math/7th-grade/statistics-probability/ iXL Khan Academy Teacher-generated worksheets/Google Form Google Classroom Flocabulary: https://www.flocabulary.com/unit/probability/ Desmos: Chance Experiments SKUNK Game Dan Meyer: Three Act Lesson: Starburst Probability Video (M) **Materials:** Students' interactive notebooks Chromebooks Manipulatives	

Unit 8 - Financial Literacy

Course Title: 7th Grade Math				
Unit Title	8 - **Financial Literacy**		**Start Date:**	June
			Length of Unit:	2 weeks
Content Standards *What do we want them to know, understand, & do?*	**Power Standards** 7.RP.A - Analyze proportional relationships and use them to solve real-world and mathematical problems. 9.1.8: Personal Financial Literacy **21ˢᵗ Century Life & Careers:** 9.1.8.A.1: Explain the meaning and purposes of taxes and tax deductions and why fees for various benefits (e.g., medical benefits) are taken out of pay 9.1.8.A.2 - Relate how career choices, education choices, skills,	**Learning Goals**	● Students will use information related to employment and personal finance to develop a budget for their "family" and link the mathematical data to equations of a line. ● Construct a simple personal savings and spending plan based on various sources of income.	

	entrepreneurship, and economic conditions affect income.		
	9.1.8.A.3 - Differentiate among ways that workers can improve earning power through the acquisition of new knowledge and skills.		
	9.1.8.A.6 - Explain how income affects spending decisions.		
	9.1.8.A.7 - Explain the purpose of the payroll deduction process, taxable income, and employee benefits.		
	9.1.8.B.1 Distinguish among cash, check, credit card, and debit card.		
	9.1.8.B.7 Construct a budget to save for long-term, short-term, and		

	charitable goals. 9.1.8.D.1 Determine how saving contributes to financial well-being.		
Essential Questions	● How do I manage money by preparing a personal spending plan and what are ways to decrease spending and increase income? ● What are ways to save money and what are savings options to save toward goals?		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Warm ups/Tickets out the door ● Choral and individual responses to questioning verbally and on the smartboard ● Thumbs up/down, and other interactive answering strategies. ● Graded Homework	● Extended Constructed Response Questions ● 'Game of Life' Project	● 'Game of Life' Project
Unit Pre-Assessment(s) *What do they already know?*	● Pre-assessment using iXL diagnostics ● Fall NWEA Map testing results *(analyzed by standard, not overall score)* ● Teacher-generated warm up questions		
Instructional Strategies/Student Activities	● Direct Instruction ● Guided Practice ● Cooperative learning (group work) ● Modeling ● Learning Centers		

	• Note-taking sheet • Turn and talk/Think-pair-share			
Instructional/Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	• Word Wall • Oral Directions (repeat if necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • "Classroom Buddy" • Key terms highlighted • Immediate feedback • Google Classroom (notes, reviews, and links) • Provide extra time as needed • Allow students to make corrections to tests for partial credit and/or Test retakes	• Class Agenda • Word Wall • Oral Directions (repeat if necessary) • Preferred Seating • Calculator • Pictures/Graphics • Manipulatives • Key terms highlighted • Provide extra time as needed • Provide examples/show work • Allow students to make corrections to	• Chunk long-term assignments • Provide extra time as needed • Class agenda/planner • Manipulatives • Pictures/Graphics • Provide examples/show work • Google Classroom (notes, reviews, and links) • Allow students to make corrections to tests for partial credit and/or Test retakes	• Tiered assignments • Flexible grouping • Independent Study • Peer teaching • Challenge problems and puzzles

		tests for partial credit and/or Test retakes		

Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)	**Expression** (Products and/or Performance)
	● Interactive Notebook/note-taking sheet ● Online Google Resource Folder/Google Classroom ● Standard-aligned Learning Stations ● Weekly Conference ● Assign specific/targeted iXL lessons based on progress	● Small group presentation ● Choice of learning stations
Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	Tier II: debt, loan, semi-monthly, fixed expenses, variable expenses, budget, projected expenses, actual expenses Tier III: gross income, net income, deductions, principal, interest	
Integration of Technology SAMR	Differentiated iXL lessons assigned based on student strengths/weaknesses (A/M) Khan Academy (S/A/M) Online Debt Calculator (S)	

Interdisciplinary Connections NJ Student Learning Standards	**ELA:**
	NJ SLS.R1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text
	  NJ SLS.RA: Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone
	  NJ SLS.W.1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
	  NJ SLS.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	

	NJ SLS.W9. Draw evidence from literary or informational texts to support analysis, reflection, and research **Technology**: NJ SLS 8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. NJ SLS 8.1.P.C.1 Collaborate with peers by participating in interactive digital games or activities. **21st Century & Careers** CRP1. Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP3. Attend to personal health and financial well-being. CRP4. Communicate clearly and effectively and with reason. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity.	
21st Century Themes/Skills [P21 Framework](#)	Themes	Skills
	Financial, Economic, Business, & Entrepreneurial Literacy Establish an understanding that career-ready individuals take regular action to contribute to their personal financial wellbeing, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.	**Life and Career Skills -** Initiative and Self--Direction **Learning and Innovation Skills -** Critical Thinking and Problem Solving; Communication and Collaboration **Information, Media, and Technology Skills-** Information Communication Technology Literacy
Resources/Materials	**Resources:** [Game of Life (21st century project)](#) [Personal Financial Literacy For Grades 7 & 8](#) iXL Khan Academy	

	Teacher-generated worksheets/Google Form Google Classroom **Materials:** Students' interactive notebooks Chromebooks Manipulatives