

**Quinton Township School District**  
**Mathematics**  
**Grade 7**  
**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	1	<b>Unit Title:</b>	Integers	<b>Pacing:</b>	17 days
------------------------	---	--------------------	----------	----------------	---------

**Unit Summary:** This unit will expose students to integers and integer operations. For a given set of integers there are relationships between positives and negative numbers that are always true, and these are the rules that govern arithmetic and algebra. Students will represent addition and subtraction on a horizontal and vertical number line diagram and learn rules for multiplying and dividing integers.

**Objectives:** Students will be able to:

- Define the absolute value of a number.
- Find absolute values of numbers. Add integers.
- Show that the sum of a number and its opposite is 0.
- Subtract integers.
- Multiply integers. Divide integers.
- Solve real-life problems.

**Essential Questions:**

- How can you use integers to represent the velocity and the speed of an object?
- Is the sum of two integers positive, negative, or zero? How can you tell?
- How are adding integers and subtracting integers related?
- Is the product of two integers positive, negative, or zero? How can you tell?
- Is the quotient of two integers positive, negative, or zero? How can you tell?

**Common Core State Standards/Learning Targets:**

- 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.1.A: Describe situations in which opposite quantities combine to make 0.
  - 7.NS.A.1.B: Understand  $p + q$  as the number located a distance  $|q|$  from  $p$ , in the positive or negative direction depending on whether  $q$  is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
  - 7.NS.A.1.C: Understand subtraction of rational numbers as adding the additive inverse,  $p - q = p + (-q)$ . Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
  - 7.NS.A.1.D: Apply properties of operations as strategies to add and subtract rational numbers.
- 7.NS.A.2: Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
  - 7.NS.A.2.A: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as  $(-1)(-1) = 1$  and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
  - 7.NS.A.2.B: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If  $p$  and  $q$  are integers, then  $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.
  - 7.NS.A.2.C: Apply properties of operations as strategies to multiply and divide rational numbers.
  - 7.NS.A.2.D: Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
- 7.NS.A.3: Solve real-world and mathematical problems involving the four operations with rational numbers.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy  
 21st Century Skills: Critical Thinking and Problem Solving  
 21st Century Life and Career Standards 9.1.8.B.2, 9.1.8.B.8  
 21st Century Career Ready Practices  
 CRP3 Attend to personal health and financial well-being  
 CRP4 Communicate clearly and effectively and with reason  
 CRP6 Demonstrate creativity and innovation  
 CRP8 Utilize critical thinking to make sense of problems and persevere in solving them  
 Interdisciplinary Connections:  
 Science, Real world applications, Business applications, Banking, Construction, and Architecture  
 freezing points-science, 1.2 exercise 49-The emperor Yu-Huang was a legendary figure in China, in the same sense that King Arthur was a legendary figure in Europe. He was called the Jade Emperor, and there are many stories about him. In addition to the story of the magic square and the turtle, the Jade Emperor is credited with creating the Chinese Zodiac in which each sequence of 12 years is given the name of an animal, such as the “Year of the Snake” or the “Year of the Rat.”-history. Science- A lithium atom has positively charged protons and negatively charged electrons. The sum of the charges represents the charge of the lithium atom. Find the charge of the atom. History-finding which continent has a greater elevation

Overview of Activities	Teacher’s Guide/ Resources	Core Instructional Materials	Technology Infusion
1.1 Integers and Absolute Value 1.2 Adding Integers 1.3 Subtracting Integers 1.4 Multiplying Integers 1.5 Dividing Integers	Curriculum Map / Decisions of Math Teacher’s Guide Chapter 1 Lesson 1 Pages 1-39 Big Ideas website	Student Textbook p.1-39  Record and Practice Journal p. 1-22	<ul style="list-style-type: none"> <li>● Smart Board Applications</li> <li>● Google Applications</li> <li>● Big ideas math website-student assignments</li> </ul>

	Desmos.com IXL	Integer Chips	<ul style="list-style-type: none"> <li>● Desmos</li> <li>● <a href="#">Row Row Integer Song</a></li> <li>● IXL: <ul style="list-style-type: none"> <li>○ B.1-B.6</li> <li>○ C.1-C.9</li> </ul> </li> </ul>
--	-------------------	---------------	--

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>  Weekly Homework Completion  Classwork &amp; Basic Skill Practice  Corrections &amp; Reflections  Kahoot!  Quizizz  Desmos  Big Ideas math online assessment tools  Rubric-for projects  Self-reflection</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>  1.1-1.3 Quiz  1.4-1.5 Quiz  Chapter 1 Test  Integer Rules- Pumpkin Project  Spring MAP assessment  Integer Google slide project-word problem for each operation</p> <p><b>Suggested skills to be assessed:</b>  <i>Understanding of absolute value of a number. Adding integers. Understanding the difference between opposites and absolute value. Subtracting integers. Multiplying integers. Dividing integers. Solving real-life problems.</i></p>

## Differentiation

Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>

<p>instructional practices.</p> <ul style="list-style-type: none"> <li>● Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>● Create modified assessments.</li> <li>● Allow students to utilize online books, when available, to listen to oral recorded reading.</li> <li>● Provide individualized assistance as necessary.</li> <li>● Allow for group work (strategically selected) and collaboration as necessary.</li> <li>● Utilize homework recorder within SIS.</li> <li>● Allow for copies of notes to be shared out.</li> <li>● Utilize assistive technology as appropriate.</li> <li>● Provide meaningful feedback and utilize teachable moments.</li> <li>● Utilize graphic organizers</li> <li>● Introduce/review study skills</li> <li>● Provide reading material at or slightly above students' reading levels.</li> <li>● Utilize manipulatives as necessary.</li> <li>● Utilize auditory reminders as deemed necessary.</li> <li>● Provide breaks to allow for refocusing as necessary.</li> <li>● Establish a consistent and daily routine.</li> </ul>			
---	--	--	--

**Mathematics  
Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	1	<b>Unit Title:</b>	<b>Rational Numbers</b>	<b>Pacing:</b>	23 days
------------------------	---	--------------------	-------------------------	----------------	---------

**Unit Summary:** Apply and extend previous understandings of fractions to add, subtract, multiply, and divide rational numbers. Apply the concepts to solve real world problems including the four operations with rational numbers. Represent addition and subtraction on a horizontal and vertical number line diagram and learn rules for multiplying and dividing rational numbers. Convert between fractions, decimals, and percents.

**Objectives:** Students will be able to:

- Understand that a rational number is an integer divided by an integer.
- Convert rational numbers to decimals.
- Add rational numbers.
- Subtract rational numbers.
- Multiply and divide rational numbers.
- Solve real-life problems.

**Essential Questions:**

- How can you use a number line to order rational numbers?
- How can you use what you know about adding integers to add rational numbers?
- How can you use what you know about subtracting integers to subtract rational numbers?
- Why is the product of two negative rational numbers positive?

**Common Core State Standards/Learning Targets:**

- 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.1.A: Describe situations in which opposite quantities combine to make 0.
  - 7.NS.A.1.B: Understand  $p + q$  as the number located a distance  $|q|$  from  $p$ , in the positive or negative direction depending on whether  $q$  is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
  - 7.NS.A.1.C: Understand subtraction of rational numbers as adding the additive inverse,  $p - q = p + (-q)$ . Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
  - 7.NS.A.1.D: Apply properties of operations as strategies to add and subtract rational numbers.
- 7.NS.A.2: Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
  - 7.NS.A.2.A: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as  $(-1)(-1) = 1$  and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
  - 7.NS.A.2.B: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If  $p$  and  $q$  are integers, then  $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.
  - 7.NS.A.2.C: Apply properties of operations as strategies to multiply and divide rational numbers.
  - 7.NS.A.2.D: Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
- 7.NS.A.3: Solve real-world and mathematical problems involving the four operations with rational numbers.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving



21st Century Life and Career Standards 9.1.8.B.2, 9.1.8.B.8

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections:

Science, Real world applications, Business applications, Banking, Construction, and Architecture

science-temperatures and elevations will be discussed. geography-Fractional amounts for distances on a map. Science-Relationships with animal species and rational numbers will be brought up among many problems.

<b>Overview of Activities</b>	<b>Teacher's Guide/ Resources</b>	<b>Core Instructional Materials</b>	<b>Technology Infusion</b>
<b>2.1</b> Rational Numbers <b>2.2</b> Adding Rational Numbers <b>2.3</b> Subtracting Rational Numbers <b>2.4</b> Multiplying and Dividing Rational Numbers	Curriculum Map/ Decisions of Big Ideas Math Teachers Guide p.42-77 Big Ideas website Desmos.com IXL	Student Textbook p.42-77  Record and Practice Journal p. 23-40	<ul style="list-style-type: none"><li>● Smart Board Applications</li><li>● Google Applications</li><li>● Big ideas math website-student assignments</li><li>● Desmos</li><li>● IXL<ul style="list-style-type: none"><li>○ H.1-H.9</li></ul></li></ul>

**Formative Assessment Plan**

**Summative Assessment Plan**

*Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.*

**Suggested activities to assess student progress:**

- Weekly Homework Completion
- Classwork & Basic Skill Practice
- Corrections & Reflections
- Kahoot!
- Quizizz
- Desmos
- Big Ideas math online assessment tools
- Rubric-for projects
- Self-reflection

*Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.*

**Final Assessment/Benchmark/Project:**

- 2.1-2.2 Quiz
- 2.3-2.4 Quiz
- Chapter 2 Test
- Fraction/ Decimal/ Percent Benchmarks Quiz

**Suggested skills to be assessed:**

*Understand that a rational number is an integer divided by an integer. Convert rational numbers to decimals. Add rational numbers. Subtract rational numbers. Multiply and divide rational numbers. Solve real-life problems.*

**Differentiation**

Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study</li> </ul>

<p>listed in student's IEP or 504 plan</p> <ul style="list-style-type: none"> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified assessments.</li> <li>• Allow students to utilize online books, when available, to listen to oral recorded reading.</li> <li>• Provide individualized assistance as necessary.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<ul style="list-style-type: none"> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<p>of major ideas and problems through Compacting.</p> <ul style="list-style-type: none"> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>
--	--	---	---

<ul style="list-style-type: none"><li>• Allow for group work (strategically selected) and collaboration as necessary.</li><li>• Utilize homework recorder within SIS.</li><li>• Allow for copies of notes to be shared out.</li><li>• Utilize assistive technology as appropriate.</li><li>• Provide meaningful feedback and utilize teachable moments.</li><li>• Utilize graphic organizers</li><li>• Introduce/review study skills</li><li>• Provide reading material at or slightly above students' reading levels.</li><li>• Utilize manipulatives as necessary.</li><li>• Establish a consistent and daily routine</li></ul>			
---	--	--	--

**Mathematics**  
**Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	1-2	<b>Unit Title:</b>	<b>Expressions and Equations</b>	<b>Pacing:</b>	22 days
------------------------	-----	--------------------	----------------------------------	----------------	---------

**Unit Summary:** Use properties of operations to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

**Objectives:** Students will be able to:

- Apply properties of operations to simplify algebraic expressions.
- Apply properties of operations to add and subtract linear expressions.
- Factor linear expressions.
- Write simple equations.
- Solve equations using addition or subtraction.
- Solve equations using multiplication or division.
- Solve two-step equations.
- Solve real-life problems.

**Essential Questions:**

- How can you simplify an algebraic expression?
- How can you use algebra tiles to add or subtract algebraic expressions?
- How can you use algebra tiles to solve addition or subtraction equations?
- How can you use multiplication or division to solve equations?

- How can you use algebra tiles to solve a two-step equation?

**Common Core State Standards/Learning Targets:**

- 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.
- 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.
  - 7.EE.B.4.A: Solve word problems leading to equations of the form  $px + q = r$  and  $p(x + q) = r$ , where  $p$ ,  $q$ , and  $r$  are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.
- 8.EE.C.7: Solve linear equations in one variable.
  - 8.EE.C.7.A: Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form  $x = a$ ,  $a = a$ , or  $a = b$  results (where  $a$  and  $b$  are different numbers).
  - 8.EE.C.7.B: Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

21st Century Life and Career Standards 9.2.8.B.1

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary connections:

Real world applications:going to the movies pg 83,buying and selling an item for profit pg 89, video game scores pg 99, recorded low temperatures pg 105, roller coaster problem pg 111

Language Arts: Synonyms

Science: Equivalent results regardless of procedure, melting points pg 103, oceanography pg 107

Overview of Activities	Teacher's Guide/ Resources	Core Instructional Materials	Technology Infusion
<p><b>3.1</b> Algebraic Expressions <b>3.2</b> Adding and Subtracting Linear Expressions <b>3.3</b> Solving Equations Using Addition or Subtraction <b>3.4</b> Solving Equations Using Multiplication or Division <b>3.5</b> Solving Two-Step Equations</p>	<p>Curriculum Map/ Decisions of Big Ideas Math Teachers Guide p.78-121</p> <p>Big Ideas website</p> <p>Desmos.com</p> <p>IXL</p>	<p>Student Textbook p. 78-121</p> <p>Record and Practice Journal p. 41-64</p> <p>Calculator</p>	<ul style="list-style-type: none"><li>● Smart Board Applications</li><li>● Google Applications</li><li>● Big ideas math website-student assignments</li><li>● Desmos</li><li>● IXL 7th:<ul style="list-style-type: none"><li>○ R.7, R.8, R.13,R.14, R.15 R.16, S.2, S.5, S.6</li></ul></li><li>● IXL 8th:<ul style="list-style-type: none"><li>○ W.2</li></ul></li></ul>

			<ul style="list-style-type: none"> <li>○ W.6-W.10</li> <li>○ W.14</li> <li>○ W.15</li> </ul>
--	--	--	--

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>            Weekly Homework Completion            Classwork &amp; Basic Skill Practice            Corrections &amp; Reflections            Kahoot!            Quizizz            Desmos            Big Ideas math online assessment tools            Rubric-for projects            Self-reflection</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>            3.1-3.2 Quiz            3.3-3.5 Quiz            Chapter 3 Test            Multi-Step Equations Webquest</p> <p><b>Suggested skills to be assessed:</b>  <i>Apply properties of operations to simplify algebraic expressions.            Apply properties of operations to add and subtract linear expressions.            Factor linear expressions. Write simple equations. Solve equations using addition or subtraction. Solve equations using multiplication or division. Solve two-step equations. Solve real-life problems.</i></p>

<b>Differentiation</b>
------------------------



Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>

<p>assessments.</p> <ul style="list-style-type: none"><li>• Allow students to utilize online books, when available, to listen to oral recorded reading.</li><li>• Provide individualized assistance as necessary.</li><li>• Allow for group work (strategically selected) and collaboration as necessary.</li><li>• Utilize homework recorder within SIS.</li><li>• Allow for copies of notes to be shared out.</li><li>• Utilize assistive technology as appropriate.</li><li>• Provide meaningful feedback and utilize teachable moments.</li><li>• Utilize graphic organizers</li><li>• Introduce/review study skills</li><li>• Provide reading material at or slightly above students' reading levels.</li><li>• Utilize manipulatives as necessary.</li><li>• Establish a consistent and daily routine</li></ul>			
---	--	--	--

**Quinton Township School District  
Mathematics  
Grade 7**

### Pacing Chart/Curriculum MAP

<b>Marking Period:</b>	2	<b>Unit Title:</b>	Inequalities	<b>Pacing:</b>	16 days
------------------------	---	--------------------	--------------	----------------	---------

**Unit Summary:** Use properties of operations to simplify inequalities. Solve real-life and mathematical problems using inequalities. Create graphs associated with inequalities and use the appropriate symbols.

**Objectives:** Students will be able to:

- Write and graph inequalities.
- Use substitution to check whether a number is a solution of an inequality.
- Solve inequalities using addition or subtraction.
- Solve inequalities using multiplication or division.
- Solve multi-step inequalities.
- Solve real-life problems

**Essential Questions:**

- How can you use a number line to represent solutions of an inequality?
- How can you use addition or subtraction to solve an inequality?
- How can you use multiplication or division to solve an inequality?
- How can you use an inequality to describe the dimensions of a figure?

**Common Core State Standards/Learning Targets:**

- 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.
  - 7.EE.B.4.B: 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 in the context of the problem.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

21st Century Life and Career Standards

9.2.8.B.1 21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections:

4.2-activity 2 investigation into supercooling-science, activity 4-temperatures of continents-geography,4.4 page 151 number

22-killer whales problem-animal science

Real world application problems-identified and labeled for each section

Overview of Activities	Teacher's Guide/ Resources	Core Instructional Materials	Technology Infusion
<p><b>4.1</b> Writing and Graphing Inequalities  <b>4.2</b> Solving Inequalities Using Addition or Subtraction  <b>4.3</b> Solving Inequalities Using Multiplication or Division  <b>4.4</b> Solving Two-Step Inequalities</p>	<p>Curriculum Map/ Decisions of Big Ideas Math Teachers Guide p.122-159</p> <p>Big Ideas website</p> <p>Desmos.com</p> <p>IXL</p>	<p>Student Textbook p.122-159</p> <p>Record and Practice Journal p. 65-82</p> <p>Calculator</p>	<ul style="list-style-type: none"> <li>● Smart Board Applications</li> <li>● Google Applications</li> <li>● Big ideas math website-student assignments</li> <li>● Desmos</li> <li>● IXL</li> </ul>

			o T1-T7
--	--	--	---------

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>            Weekly Homework Completion            Classwork &amp; Basic Skill Practice            Corrections &amp; Reflections            Kahoot!            Quizizz            Desmos            Big Ideas math online assessment tools            Rubric-for projects            Self-reflection</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>            4.1-4.2 Quiz            Chapter 4 Test</p> <p><b>Suggested skills to be assessed:</b>  <i>Write and graph inequalities. Use substitution to check whether a number is a solution of an inequality. Solve inequalities using addition or subtraction. Solve inequalities using multiplication or division. Solve multi-step inequalities. Solve real-life problems.</i></p>

**Differentiation**

Special Education	ELL	At Risk	Gifted and Talented
-------------------	-----	---------	---------------------

<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified assessments.</li> <li>• Allow students to utilize online books, when available, to listen to oral recorded</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>
---	---	--	--

<p>reading.</p> <ul style="list-style-type: none"> <li>• Provide individualized assistance as necessary.</li> <li>• Allow for group work (strategically selected) and collaboration as necessary.</li> <li>• Utilize homework recorder within SIS.</li> <li>• Allow for copies of notes to be shared out.</li> <li>• Utilize assistive technology as appropriate.</li> <li>• Provide meaningful feedback and utilize teachable moments.</li> <li>• Utilize graphic organizers</li> <li>• Introduce/review study skills</li> <li>• Provide reading material at or slightly above students' reading levels.</li> <li>• Utilize manipulatives as necessary.</li> <li>• Establish a consistent and daily routine</li> </ul>			
---	--	--	--

**Quinton Township School District  
Mathematics  
Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	2	<b>Unit Title:</b>	<b>Ratios and Proportions</b>	<b>Pacing:</b>	23 days
------------------------	---	--------------------	-------------------------------	----------------	---------

**Unit Summary:**Analyze proportional relationships and use them to solve real world and mathematical problems. Students will be able to use ratios and proportions to solve problems, including those with tables and graphs. Proportional relationships will also be used to solve multi-step ratio and percent problems.

**Objectives:**Students will be able to:

- Find ratios, rates, and unit rates.
- Find ratios and rates involving ratios of fractions.
- Use equivalent ratios to determine whether two ratios form a proportion.
- Use the Cross Products Property to determine whether two ratios form a proportion.
- Use graphs to determine whether two ratios form a proportion.
- Interpret graphs of proportional relationships.
- Write proportions. Solve proportions using mental math.
- Solve proportions using multiplication or the Cross Products Property.
- Use a point on a graph to write and solve proportions.
- Find the slopes of lines. Interpret the slopes of lines as rates.
- Identify direct variation from graphs or equations.
- Use direct variation models to solve problems.

**Essential Questions:**

- How do rates help you describe real-life problems?
- How can proportions help you decide when things are “fair”?
- How can you write a proportion that solves a problem in real life?



- How can you use ratio tables and cross products to solve proportions?
- How can you compare two rates graphically?
- How can you use a graph to show the relationship between two quantities that vary directly?
- How can you use an equation?

**Common Core State Standards/Learning Targets:**

- 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.
- 7.RP.A.2: Recognize and represent proportional relationships between quantities.
  - 7.RP.A.2.A: Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
  - 7.RP.A.2.B: Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
  - 7.RP.A.2.C: Represent proportional relationships by equations.
  - 7.RP.A.2.D: Explain what a point  $(x, y)$  on the graph of a proportional relationship means in terms of the situation, with special attention to the points  $(0, 0)$  and  $(1, r)$  where  $r$  is the unit rate.
- 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.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

21st Century Life and Career Standards:

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.B.2: Construct a simple personal savings and spending plan based on various sources of income.

9.1.8.C.5: Calculate the cost of borrowing various amounts of money using different types of credit (e.g., credit cards, installment loans, mortgages).

9.1.8.D.2: Differentiate among various savings tools and how to use them most effectively.

9.1.8.D.3: Differentiate among various investment options.

9.1.8.D.4: Distinguish between income and investment growth.

9.1.8.E.5: Analyze interest rates and fees associated with financial services, credit cards, debit cards, and gift cards.

9.1.8.E.6: Compare the value of goods or services from different sellers when purchasing large quantities and small quantities.

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections: Science, Geography, Language Arts

Literacy: 5.5 - Students work with a partner to use an author's statement to complete a table. Ask a student to read the introduction.

Ask students if any of them have read Gulliver's Travels.

Overview of Activities	Teacher's Guide/ Resources	Core Instructional Materials	Technology Infusion
<p>5.1 Ratios and Rates                      5.2 Proportions                      5.3 Writing Proportions                      5.4 Solving Proportions                      5.5 Slope                      5.6 Direct Variation</p>	<p>Curriculum Map/ Decisions of Big Ideas Math Teachers Guide p.160-211                      Big Ideas website                      Desmos.com                      IXL</p>	<p>Student Textbook                      p.160-211                       Record and Practice Journal                      p. 83-110                       Calculator</p>	<ul style="list-style-type: none"> <li>● Smart Board Applications</li> <li>● Google Applications</li> <li>● Big ideas math website-student assignments</li> <li>● Desmos</li> <li>● IXL:</li> </ul>

			<ul style="list-style-type: none"> <li>○ J.1-J.11</li> <li>○ J.14</li> <li>○ V1-V.</li> <li>○ K.1-K.8</li> </ul>
--	--	--	--

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>            Weekly Homework Completion            Classwork &amp; Basic Skill Practice            Corrections &amp; Reflections            Kahoot!            Quizizz            Desmos            Big Ideas math online assessment tools            Rubric-for projects            Self-reflection</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>            5.1-5.3 Quiz            5.4-5.6 Quiz            Chapter 5 Test            Constant of Proportionality Project-Find your weight on different planets            Unit Rate-Grocery Store Project            Winter MAP assessment</p> <p><b>Suggested skills to be assessed:</b>  <i>Find ratios, rates, and unit rates. Find ratios and rates involving ratios of fractions. Use equivalent ratios to determine whether two ratios form a proportion. Use the Cross Products Property to determine whether two ratios form a proportion. Use graphs to determine whether two ratios form a proportion. Interpret graphs of proportional relationships. Write proportions. Solve proportions</i></p>

*using mental math. Solve proportions using multiplication or the Cross Products Property. Use a point on a graph to write and solve proportions. Find the slopes of lines. Interpret the slopes of lines as rates. Identify direct variation from graphs or equations. Use direct variation models to solve problems.*

## Differentiation

Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and</li> </ul>

<p>for homework, quizzes, and tests.</p> <ul style="list-style-type: none"> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified assessments.</li> <li>• Allow students to utilize online books, when available, to listen to oral recorded reading.</li> <li>• Provide individualized assistance as necessary.</li> <li>• Allow for group work (strategically selected) and collaboration as necessary.</li> <li>• Utilize homework recorder within SIS.</li> <li>• Allow for copies of notes to be shared out.</li> <li>• Utilize assistive technology as appropriate.</li> <li>• Provide meaningful feedback and utilize teachable moments.</li> <li>• Utilize graphic organizers</li> <li>• Introduce/review study skills</li> <li>• Provide reading material at or slightly above students' reading levels.</li> <li>• Utilize manipulatives as necessary.</li> <li>• Establish a consistent and daily routine</li> </ul>	<ul style="list-style-type: none"> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>		<p>growth.</p> <ul style="list-style-type: none"> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>
---	---	--	---

--	--	--	--

**Quinton Township School District  
Mathematics  
Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	2-3	<b>Unit Title:</b>	Percents	<b>Pacing:</b>	27 days
------------------------	-----	--------------------	----------	----------------	---------

**Unit Summary:** Convert, compare and order decimals, fractions and percents. Use the percent proportion and percent equation to find parts, wholes, and percents. Use percents in financial situations involving percents of increase, percentages of decrease, percent of discounts to find prices of items, percent of markups to find selling prices of items and the simple interest formula.

**Objectives:** Students will be able to:

- Write percents as decimals.
- Write decimals as percents.
- Compare and order fractions, decimals, and percents.
- Use the percent proportion to find parts, wholes, and percents.
- Use the percent equation to find parts, wholes, and percents.
- Find percents of increase.
- Find percents of decrease.
- Use percent of discounts to find prices of items.
- Use percent of markups to find selling prices of items.
- Use the simple interest formula to find interest earned or paid, annual interest rates, and amounts paid on loans.
- Solve real-life problems

**Essential Questions:**

- How does the decimal point move when you rewrite a percent as a decimal and when you rewrite a decimal as a percent?
- How can you order numbers that are written as fractions, decimals, and percents?
- How can you use models to estimate percent questions?
- How can you use an equivalent form of the percent proportion to solve a percent problem?
- What is a percent of decrease?

- What is a percent of increase?
- How can you find discounts and selling prices?
- How can you find the amount of simple interest earned on a savings account?
- How can you find the amount of interest owed on a loan?

**Common Core State Standards/Learning Targets:**

- 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.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.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

21st Century Life and Career Standards 9.1.8.B.2, 9.1.8.B.8

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections:

Science, Geography, Real world applications, Business applications, Banking

Science-comparison of ultraviolet rays being reflected by four different surfaces pg 217, Real world application problems titled and found throughout the chapter-pgs 217,223,229,and 235. Geography-reading a population map pg 223



Overview of Activities	Teacher's Guide/ Resources	Core Instructional Materials	Technology Infusion
<p>6.1 Percents and Decimals  6.2 Comparing and Ordering Fractions, Decimals, and Percents  6.3 The Percent Proportion  6.4 The Percent Equation  6.5 Percents of Increase and Decrease  6.6 Discounts and Markups  6.7 Simple Interest</p>	<p>Curriculum map/Reference Big Ideas Math Teachers Guide p.212-264</p> <p>Big Ideas website</p> <p>Teacher Desmos</p> <p>IXL</p>	<p>Student Textbook p.212-264</p> <p>Record and Practice Journal p.111-140</p> <p>Calculator</p>	<ul style="list-style-type: none"> <li>● Smart Board Applications</li> <li>● Google Applications</li> <li>● Big ideas math website-student assignments</li> <li>● Desmos</li> <li>● IXL <ul style="list-style-type: none"> <li>○ L.2-L.10</li> <li>○ M.11</li> </ul> </li> </ul>

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>  Weekly Homework Completion  Classwork &amp; Basic Skill Practice  Corrections &amp; Reflections  Kahoot!  Quizizz</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>  6.1-6.4 Quiz  6.5-6.7 Quiz  Chapter 6 Test  Percent project-Google Slide sport research/create a store ad</p>

<p>Desmos Big Ideas math online assessment tools Rubric-for projects Self-reflection</p>	<p><b>Suggested skills to be assessed:</b> <i>Write percents as decimals. Write decimals as percents. Compare and order fractions, decimals, and percents. Use the percent proportion to find parts, wholes, and percents. Use the percent equation to find parts, wholes, and percents. Find percents of increase. Find percents of decrease. Use percent of discounts to find prices of items. Use percent of markups to find selling prices of items. Use the simple interest formula to find interest earned or paid, annual interest rates, and amounts paid on loans. Solve real-life problems.</i></p>
--	---

**Differentiation**

Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing</li> </ul>

<p>components</p> <ul style="list-style-type: none"> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified assessments.</li> <li>• Allow students to utilize online books, when available, to listen to oral recorded reading.</li> <li>• Provide individualized assistance as necessary.</li> <li>• Allow for group work (strategically selected) and collaboration as necessary.</li> <li>• Utilize homework recorder within SIS.</li> <li>• Allow for copies of notes to be shared out.</li> <li>• Utilize assistive technology as appropriate.</li> <li>• Provide meaningful feedback and utilize teachable moments.</li> <li>• Utilize graphic organizers</li> <li>• Introduce/review study skills</li> </ul>	<ul style="list-style-type: none"> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<p>completion of work.</p> <ul style="list-style-type: none"> <li>• Establish a consistent and daily routine.</li> </ul>	<p>in an open world.</p> <ul style="list-style-type: none"> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>
--	--	--	--

<ul style="list-style-type: none"><li>• Provide reading material at or slightly above students' reading levels.</li><li>• Utilize manipulatives as necessary.</li><li>• Establish a consistent and daily routine</li></ul>			
--	--	--	--

**Quinton Township School District  
Mathematics  
Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	3	<b>Unit Title:</b>	Circles and Area	<b>Pacing:</b>	11 days
------------------------	---	--------------------	------------------	----------------	---------

**Unit Summary:** Area, perimeter and circumference are the major themes of the unit. Area will be calculated for circles and composite figures. The distance around circles and composite figures will be calculated.

**Objectives:** Students will be able to:

- Describe a circle in terms of radius and diameter.
- Understand the concept of pi.
- Find circumferences of circles and perimeters of semicircles.
- Find perimeters of composite figures.
- Find areas of circles and semicircles.  
Find areas of composite figures by separating them into familiar figures.
- Solve real-life problems.

**Essential Questions:**

- How can you find the circumference of a circle?
- How can you find the perimeter of a composite figure?
- How can you find the area of a circle?
- How can you find the area of a composite figure?

**Common Core State Standards/Learning Targets:**

- 7.G.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.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.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

21st Century Life and Career Standards 9.2.B.1, 9.1.8.E.4, 9.1.8.E.8

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections:

History, Literature, Science

Real world application problems: found throughout chapter examples include: measuring the distance around and inside a pen for a farm, finding the area and perimeter of an irregular pool, finding the distance between the pitcher's mound and home plate on a baseball field. History-Archimedes and discovery of Pi, Literature- Sir Cumference and the First Round Table by Cindy

Neuschwander, Science- pg 323 distance around the world

<b>Overview of Activities</b>	<b>Teacher's Guide/ Resources</b>	<b>Core Instructional Materials</b>	<b>Technology Infusion</b>
<b>8.1</b> Circles and Circumference <b>8.2</b> Perimeters of Composite Figures <b>8.3</b> Areas of Circles <b>8.4</b> Areas of Composite Figures	Curriculum map/Reference Big Ideas Math Teachers Guide p.314-348  Big Ideas website  Teacher Desmos  IXL	Student Textbook p.314-348  Record and Practice Journal p.165-182  Calculator	<ul style="list-style-type: none"><li>● Smart Board Applications</li><li>● Google Applications</li><li>● Big ideas math website-student assignments</li><li>● Desmos</li><li>● IXL</li></ul>

			<ul style="list-style-type: none"> <li>○ AA.5</li> <li>○ AA.12</li> <li>○ W.16</li> </ul>
--	--	--	---

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>            Weekly Homework Completion            Classwork &amp; Basic Skill Practice            Corrections &amp; Reflections            Kahoot!            Quizizz            Desmos            Big Ideas math online assessment tools            Rubric-for projects            Self-reflection</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>            Perimeter Quiz            Area Quiz            Chapter 8 Test</p> <p><b>Suggested skills to be assessed:</b>  <i>Describe a circle in terms of radius and diameter. Understand the concept of pi. Find circumferences of circles and perimeters of semicircles. Find perimeters of composite figures. Find areas of circles and semicircles. Find areas of composite figures by separating them into familiar figures. Solve real-life problems.</i></p>

<b>Differentiation</b>
------------------------

<b>Special Education</b>	<b>ELL</b>	<b>At Risk</b>	<b>Gifted and Talented</b>
--------------------------	------------	----------------	----------------------------

<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified assessments.</li> <li>• Allow students to utilize online books, when available, to listen to oral recorded</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>
---	---	--	--



<p>reading.</p> <ul style="list-style-type: none"> <li>• Provide individualized assistance as necessary.</li> <li>• Allow for group work (strategically selected) and collaboration as necessary.</li> <li>• Utilize homework recorder within SIS.</li> <li>• Allow for copies of notes to be shared out.</li> <li>• Utilize assistive technology as appropriate.</li> <li>• Provide meaningful feedback and utilize teachable moments.</li> <li>• Utilize graphic organizers</li> <li>• Introduce/review study skills</li> <li>• Provide reading material at or slightly above students' reading levels.</li> <li>• Utilize manipulatives as necessary.</li> <li>• Establish a consistent and daily routine.</li> </ul>			
--	--	--	--

**Quinton Township School District  
Mathematics  
Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	3-4	<b>Unit Title:</b>	<b>Surface Area and Volume</b>	<b>Pacing:</b>	15 days
------------------------	-----	--------------------	--------------------------------	----------------	---------

**Unit Summary:** Students will work with figures in 3 dimensions. Formulas to find the surface area of prisms, pyramids, and cylinders will be discussed and explored. Formulas to find the volume of prisms and pyramids will be discussed and explored. Students will identify cross sections of three-dimensional solids

**Objectives:** Students will be able to:

- Use two-dimensional nets to represent three-dimensional solids.
- Find surface areas of rectangular and triangular prisms.
- Find surface areas of regular pyramids.
- Find surface areas of cylinders.
- Find volumes of prisms.
- Find volumes of pyramids.
- Describe the intersections of planes and solids.
- Solve real-life problems.

**Essential Questions:**

- How can you find the surface area of a prism?
- How can you find the surface area of a pyramid?
- How can you find the surface area of a cylinder?
- How can you find the volume of a prism?
- How can you find the volume of a pyramid?

**Common Core State Standards/Learning Targets:**

- 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.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.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

2st Century Life and Career Standards 9.2.B.1, 9.1.8.E.4, 9.1.8.E.8

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections: Real world connections throughout chapter, History

9.1 real world connection-problem related to creating traps to catch emerald ash borers, History connection-9.2 finding the slant height of real life pyramid along with information related to ancient Egypt, Real life application-9.2-finding the amount of shingles to cover a roof, 9.3- real life application-earning money for recycling a can, Real life application 9.4-choosing the best bag size for a movie theater, History connection-9.5 volumes of real life pyramids

Overview of Activities	Teacher’s Guide/ Resources	Core Instructional Materials	Technology Infusion
<p>9.1 Surface Areas of Prisms            9.2 Surface Areas of Pyramids            9.3 Surface Areas of Cylinders</p>	<p>Big Ideas Math Teachers Guide            p.352-394</p>	<p>Student Textbook            p.352-394</p>	<ul style="list-style-type: none"> <li>● Smart Board Applications</li> <li>● Google</li> </ul>

<p>9.4 Volumes of Prisms 9.5 Volumes of Pyramids</p>	<p>Big Ideas website  Desmos  IXL</p>	<p>Record and Practice Journal p.183-206  Calculator</p>	<p>Applications</p> <ul style="list-style-type: none"> <li>● Big ideas math website-student assignments</li> <li>● Desmos</li> <li>● IXL</li> <li>● 8th Grade: <ul style="list-style-type: none"> <li>○ T.7 -T.8</li> </ul> </li> <li>● 7th grade <ul style="list-style-type: none"> <li>○ Z.4</li> </ul> </li> <li>● 6th Grade: <ul style="list-style-type: none"> <li>○ FF.15-F F.16</li> </ul> </li> </ul>
--	---	--	---

<b>Formative Assessment Plan</b>	<b>Summative Assessment Plan</b>
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>  Weekly Homework Completion  Classwork &amp; Basic Skill Practice  Corrections &amp; Reflections  Kahoot!  Quizizz  Desmos</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>  Surface Area Quiz  Volume Quiz  Chapter 9 Test</p> <p><b>Suggested skills to be assessed:</b></p>

Big Ideas math online assessment tools  
 Rubric-for projects  
 Self-reflection

*Use two-dimensional nets to represent three-dimensional solids. Find surface areas of rectangular and triangular prisms. Find surface areas of regular pyramids. Find surface areas of cylinders. Find volumes of prisms. Find volumes of pyramids. Describe the intersections of planes and solids. Solve real-life problems.*

## Differentiation

Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> </ul>

<p>reduce amount of items given for homework, quizzes, and tests.</p> <ul style="list-style-type: none"> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified assessments.</li> <li>• Allow students to utilize online books, when available, to listen to oral recorded reading.</li> <li>• Provide individualized assistance as necessary.</li> <li>• Allow for group work (strategically selected) and collaboration as necessary.</li> <li>• Utilize homework recorder within SIS.</li> <li>• Allow for copies of notes to be shared out.</li> <li>• Utilize assistive technology as appropriate.</li> <li>• Provide meaningful feedback and utilize teachable moments.</li> <li>• Utilize graphic organizers</li> <li>• Introduce/review study skills</li> <li>• Provide reading material at or slightly above students' reading levels.</li> <li>• Utilize manipulatives as necessary.</li> <li>• Establish a consistent and</li> </ul>	<p>resources/recommendations</p> <ul style="list-style-type: none"> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>		<ul style="list-style-type: none"> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>
--	--	--	---

daily routine			
---------------	--	--	--

**Quinton Township School District**  
**Mathematics**  
**Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	4	<b>Unit Title:</b>	Probability and	<b>Pacing:</b>	11 days
------------------------	---	--------------------	-----------------	----------------	---------

			<b>Statistics</b>		
--	--	--	-------------------	--	--

**Unit Summary:** In this unit, students investigate probability and statistics. Students identify the difference between probability and likelihood. Students complete activities related to experimental and theoretical probabilities. Tree diagrams, tables, and formulas will create variable methods for students to identify numbers of possible outcomes. Probabilities of compound events as well as identifying independent and dependent events will be discussed. The method of sampling populations will be used to determine population size. Using the data collected by statistical questions, students determine and analyze measures of center and measures of variation.

**Objectives:** Students will be able to:

- Identify and count the outcomes of experiments.
- Understand the concept of probability and the relationship between probability and likelihood.
- Find probabilities of events. Find relative frequencies.
- Use experimental probabilities to make predictions.
- Use theoretical probabilities to find quantities.
- Compare experimental and theoretical probabilities.
- Use tree diagrams, tables, or a formula to find the number of possible outcomes.
- Find probabilities of compound events. Identify independent and dependent events.
- Use formulas to find probabilities of independent and dependent events.
- Use simulations to find experimental probabilities.
- Determine when samples are representative of populations.
- Use data from random samples to make predictions about populations.
- Use multiple samples to make predictions about populations.
- Use measures of center and variation to compare populations.
- Use random samples to compare populations.



**Essential Questions:**

- In an experiment, how can you determine the number of possible results?
- How can you describe the likelihood of an event?
- How can you use relative frequencies to find probabilities?
- How can you find the number of possible outcomes of one or more events?
- What is the difference between dependent and independent events?
- How can you determine whether a sample accurately represents a population?
- How can you compare data sets that represent two populations?

**Common Core State Standards/Learning Targets:**

- 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.
- 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.
- 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.
- 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 event that 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.
- 7.SP.C.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.7.A: Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.

- 7.SP.C.7.B: Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.
- 7.SP.C.8: Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
  - 7.SP.C.8.A: Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
  - 7.SP.C.8.B: Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.
  - 7.SP.C.8.C: Design and use a simulation to generate frequencies for compound events.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

21st Century Life and Career Standards 9.2.B.1, 9.1.8.E.4, 9.1.8.E.8

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections:

Science-10.3 predicting weather patterns based on weather trends. Social Studies- 10.5 connection to the declaration of independence and choosing answers correctly on a multiple choice test about historical information. Correct answers will be discussed. Life Science-10.6 predicting a population based on sampling

Overview of Activities	Teacher's Guide/ Resources	Core Instructional Materials	Technology Infusion
------------------------	----------------------------	------------------------------	---------------------

<p>10.1 Outcomes and Events  10.2 Probability  10.3 Experimental and Theoretical Probability  10.4 Compound Events  10.5 Independent and Dependent Events  10.6 Samples and Populations  10.7 Comparing Populations</p>	<p>Big Ideas Math Teachers Guide p.398-463   Big Ideas website   Desmos   IXL</p>	<p>Student Textbook p.398-463   Record and Practice Journal p.207-242   Calculator   Colored blocks and coins</p>	<ul style="list-style-type: none"> <li>● Smart Board Applications</li> <li>● Google Applications</li> <li>● Big ideas math website-student assignments</li> <li>● Desmos</li> <li>● IXL <ul style="list-style-type: none"> <li>○ DD.1</li> <li>○ DD.3-D</li> <li>○ D.6</li> <li>○ CC.6</li> </ul> </li> </ul>
---	---	---	---

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>  Weekly Homework Completion  Classwork &amp; Basic Skill Practice  Corrections &amp; Reflections  Kahoot!  Quizizz  Desmos</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>  Probability Test  Statistics Test  PARCC ASSESSMENT</p> <p><b>Suggested skills to be assessed:</b>  <i>Identify and count the outcomes of experiments. Understand the concept of probability and the relationship between probability and</i></p>

<p>Big Ideas math online assessment tools          Rubric-for projects          Self-reflection</p>	<p><i>likelihood. Find probabilities of events. Find relative frequencies. Use experimental probabilities to make predictions. Use theoretical probabilities to find quantities. Compare experimental and theoretical probabilities. Use tree diagrams, tables, or a formula to find the number of possible outcomes. Find probabilities of compound events. Identify independent and dependent events. Use formulas to find probabilities of independent and dependent events. Use simulations to find experimental probabilities. Determine when samples are representative of populations. Use data from random samples to make predictions about populations. Use multiple samples to make predictions about populations. Use measures of center and variation to compare populations. Use random samples to compare populations.</i></p>
---	---

**Differentiation**

Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessionals as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> </ul>

<p>questioning techniques</p> <ul style="list-style-type: none"> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated instructional practices.</li> <li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li> <li>• Create modified assessments.</li> <li>• Allow students to utilize online books, when available, to listen to oral recorded reading.</li> <li>• Provide individualized assistance as necessary.</li> <li>• Allow for group work (strategically selected) and collaboration as necessary.</li> <li>• Utilize homework recorder within SIS.</li> <li>• Allow for copies of notes to be shared out.</li> <li>• Utilize assistive technology as appropriate.</li> <li>• Provide meaningful feedback</li> </ul>	<p>tutoring sessions</p> <ul style="list-style-type: none"> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<p>instructional plans based on I and RS Plan.</p> <ul style="list-style-type: none"> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>
--	---	--	--

<p>and utilize teachable moments.</p> <ul style="list-style-type: none"><li>• Utilize graphic organizers</li><li>• Introduce/review study skills</li><li>• Provide reading material at or slightly above students' reading levels.</li><li>• Utilize manipulatives as necessary.</li><li>• Establish a consistent and daily routine</li></ul>			
---	--	--	--

**Quinton Township School District  
Mathematics  
Grade 7**

**Pacing Chart/Curriculum MAP**

<b>Marking Period:</b>	4	<b>Unit Title:</b>	<b>Constructions and Scale Drawings</b>	<b>Pacing:</b>	15 days
------------------------	---	--------------------	---	----------------	---------

**Unit Summary:** In this unit, students will construct angles and two-dimensional figures. Students will identify types of angles and triangles. Students will classify types of quadrilaterals. An investigation of how to create proportional relationships to create similar figures will be conducted.

**Objectives:** Students will be able to:

- identify adjacent and vertical angles.
  - find angle measures using adjacent and vertical angles.
  - classify pairs of angles as complementary, supplementary, or neither.
  - find angle measures using complementary and supplementary angles.
  - construct triangles with given angle measures.
  - construct triangles with given side lengths.
  - understand that the sum of the angle measures of any triangle is  $180^\circ$ .
  - find missing angle measures in triangles.
  - understand that the sum of the angle measures of any quadrilateral is  $360^\circ$ .
  - find missing angle measures in quadrilaterals.
  - construct quadrilaterals.
- use scale drawings to find actual distances.
- find scale factors.
  - use scale drawings to find actual perimeters and areas.
  - recreate scale drawings at a different scale

**Essential Questions:**

- What can you conclude about the angles formed by two intersecting lines?

- How can you classify two angles as complementary or supplementary?
- How can you construct triangles?
- How can you classify quadrilaterals?
- How can you enlarge or reduce a drawing proportionally?

**Common Core State Standards/Learning Targets:**

- 7.G.1 Use scale drawings to find actual distances. Find scale factors. Use scale drawings to find actual perimeters and areas. Recreate scale drawings at a different scale.
- 7.G.2 Construct triangles with given angle measures. Construct triangles with given side lengths. Understand that the sum of the angle measures of any quadrilateral is 360 degrees. Find the missing angle measures in quadrilaterals. Construct quadrilaterals.
- 7.G.5 Identify adjacent and vertical angles. Find angle measures using adjacent and vertical angles. Classify pairs of angles as complementary, supplementary, or neither. Find angle measures using complementary and supplementary angles. Understand that the sum of the angle measures of any triangle is 180 degrees.

**Interdisciplinary Connections/Including 21st Century Themes and Skills:**

21st Century Theme: Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills: Critical Thinking and Problem Solving

21st Century Life and Career Standards 9.2.B.1, 9.1.8.E.4, 9.1.8.E.8

21st Century Career Ready Practices

CRP3 Attend to personal health and financial well-being

CRP4 Communicate clearly and effectively and with reason

CRP6 Demonstrate creativity and innovation

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Interdisciplinary Connections:



Geography,Literature, Art

7.1-Geography-using a map for an example of adjacent states-Maine and New Hampshire, Literature- definitions of vertical and adjacent discussed, 7.2-real life connection-finding the angles of an intersection of streets, Art-vanishing point of a road and the angle relationships created, 7.3-Art connection-classifying shapes in a mosaic,7.5 real world connection-creating a food court, Geography- finding the actual distance between Cadillac and Detroit, Earth Science-Finding the distance of the Earth's liquid outer core, World History- Finding the scale factor used to find the height of the Floyd Monument which memorializes Sgt. Charles Floyd the only man who died on the Lewis and Clark expedition.

Overview of Activities	Teacher's Guide/ Resources	Core Instructional Materials	Technology Infusion
<p>7.1 Adjacent and Vertical Angles            7.2 Complementary and Supplementary Angles            7.3 Triangles            7.4 Quadrilaterals            7.5 Scale Drawings</p>	<p>Big Ideas Math Teachers Guide p.268-310</p> <p>Big Ideas website</p>	<p>Student Textbook p.268-310</p> <p>Record and Practice Journal p.141-164</p> <p>Calculator</p>	<ul style="list-style-type: none"> <li>● Smart Board Applications</li> <li>● Google Applications</li> <li>● Big ideas math website-student assignments</li> <li>● Desmos</li> <li>● IXL               <ul style="list-style-type: none"> <li>○ W.3</li> <li>○ W.5</li> <li>○ W.7-W.8</li> <li>○ W.12</li> <li>○ J.7</li> </ul> </li> </ul>

Formative Assessment Plan	Summative Assessment Plan
<p><i>Formative assessment informs instruction and is on going through a unit to determine how students are progressing with the high expectations of standards.</i></p> <p><b>Suggested activities to assess student progress:</b>            Weekly Homework Completion            Classwork &amp; Basic Skill Practice            Corrections &amp; Reflections            Kahoot!            Quizizz            Desmos            Big Ideas math online assessment tools            Rubric-for projects            Self-reflection</p>	<p><i>Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.</i></p> <p><b>Final Assessment/Benchmark/Project:</b>            7.1-7.3 Quiz            7.4-7.5 Quiz            Chapter 7 Test            Benchmark Test            Zoo project-Google Slides and Google Sheets            Spring MAP Assessment            PARCC Assessment</p> <p><b>Suggested skills to be assessed:</b>  <i>Identify adjacent and vertical angles. Find angle measures using adjacent and vertical angles. Classify pairs of angles as complementary, supplementary, or neither. Find angle measures using complementary and supplementary angles. Construct triangles with given angle measures. Construct triangles with given side lengths. Understand that the sum of the angle measures of any triangle is 180°. Find missing angle measures in triangles. Understand that the sum of the angle measures of any quadrilateral is 360°. Find missing angle measures in quadrilaterals. Construct quadrilaterals. use scale drawings to find actual distances. Find scale factors. Use scale drawings to find actual perimeters and areas. Recreate scale drawings at a different scale</i></p>

## Differentiation

Special Education	ELL	At Risk	Gifted and Talented
<ul style="list-style-type: none"> <li>• RTI</li> <li>• Modify and accommodate as listed in student's IEP or 504 plan</li> <li>• Utilize effective amount of wait time</li> <li>• Hold high expectations</li> <li>• Communicate directions clearly and concisely and repeat, reword, modify as necessary.</li> <li>• Utilize open-ended questioning techniques</li> <li>• Utilize scaffolding to support instruction.</li> <li>• Chunk tasks into smaller components</li> <li>• Provide step by step instructions</li> <li>• Model and use visuals as often as possible</li> <li>• Utilize extended time and/or reduce amount of items given for homework, quizzes, and tests.</li> <li>• Teach Tiers 1,2, and 3 words to assist students' understanding of instructional texts.</li> <li>• Utilize a variety of formative assessments to drive next point of instruction/differentiated</li> </ul>	<ul style="list-style-type: none"> <li>• RTI</li> <li>• Speech/Language Therapy</li> <li>• Rosetta Stone</li> <li>• Hold high expectations</li> <li>• Provide English/Spanish Dictionary for use</li> <li>• Place with Spanish speaking teacher/paraprofessional as available</li> <li>• Learn/Utilize/Display some words in the students' native language</li> <li>• Invite student to after school tutoring sessions</li> <li>• Basic Skills Instruction</li> <li>• Utilize formative assessments to drive instruction</li> <li>• Translate printed communications for parents in native language</li> <li>• Hold conferences with translator present</li> <li>• Utilize additional NJDOE resources/recommendations</li> <li>• Review Special Education listing for additional recommendations</li> <li>• Establish a consistent and daily routine</li> </ul>	<ul style="list-style-type: none"> <li>• RTI Tiered Interventions following RTI framework</li> <li>• Support instruction with RTI intervention resources</li> <li>• Provide after school tutoring services</li> <li>• Basic Skills Instruction</li> <li>• Hold high expectations</li> <li>• Utilize Go Math! RTI strategies</li> <li>• Fountas and Pinnell Phonics</li> <li>• Hold parent conferences fall and spring</li> <li>• Make modifications to instructional plans based on I and RS Plan.</li> <li>• Develop a record system to encourage good behavior and completion of work.</li> <li>• Establish a consistent and daily routine.</li> </ul>	<ul style="list-style-type: none"> <li>• Organize the curriculum to include more elaborate, complex, and in-depth study of major ideas and problems through Compacting.</li> <li>• Allow for the development and application of productive thinking skills to enable students to re-conceptualize existing knowledge and/or generate new knowledge.</li> <li>• Enable students to explore continually changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.</li> <li>• Encourage exposure to, selection and use of appropriate and specialized resources.</li> <li>• Promote self-initiated and self-directed learning and growth.</li> <li>• Provide for the development of self-understanding of one's relationships with people, societal institutions, nature and culture.</li> <li>• Continue to offer Accelerated Mathematics 7 (7th grade) and Algebra 1 (8th grade).</li> </ul>

<p>instructional practices.</p> <ul style="list-style-type: none"><li>• Create rubrics/allow students to assist with task, so that all are aware of expectations.</li><li>• Create modified assessments.</li><li>• Allow students to utilize online books, when available, to listen to oral recorded reading.</li><li>• Provide individualized assistance as necessary.</li><li>• Allow for group work (strategically selected) and collaboration as necessary.</li><li>• Utilize homework recorder within SIS.</li><li>• Allow for copies of notes to be shared out.</li><li>• Utilize assistive technology as appropriate.</li><li>• Provide meaningful feedback and utilize teachable moments.</li><li>• Utilize graphic organizers</li><li>• Introduce/review study skills</li><li>• Provide reading material at or slightly above students' reading levels.</li><li>• Utilize manipulatives as necessary.</li><li>• Establish a consistent and daily routine</li></ul>			
--	--	--	--

