

<b>Original Adoption:</b>	School Year 2017-2018
<b>Revised On:</b>	July / August 2019
<b>Board Approved:</b>	August 21, 2019

7th Grade Pinnacle/Advanced Math Curriculum Documents

<b>TIME PERIOD</b>	<b>UNIT (topics)</b>	<b>STANDARDS AND STUDENT LEARNING OBJECTIVES</b>	<b>NJSLS CONCEPT</b>
September through Mid-November (Days 1-45)	1. Expressions and Equations	<ul style="list-style-type: none"> <li>● 7.EE.A.1</li> <li>● 7.EE.A.2</li> <li>● 7.EE.B.3</li> <li>● 7.EE.B.4a</li> </ul>	<p><b>7.EE.A. Expressions and Equations</b> Use properties of operations to generate equivalent expressions.</p> <p><b>7.EE.B. Expressions and Equations</b> Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p>
	2. Equations with variables on both sides	<ul style="list-style-type: none"> <li>● 8.EE.7a</li> <li>● 8.EE.7b</li> </ul>	<p><b>8.EE.C. Expressions and Equations</b> Analyze and solve linear equations and pairs of simultaneous linear equations.</p>
	3. Inequalities	<ul style="list-style-type: none"> <li>● 7.EE.B.4</li> </ul>	<p><b>7.EE.B. Expressions and Equations</b> Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p>
End-November through January (Days 46-90)	4. Circles (circumference and area)	<ul style="list-style-type: none"> <li>● 7.G.B.4</li> </ul>	<p><b>7.G.B. Geometry</b> Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</p>

	5. Composite Figures (perimeter and area)	<ul style="list-style-type: none"> <li>• 7.G.B.6</li> <li>• 8.G.C.9</li> </ul>	<p><b>7.G.B. Geometry</b> Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</p> <p><b>8.G.C. Geometry</b> Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.</p>
	6. Surface Area and Volume (prisms, pyramids, cylinders)	<ul style="list-style-type: none"> <li>• 7.G.A.3</li> <li>• 7.G.B.6</li> </ul>	<p><b>7.G.A. Geometry</b> Draw, construct, and describe geometrical figures and describe the relationships between them.</p> <p><b>7.G.B. Geometry</b> Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</p>
February through Beg-April (Days 91-135)	7. Ratios and Proportions including Constructions and Scale Drawings	<ul style="list-style-type: none"> <li>• 7.RP.A.1</li> <li>• 7.RP.A.2</li> <li>• 7.RP.A.3</li> <li>• 7.G.A.1</li> <li>• 7.G.A.2</li> <li>• 7.G.B.5</li> </ul>	<p><b>7.RP.A. Ratios and Proportional Relationships</b> Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> <p><b>7.G.A. Geometry</b> Draw, construct, and describe geometrical figures and describe the relationships between them.</p> <p><b>7.G.B. Geometry</b> Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</p>
	8. Percents	<ul style="list-style-type: none"> <li>• 7.EE.B.3</li> </ul>	<p><b>7.EE.B. Expressions and Equations</b> Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p>
	9. Statistics and Probability (box and whisker)	<ul style="list-style-type: none"> <li>• 7.SP.A.1</li> <li>• 7.SP.A.2</li> <li>• 7.SP.B.3</li> <li>• 7.SP.B.4</li> </ul>	<p><b>7.SP.A. Statistics and Probability</b> Use random sampling to draw inferences about a population.</p>

		<ul style="list-style-type: none"> <li>• 7.SP.C.5</li> <li>• 7.SP.C.6</li> <li>• 7.SP.C.7</li> <li>• 7.SP.C.8</li> <li>• 8.SP.A.1</li> </ul>	<p><b>7.SP.B. Statistics and Probability</b> Draw informal comparative inferences about two populations.</p> <p><b>7.SP.C. Statistics and Probability</b> Investigate chance processes and develop, use, and evaluate probability models.</p> <p><b>8.SP.A. Statistics and Probability</b> Investigate patterns of association in bivariate data.</p>
April through June (Days 136-181)	10. Writing and graphing linear equations <ul style="list-style-type: none"> <li>• Find slope</li> <li>• Interpret slope</li> <li>• Slope Intercept form (solve for y)</li> </ul>	<ul style="list-style-type: none"> <li>• 8.EE.B.5</li> <li>• 8.EE.C.7</li> </ul>	<p><b>8.EE.B. Expressions and Equations</b> Understand the connections between proportional relationships, lines, and linear equations.</p> <p><b>8.EE.C Expressions and Equations</b> Analyze and solve linear equations and pairs of simultaneous linear equations.</p>
	11. Radicals and Integer Exponent Rules	<ul style="list-style-type: none"> <li>• 8.EE.A.1</li> <li>• 8.EE.A.2</li> </ul>	<p><b>8.EE.A Expressions and Equations</b> Work with radicals and integer exponents.</p>
	12. Scientific Notation	<ul style="list-style-type: none"> <li>• 8.EE.A.3</li> <li>• 8.EE.A.4</li> </ul>	<p><b>8.EE.A Expressions and Equations</b> Work with radicals and integer exponents.</p>

**Unit 1: Expressions and Equations**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 25 days**

**Unit Essential Questions:**

- How do we expand linear expressions with and without rational coefficients?
- When will a different form of an expression help us make more sense of a problem?
- How do we solve real-world problems involving positive and negative rational numbers in any form and assess the reasonableness of our solution?
- How do we solve equations of the form  $px + q = r$  and  $p(x + q) = r$ , where  $p$ ,  $q$ , and  $r$  are specific rational numbers with accuracy and efficiency?
- How do we solve real-world problems by reasoning about their quantities and constructing simple equations of the form  $p(x + q) = r$ , where  $p$ ,  $q$ , and  $r$  are specific rational numbers?

**Unit Enduring Understandings:**

*Students will understand that...*

- Expressions can be written in different forms and still be equivalent
- Writing an expression in a different form can shed light on the problem
- construct simple equations to solve problems by reasoning about the quantities.
- solve simple equations of particular forms fluently and interpret solutions in the context of the problem.

**Primary Interdisciplinary Connections:**

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

**21st Century Career Ready Practices:**

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.
- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural global competence.
- **9.1.8.D.4** Distinguish between income and investment growth.
- **9.1.8.B.2** Construct a simple personal savings and spending plan based on various sources of income.
- **9.2.8.B.2** Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information

about career areas of interest, goals and an educational plan.

**Standards for Mathematical Practices:**

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

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

Learning Targets		
Content Standard	Student Learning Objectives (*To be completed when released by NJDOE)	Activities & Resources
<b>7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</b>	<ul style="list-style-type: none"> <li>● WALT apply the properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red               <ul style="list-style-type: none"> <li>○ Sections 3.1, 3.2, 3.3, 3.4, 3.5</li> </ul> </li> <li>● Big Ideas Math - Advanced               <ul style="list-style-type: none"> <li>○ Sections 1.1, 1.2</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics               <ul style="list-style-type: none"> <li>○ 7.EE.1  <a href="https://tasks.illustrativemathematics.org/content-standards/7/EE/A/1/tasks">https://tasks.illustrativemathematics.org/content-standards/7/EE/A/1/tasks</a></li> <li>○ 7.EE.2  <a href="https://tasks.illustrativemathematics.org/content-standards/7/EE/A/2/tasks">https://tasks.illustrativemathematics.org/content-standards/7/EE/A/2/tasks</a></li> <li>○ 7.EE.3  <a href="https://tasks.illustrativemathematics.org/co">https://tasks.illustrativemathematics.org/co</a></li> </ul> </li> </ul>
<b>7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can</b>	<ul style="list-style-type: none"> <li>● WALT rewriting an expression in different forms can clarify the problem and how the quantities are related</li> </ul>	

<p>shed light on the problem and how the quantities in it are related.</p>		<ul style="list-style-type: none"> <li>○ <a href="https://tasks.illustrativemathematics.org/content-standards/7/EE/B/3/tasks">ntent-standards/7/EE/B/3/tasks</a></li> <li>○ 7.EE.4</li> <li>○ <a href="https://tasks.illustrativemathematics.org/content-standards/7/EE/B/4/tasks">https://tasks.illustrativemathematics.org/content-standards/7/EE/B/4/tasks</a></li> </ul>
<p><b>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.</b></p>	<ul style="list-style-type: none"> <li>● WALT convert between forms (fractions, decimals, and whole numbers) as appropriate to solve multi-step real life and mathematical problems with positive and negative rational numbers in any form</li> <li>● WALT apply the properties of operations to calculate with numbers in any form when solving multi-step real-life and mathematical problems, and assess the reasonableness of answers using mental computation and estimation strategies</li> </ul>	<ul style="list-style-type: none"> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy <ul style="list-style-type: none"> <li>○</li> </ul> </li> </ul>
<p><b>7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and</b></p>	<ul style="list-style-type: none"> <li>● WALT solve world problems by reasoning about their quantities and constructing simple equations of the form <math>p(x + q) = r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers</li> <li>● WALT compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in</li> </ul>	

<p><b>inequalities to solve problems by reasoning about the quantities.</b></p> <p>a. Solve word problems leading to equations of the form <math>px + q = r</math> and <math>p(x + q) = r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> 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.</p>	<p>each approach.</p> <ul style="list-style-type: none"> <li>WALT solve equations of the form <math>px + q = r</math> and <math>p(x + q) = r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers with accuracy and efficiency</li> </ul>	
---	---	--

Evidence of Learning			
Assessment			
<p><b>Formative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>Observation</li> <li>Homework</li> </ul>	<p><b>Benchmark Assessments may include:</b></p> <ul style="list-style-type: none"> <li>Beginning of Year i-Ready Diagnostic</li> </ul>	<p><b>Summative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>Chapter/Unit Test</li> <li>Quizzes</li> </ul>	<p><b>Alternative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>Authentic Performance Tasks</li> </ul>

<ul style="list-style-type: none"> <li>● Class participation</li> <li>● Whiteboards/communications</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<ul style="list-style-type: none"> <li>● Presentations</li> <li>● NJSLA</li> </ul>	<ul style="list-style-type: none"> <li>● Unit Projects</li> </ul>
--	--	--	---

**Modifications & Reflections**

**Suggested Options for Differentiation**

*English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

*Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities



504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

**Unit 2: Equations with Variables on Both Sides**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 10 days**

**Unit Essential Questions:**

- How can linear equations be used to represent real-life situations?

**Unit Enduring Understandings:**

*Students will understand that...*

- Equation solving is working backwards and undoing operations.
- Like terms must be combined.
- The distributive property can be used to simplify expressions and solve equations.

**Primary Interdisciplinary Connections:**

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

**21st Century Career Ready Practices:**

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.
- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural global competence.
- **9.1.8.B.8** Develop a system for keeping and using financial records.
- **9.1.8.D.4** Distinguish between income and investment growth.
- **9.1.8.B.2** Construct a simple personal savings and spending plan based on various sources of income.

**Standards for Mathematical Practices:**

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

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

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources
<b>8.EE.C.7 Solve linear equations in one variable.</b>	<ul style="list-style-type: none"> <li>● WALT a linear equation in one variable can result in one</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Advanced 2               <ul style="list-style-type: none"> <li>○ Sections 1.1, 1.2, 1.3, 1.4</li> </ul> </li> </ul>

<p>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 <math>x = a</math>, <math>a = a</math>, or <math>a = b</math> results (where <math>a</math> and <math>b</math> are different numbers).</p>	<p>solution, infinitely many solutions, or no solution</p> <ul style="list-style-type: none"> <li>WALT show which of these outcomes is the case by transforming the original equation into the form <math>x = a</math>, <math>a = a</math>, or <math>a = b</math></li> </ul>	<ul style="list-style-type: none"> <li>i-Ready</li> <li>Illustrative Mathematics <ul style="list-style-type: none"> <li>8.EE.7 <ul style="list-style-type: none"> <li><a href="https://tasks.illustrativemathematics.org/content-standards/8/EE/C/7/tasks">https://tasks.illustrativemathematics.org/content-standards/8/EE/C/7/tasks</a></li> </ul> </li> </ul> </li> <li>Activities on the Team Drive: <ul style="list-style-type: none"> <li></li> </ul> </li> <li>NJSLA Released Items</li> <li>Khan Academy <ul style="list-style-type: none"> <li></li> </ul> </li> </ul>
<p><b>8.EE.C.7 Solve linear equations in one variable.</b> b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p>	<ul style="list-style-type: none"> <li>WALT solve linear equations in one variable with rational number coefficients, including equations that require expanding expressions using the distributive property and combining like terms</li> </ul>	

**Evidence of Learning**

**Assessment**

<p><b>Formative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Observation</li> <li>● Homework</li> <li>● Class participation</li> <li>● Whiteboards/communications</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<p><b>Benchmark Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<p><b>Summative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Chapter/Unit Test</li> <li>● Quizzes</li> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<p><b>Alternative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Authentic Performance Tasks</li> <li>● Unit Projects</li> </ul>
--	---	--	---

**Modifications & Reflections**

**Suggested Options for Differentiation**

*English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

*Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration

- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

### **Unit 3: Inequalities**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 15 days**

**Unit Essential Questions:**

- How do we solve real-world problems by constructing simple inequalities using rational numbers?
- How do we use variables to represent unknown quantities in mathematical problems to construct and solve simple inequalities?
- How do we describe the solution of an inequality using a graph and inequality statement and interpret its meaning in the context of the problem?

**Unit Enduring Understandings:**

*Students will understand that...*

- construct simple inequalities to solve problems by reasoning about the quantities.
- solve simple equations of particular forms fluently, graph the solution set of inequalities, and interpret solutions in the context of the problem.

**Primary Interdisciplinary Connections:**

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

**21st Century Career Ready Practices:**

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.
- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural global competence.
- **9.1.8.E.6** Compare the value of goods or services from different sellers when purchasing large quantities and small quantities.
- **9.1.8.B.8** Develop a system for keeping and using financial records.
- **9.1.8.D.4** Distinguish between income and investment growth.
- **9.1.8.B.2** Construct a simple personal savings and spending plan based on various sources of income.

**Standards for Mathematical Practices:**

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

- MP.1 - Make sense of problems and persevere in solving them.

- MP.2 - Reason abstractly and quantitatively.
- MP.3 - Construct viable arguments and critique the reasoning of others.
- MP.4 - Model with Mathematics.
- MP.5 - Use appropriate tools strategically.
- MP.6 - Attend to precision.
- MP.7 - Look for and make use of structure.
- MP.8 - Look for and express regularity in repeated reasoning.

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources
<p><b>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.</b></p> <p>b. Solve word problems leading to inequalities of the form <math>px + q &gt; r</math> or <math>px + q &lt; r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.</p>	<ul style="list-style-type: none"> <li>● WALT solve word problems by reasoning about their quantities and constructing simple inequalities of the form <math>px + q &gt; r</math> or <math>px + q &lt; r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers</li> <li>● WALT use variables to represent unknown quantities in mathematical problems to construct and solve simple inequalities</li> <li>● WALT describe the solution of an inequality using a graph and inequality statement and interpret its meaning in the context of the problem</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red <ul style="list-style-type: none"> <li>○ Sections 4.1, 4.2, 4.3, 4.4</li> </ul> </li> <li>● Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>○ Sections 11.1, 11.2, 11.3, 11.4</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 7.EE.4</li> <li><a href="https://tasks.illustrativemathematics.org/content-standards/7/EE/B/4/tasks">https://tasks.illustrativemathematics.org/content-standards/7/EE/B/4/tasks</a></li> </ul> </li> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy <ul style="list-style-type: none"> <li>○</li> </ul> </li> </ul>

## Evidence of Learning

### Assessment

#### Formative Assessments may include:

- Observation
- Homework
- Class participation
- Whiteboards/communications
- Do-Now
- Notebook
- Exit passes

#### Benchmark Assessments may include:

- Quarterly Portfolio
- NJSLA

#### Summative Assessments may include:

- Chapter/Unit Test
- Quizzes
- Presentations
- i-Ready quizzes
- NJSLA

#### Alternative Assessments may include:

- Authentic Performance Tasks
- Unit Projects

### Modifications & Reflections

#### Suggested Options for Differentiation

##### *English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

##### *Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity



*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

**Unit 4: Circles**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 15 days**

<p><b>Unit Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• How do we find circumference and area of a circle using the relationship between them?</li> </ul>	<p><b>Unit Enduring Understandings:</b> <i>Students will understand how to...</i></p> <ul style="list-style-type: none"> <li>• find area and circumference of circles.</li> </ul>
<p><b>Primary Interdisciplinary Connections:</b> Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:</p> <ul style="list-style-type: none"> <li>• <a href="#">NJSLSA.R4</a></li> <li>• <a href="#">NJSLSA.R7</a></li> <li>• <a href="#">NJSLSA.R8</a></li> <li>• <a href="#">8.1.8.D.4</a></li> <li>• <a href="#">8.1.8.E.1</a></li> </ul>	<p><b>21st Century Career Ready Practices:</b> Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:</p> <ul style="list-style-type: none"> <li>• <a href="#">CRP2</a> - Apply appropriate academic and technical skills.</li> <li>• <a href="#">CRP4</a> - Communicate clearly and effectively and with reason.</li> <li>• <a href="#">CRP8</a> - Utilize critical thinking to make sense of problems and persevere in solving them.</li> <li>• <a href="#">CRP11</a> - Use technology to enhance productivity.</li> <li>• <a href="#">CRP12</a> - Work productively in teams while using cultural global competence.</li> <li>• <b>9.2.8.B.2</b> Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.</li> </ul>
<p><b>Standards for Mathematical Practices:</b> The following <a href="#">Standards for Mathematical Practice</a> will be covered throughout the unit:</p> <ul style="list-style-type: none"> <li>• MP.1 - Make sense of problems and persevere in solving them.</li> <li>• MP.2 - Reason abstractly and quantitatively.</li> <li>• MP.3 - Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 - Model with Mathematics.</li> <li>• MP.5 - Use appropriate tools strategically.</li> <li>• MP.6 - Attend to precision.</li> <li>• MP.7 - Look for and make use of structure.</li> <li>• MP.8 - Look for and express regularity in repeated reasoning.</li> </ul>	

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources

<p><b>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.</b></p>	<ul style="list-style-type: none"> <li>● WALT solve problems using the formula for circumference of a circle and for the area of a circle</li> <li>● WALT informally derive the relationship between the circumference and area of a circle</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red <ul style="list-style-type: none"> <li>○ Sections 8.1, 8.3</li> </ul> </li> <li>● Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>○ Sections 13.1, 13.3</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 7.G.4 <ul style="list-style-type: none"> <li><a href="https://tasks.illustrativemathematics.org/content-standards/7/G/B/4/tasks">https://tasks.illustrativemathematics.org/content-standards/7/G/B/4/tasks</a></li> </ul> </li> </ul> </li> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy</li> <li>○</li> </ul>
--	--	---

Evidence of Learning			
Assessment			
<p><b>Formative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Observation</li> <li>● Homework</li> <li>● Class participation</li> <li>● Whiteboards/communications</li> </ul>	<p><b>Benchmark Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<p><b>Summative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Chapter/Unit Test</li> <li>● Quizzes</li> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<p><b>Alternative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Authentic Performance Tasks</li> <li>● Unit Projects</li> </ul>

- Do-Now
- Notebook
- Exit passes

### Modifications & Reflections

#### **Suggested Options for Differentiation**

##### *English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

##### *Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

##### *Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

##### *504*

- Extension activities
- Opportunities for Critical Thinking

- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

**Unit 5: Composite Figures**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 15 days**

**Unit Essential Questions:**

- How do we solve real-world problems involving volume of cones, cylinders and spheres?

**Unit Enduring Understandings:**

*Students will understand how to/that...*

- solve real-world and mathematical problems involving volume and surface area of three-dimensional objects.
- calculate the volume of a cone, cylinder, or sphere

**Primary Interdisciplinary Connections:**

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

**21st Century Career Ready Practices:**

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.
- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural global competence.
- **9.2.8.B.2** Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.

**Standards for Mathematical Practices:**

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

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

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources

<p><b>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.</b></p>	<ul style="list-style-type: none"> <li>● WALT solve real-world and mathematical problems involving volume and surface area of three-dimensional objects composed of cubes and right prisms</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red <ul style="list-style-type: none"> <li>○ Sections 8.2, 8.4</li> </ul> </li> <li>● Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>○ Sections 13.2, 13.4</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 7.G.6 <a href="https://tasks.illustrativemathematics.org/content-standards/7/G/B/6/tasks">https://tasks.illustrativemathematics.org/content-standards/7/G/B/6/tasks</a></li> <li>○ 8.G.9 <a href="https://tasks.illustrativemathematics.org/content-standards/8/G/C/9/tasks">https://tasks.illustrativemathematics.org/content-standards/8/G/C/9/tasks</a></li> </ul> </li> </ul>
<p><b>8.G.C.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</b></p>	<ul style="list-style-type: none"> <li>● WALT apply the formulas for volume of a cone, cylinder, or sphere in a real-world context</li> <li>● WALT calculate the volume of a cone, cylinder, or sphere</li> <li>● WALT find a missing dimension of a cone, cylinder or sphere given its volume</li> </ul>	<ul style="list-style-type: none"> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy <ul style="list-style-type: none"> <li>○</li> </ul> </li> </ul>

<b>Evidence of Learning</b>			
<b>Assessment</b>			
Formative Assessments may	Benchmark Assessments may	Summative Assessments may	Alternative Assessments may

<p><b>include:</b></p> <ul style="list-style-type: none"> <li>● Observation</li> <li>● Homework</li> <li>● Class participation</li> <li>● Whiteboards/communications</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<p><b>include:</b></p> <ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<p><b>include:</b></p> <ul style="list-style-type: none"> <li>● Chapter/Unit Test</li> <li>● Quizzes</li> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<p><b>include:</b></p> <ul style="list-style-type: none"> <li>● Authentic Performance Tasks</li> <li>● Unit Projects</li> </ul>
--	---	--	---

**Modifications & Reflections**

**Suggested Options for Differentiation**

*English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

*Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities



- Student Driven Activities
- Group Projects
- Tiered Activities

504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

## Unit 6: Surface Area and Volume

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 20 days**

### Unit Essential Questions:

- How can we describe the two-dimensional figures that result from slicing three-dimensional figures?
- How can we solve real-world and mathematical problems involving area, volume and surface area of two and three-

### Unit Enduring Understandings:

*Students will understand that...*

- describe the two-dimensional figures that result from slicing three-dimensional figures and draw (with technology, with a ruler and protractor, as well as freehand) geometric shapes

<p>dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms?</p>	<p>with given conditions.</p> <ul style="list-style-type: none"> <li>● solve real-world and mathematical problems involving volume and surface area of three-dimensional objects.</li> </ul>
<p><b>Primary Interdisciplinary Connections:</b>          Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:</p> <ul style="list-style-type: none"> <li>● <a href="#">NJSLSA.R4</a></li> <li>● <a href="#">NJSLSA.R7</a></li> <li>● <a href="#">NJSLSA.R8</a></li> <li>● <a href="#">8.1.8.D.4</a></li> <li>● <a href="#">8.1.8.E.1</a></li> </ul>	<p><b>21st Century Career Ready Practices:</b>          Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:</p> <ul style="list-style-type: none"> <li>● <a href="#">CRP2</a> - Apply appropriate academic and technical skills.</li> <li>● <a href="#">CRP4</a> - Communicate clearly and effectively and with reason.</li> <li>● <a href="#">CRP8</a> - Utilize critical thinking to make sense of problems and persevere in solving them.</li> <li>● <a href="#">CRP11</a> - Use technology to enhance productivity.</li> <li>● <a href="#">CRP12</a> - Work productively in teams while using cultural global competence.</li> <li>● <b>9.2.8.B.2</b> Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.</li> </ul>
<p><b>Standards for Mathematical Practices:</b>          The following <a href="#">Standards for Mathematical Practice</a> will be covered throughout the unit:</p> <ul style="list-style-type: none"> <li>● MP.1 - Make sense of problems and persevere in solving them.</li> <li>● MP.2 - Reason abstractly and quantitatively.</li> <li>● MP.3 - Construct viable arguments and critique the reasoning of others.</li> <li>● MP.4 - Model with Mathematics.</li> <li>● MP.5 - Use appropriate tools strategically.</li> <li>● MP.6 - Attend to precision.</li> <li>● MP.7 - Look for and make use of structure.</li> <li>● MP.8 - Look for and express regularity in repeated reasoning.</li> </ul>	

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources

<p><b>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.</b></p>	<ul style="list-style-type: none"> <li>● WALT describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red <ul style="list-style-type: none"> <li>○ Sections 9.1, 9.2, 9.3, 9.4, 9.5</li> </ul> </li> <li>● Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>○ Sections 14.1, 14.2, 14.3, 14.4, 14.5</li> </ul> </li> <li>● Big Ideas Math - Blue <ul style="list-style-type: none"> <li>○ Sections 8.1, 8.2, 8.3, 8.4</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 7.G.3 <a href="https://tasks.illustrativemathematics.org/content-standards/7/G/A/3/tasks">https://tasks.illustrativemathematics.org/content-standards/7/G/A/3/tasks</a></li> <li>○ 7.G.6 <a href="https://tasks.illustrativemathematics.org/content-standards/7/G/B/6/tasks">https://tasks.illustrativemathematics.org/content-standards/7/G/B/6/tasks</a></li> </ul> </li> </ul>
<p><b>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.</b></p>	<ul style="list-style-type: none"> <li>● WALT know the formulas for area and circumference of a circle</li> <li>● WALT solve problems using the formula for circumference of a circle and for the area of a circle</li> <li>● WALT informally derive the relationship between the circumference and area of a circle</li> </ul>	<ul style="list-style-type: none"> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy</li> </ul>
<p><b>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,</b></p>	<ul style="list-style-type: none"> <li>● WALT solve real-world and mathematical problems involving area of two-dimensional objects composed of triangles, quadrilaterals, and polygons</li> </ul>	

polygons, cubes, and right prisms.		
------------------------------------	--	--

Evidence of Learning			
Assessment			
<b>Formative Assessments may include:</b> <ul style="list-style-type: none"> <li>● Observation</li> <li>● Homework</li> <li>● Class participation</li> <li>● Whiteboards/communications</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<b>Benchmark Assessments may include:</b> <ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<b>Summative Assessments may include:</b> <ul style="list-style-type: none"> <li>● Chapter/Unit Test</li> <li>● Quizzes</li> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<b>Alternative Assessments may include:</b> <ul style="list-style-type: none"> <li>● Authentic Performance Tasks</li> <li>● Unit Projects</li> </ul>
Modifications & Reflections			
<b>Suggested Options for Differentiation</b> <i>English Language Learners</i> <ul style="list-style-type: none"> <li>● Peer tutoring</li> <li>● Manipulatives</li> <li>● Use of Home Language</li> <li>● Limiting Concepts or Vocabulary</li> <li>● Providing Visuals</li> </ul> <i>Students at Risk of Failure</i>			

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

## Unit 7: Ratios and Proportions with Constructions and Scale Drawings

Course: 7th Grade Pinnacle/Advanced Math

Timeframe: 20 days

### Unit Essential Questions:

- How do we use the proportional relationship between quantities to explore graphs, real-world use of percents, and scale drawings?
- How do we construct unique triangles using three side lengths or angle measures?
- How do we use facts about supplementary, complementary, vertical, and adjacent angles to find an unknown angle in a figure?

### Unit Enduring Understandings:

*Students will understand how to/that...*

- Determine proportionality between two quantities and use that to solve real-world problems
- proportional relationships can be used to solve problems in the context of graphs, tables, lines, scale drawings, and percents
- Unique triangles can be constructed using three side and angle measures

### Primary Interdisciplinary Connections:

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

### 21st Century Career Ready Practices:

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.
- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural global competence.
- **9.2.8.B.2** Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.

### Standards for Mathematical Practices:

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

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

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources
<b>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.</b>	<ul style="list-style-type: none"> <li>● WALT compute unit rates involving ratios of fractions (complex fractions) in quantities measured in like or different units</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red <ul style="list-style-type: none"> <li>○ Sections 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 7.5</li> </ul> </li> <li>● Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>○ Sections 3.4, 12.5</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 7.RP.1 <a href="https://tasks.illustrativemathematics.org/content-standards/7/RP/A/1/tasks">https://tasks.illustrativemathematics.org/content-standards/7/RP/A/1/tasks</a></li> <li>○ 7.RP.2 <a href="https://tasks.illustrativemathematics.org/content-standards/7/RP/A/2/tasks">https://tasks.illustrativemathematics.org/content-standards/7/RP/A/2/tasks</a></li> <li>○ 7.RP.3 <a href="https://tasks.illustrativemathematics.org/content-standards/7/RP/A/3/tasks">https://tasks.illustrativemathematics.org/content-standards/7/RP/A/3/tasks</a></li> <li>○ 7.G.1 <a href="https://tasks.illustrativemathematics.org/content-standards/7/G/A/1/tasks">https://tasks.illustrativemathematics.org/content-standards/7/G/A/1/tasks</a></li> <li>○ 7.G.2 <a href="https://tasks.illustrativemathematics.org/content-standards/7/G/A/2/tasks">https://tasks.illustrativemathematics.org/content-standards/7/G/A/2/tasks</a></li> </ul> </li> </ul>
<b>7.RP.A.2 Recognize and represent proportional relationships between quantities.</b> a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent	<ul style="list-style-type: none"> <li>● WALT decide whether two quantities show a proportional relationship by testing for equivalent ratios in a table</li> <li>● WALT decide whether two quantities show a proportional relationship by graphing on a coordinate plane and observing whether the graph is a straight line through the origin</li> <li>● WALT identify the constant of</li> </ul>	

<p>ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.  b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</p>	<p>proportionality (unit rate) in equations and verbal descriptions of proportional relationships</p> <ul style="list-style-type: none"> <li>● WALT identify the constant of proportionality (unit rate) in tables, graphs, and diagrams</li> </ul>	<p><a href="#">ntent-standards/7/G/A/2/tasks</a></p> <ul style="list-style-type: none"> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy <ul style="list-style-type: none"> <li>○</li> </ul> </li> </ul>
<p><b>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems</b></p>	<ul style="list-style-type: none"> <li>● WALT solve multistep ratio and percent problems using proportional relationships</li> <li>● WALT solve multistep ratio and percent problems using proportional relationships involving simple interest and sales tax</li> <li>● WALT solve multistep ratio and percent problems using proportional relationships involving markups and markdowns</li> <li>● WALT solve multistep ratio and percent problems using proportional relationships involving gratuities, commissions, and fees</li> <li>● WALT solve multistep ratio and percent problems using proportional relationships involving percent increase, percent</li> </ul>	



	decrease, and percent error	
<b>7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale</b>	<ul style="list-style-type: none"> <li>● WALT solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale</li> </ul>	
<b>7.G.A.2 Draw (with technology, with ruler and protractor, as well as freehand) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</b>	<ul style="list-style-type: none"> <li>● WALT draw geometric shapes with given conditions with technology, with rulers and protractors, as well as freehand</li> <li>● WALT construct triangles from three measures of angles or sides using technology and notice when the conditions determine a unique triangle, more than one triangle, or no triangle</li> <li>● WALT construct triangles from three measures of angles or sides using rulers and protractors and notice when the conditions determine a unique triangle, more than one triangle, or no triangle</li> </ul>	

<p><b>7.G.B.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.</b></p>	<ul style="list-style-type: none"> <li>● WALT supplementary angles are two angles whose sum is 180 degrees and complementary angles are two angles whose sum is 90 degrees</li> <li>● WALT vertical angles, the pairs of opposite angles made by two intersecting lines, have equal measures</li> <li>● WALT adjacent angles are two angles that share a vertex and a side</li> <li>● WALT use facts about supplementary, complementary, vertical and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure</li> </ul>	
---	---	--

Evidence of Learning			
Assessment			
<p><b>Formative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Observation</li> <li>● Homework</li> <li>● Class participation</li> <li>● Whiteboards/communications</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<p><b>Benchmark Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<p><b>Summative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Chapter/Unit Test</li> <li>● Quizzes</li> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<p><b>Alternative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Authentic Performance Tasks</li> <li>● Unit Projects</li> </ul>

## Modifications & Reflections

### **Suggested Options for Differentiation**

#### *English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

#### *Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

#### *Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

#### *504*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities

- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

**Unit 8: Percents**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 10 days**

**Unit Essential Questions:**

- How do we solve multistep ratio and percent problems using proportional relationships in different contexts (sales tax, markups, markdowns, simple interest, gratuities, etc.)?

**Unit Enduring Understandings:**

*Students will understand that...*

- work with proportions as they use proportional relationships to solve multi-step percent and ratio problems.

**Primary Interdisciplinary Connections:**

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

**21st Century Career Ready Practices:**

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.
- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural

	<p>global competence.</p> <ul style="list-style-type: none"> <li>● <b>9.1.8.E.5</b> Analyze interest rates and fees associated with financial services, credit cards, debit cards, and gift cards.</li> <li>● <b>9.1.8.B.2</b> - Construct a simple personal savings and spending plan based on various sources of income.</li> <li>● <b>9.1.8.B.2</b> Construct a simple personal savings and spending plan based on various sources of income.</li> <li>● <b>9.1.8.C.5</b> Calculate the cost of borrowing various amounts of money using different types of credit (e.g., credit cards, installment loans, mortgages).</li> <li>● <b>9.1.8.D.3</b> Differentiate among various investment options</li> </ul>
--	---

**Standards for Mathematical Practices:**

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

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

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources
<ul style="list-style-type: none"> <li>● <b>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems.</b></li> </ul>	<ul style="list-style-type: none"> <li>● WALT solve multistep ratio and percent problems using proportional relationships</li> <li>● WALT solve multistep ratio and percent problems using proportional relationships involving simple interest and</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red <ul style="list-style-type: none"> <li>○ Sections 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 7.EE.3</li> </ul> <a href="https://tasks.illustrativemathematics.org/content-standards/7/EE/B/3/tasks">https://tasks.illustrativemathematics.org/content-standards/7/EE/B/3/tasks</a> </li> </ul>

<p><i>Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</i></p>	<ul style="list-style-type: none"> <li>• sales tax</li> <li>• WALT solve multistep ratio and percent problems using proportional relationships involving markups and markdowns</li> <li>• WALT solve multistep ratio and percent problems using proportional relationships involving gratuities, commissions, and fees</li> <li>• WALT solve multistep ratio and percent problems using proportional relationships involving percent increase, percent decrease, and percent error</li> </ul>	<ul style="list-style-type: none"> <li>• Activities on the Team Drive: <ul style="list-style-type: none"> <li>○ Menu project</li> </ul> </li> <li>• NJSLA Released Items</li> <li>• Khan Academy</li> </ul>
<p><b>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</b></p>	<ul style="list-style-type: none"> <li>• WALT convert between forms (fractions, decimals, and whole numbers) as appropriate to solve multi-step real-life and mathematical problems with positive and negative rational numbers in any form</li> <li>• WALT apply the properties of operations to calculate with numbers in any form when solving multi-step real-life and mathematical problems, and assess the reasonableness of answers using mental computation and estimation strategies</li> </ul>	

estimation strategies.		
------------------------	--	--

Evidence of Learning			
Assessment			
<b>Formative Assessments may include:</b> <ul style="list-style-type: none"> <li>● Observation</li> <li>● Homework</li> <li>● Class participation</li> <li>● Whiteboards/communications</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<b>Benchmark Assessments may include:</b> <ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<b>Summative Assessments may include:</b> <ul style="list-style-type: none"> <li>● Chapter/Unit Test</li> <li>● Quizzes</li> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<b>Alternative Assessments may include:</b> <ul style="list-style-type: none"> <li>● Authentic Performance Tasks</li> <li>● Unit Projects</li> </ul>
Modifications & Reflections			
<b>Suggested Options for Differentiation</b> <i>English Language Learners</i> <ul style="list-style-type: none"> <li>● Peer tutoring</li> <li>● Manipulatives</li> <li>● Use of Home Language</li> <li>● Limiting Concepts or Vocabulary</li> <li>● Providing Visuals</li> </ul> <i>Students at Risk of Failure</i> <ul style="list-style-type: none"> <li>● Extended Time</li> <li>● Flexible Grouping</li> <li>● Small Group Instruction</li> <li>● Peer Buddies</li> <li>● Graphic Organizers</li> </ul>			

- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*504*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities



**Course: 7th Grade Non-Track**

**Timeframe: 20 days**

**Unit Essential Questions:**

- How do we use random samples of populations to make predictions?
- How do we compare two populations using measures of center and variability?
- How can we measure if an event is likely or not likely to occur?
- How can we develop statistical models to help to determine probabilities of events and reason about discrepancies?

**Unit Enduring Understandings:**

*Students will understand to/that...*

- the probability of a chance event is a number between 0 and 1, with larger numbers indicating greater likelihood and probabilities near 0 indicating an unlikely event.
- collect data to approximate the probability of a chance event.
- develop uniform and non-uniform probability models, use them to find probabilities, and compare probabilities from a model to observed frequencies.
- represent sample spaces and find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
- that statistics can be used to gain information about a population by examining a sample of the population, and understand the role of random sampling in producing valid inferences.
- use data from a random sample to draw inferences about a population and generate multiple samples to gauge the variation in predictions.
- use measures of center and measures of variability for data from random samples to make informal inferences and compare two populations.

**Primary Interdisciplinary Connections:**

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

**21st Century Career Ready Practices:**

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.

- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural global competence.
- **9.1.8.E.6** Compare the value of goods or services from different sellers when purchasing large quantities and small quantities.
- **9.1.8.D.2** Differentiate among various savings tools and how to use them most effectively.
- **9.2.8.B.2** Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.

**Standards for Mathematical Practices:**

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

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

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources
<b>7.SP.A.1</b>	<ul style="list-style-type: none"> <li>● WALT statistics is used to gain information about a population by examining a sample of the population</li> <li>● WALT generalizations about a population from a sample are valid only if the sample is</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red               <ul style="list-style-type: none"> <li>○ Sections 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7</li> </ul> </li> <li>● Big Ideas Math - Advanced 2               <ul style="list-style-type: none"> <li>○ 9.1, 9.2, 9.3, 9.4, 15.1, 15.2, 15.3, 15.4, 15.6, 15.7</li> </ul> </li> <li>● i-Ready</li> </ul>

	<ul style="list-style-type: none"> <li>representative of that population</li> <li>WALT random sampling tends to produce representative samples of the population and support valid inferences</li> </ul>	<ul style="list-style-type: none"> <li>Illustrative Mathematics <ul style="list-style-type: none"> <li>7.SP.1 <a href="https://tasks.illustrativemathematics.org/content-standards/7/SP/A/1/tasks">https://tasks.illustrativemathematics.org/content-standards/7/SP/A/1/tasks</a></li> <li>7.SP.2 <a href="https://tasks.illustrativemathematics.org/content-standards/7/SP/A/2/tasks">https://tasks.illustrativemathematics.org/content-standards/7/SP/A/2/tasks</a></li> <li>7.SP.3 <a href="https://tasks.illustrativemathematics.org/content-standards/7/SP/B/3/tasks">https://tasks.illustrativemathematics.org/content-standards/7/SP/B/3/tasks</a></li> <li>7.SP.4 <a href="https://tasks.illustrativemathematics.org/content-standards/7/SP/B/4/tasks">https://tasks.illustrativemathematics.org/content-standards/7/SP/B/4/tasks</a></li> <li>7.SP.6 <a href="https://tasks.illustrativemathematics.org/content-standards/7/SP/C/6/tasks">https://tasks.illustrativemathematics.org/content-standards/7/SP/C/6/tasks</a></li> <li>7.SP.7 <a href="https://tasks.illustrativemathematics.org/content-standards/7/SP/C/7/tasks">https://tasks.illustrativemathematics.org/content-standards/7/SP/C/7/tasks</a></li> <li>7.SP.8 <a href="https://tasks.illustrativemathematics.org/content-standards/7/SP/C/8/tasks">https://tasks.illustrativemathematics.org/content-standards/7/SP/C/8/tasks</a></li> <li>8.SP.1 <a href="https://tasks.illustrativemathematics.org/content-standards/8/SP/A/1/tasks">https://tasks.illustrativemathematics.org/content-standards/8/SP/A/1/tasks</a></li> </ul> </li> <li>Activities on the Team Drive: <ul style="list-style-type: none"> <li></li> </ul> </li> </ul>
<b>7.SP.A.2</b>	<ul style="list-style-type: none"> <li>WALT use data from a random sample to make inferences about a population with an unknown characteristic</li> <li>WALT generate multiple samples, or simulated samples, of the same size to gauge variation in estimates or predictions</li> </ul>	
<b>7.SP.3</b>	<ul style="list-style-type: none"> <li>WALT informally gauge the extent of visual overlap between two numerical distributions with similar variabilities, measure the difference between the centers and express the difference as a multiple of the measure of variability</li> </ul>	
<b>7.SP.4</b>	<ul style="list-style-type: none"> <li>WALT draw informal comparative inferences about two populations by using the measures of center (mean and median) and measures of variability (interquartile range and mean absolute deviation) from random samples**</li> </ul>	
<b>7.SP.5</b>	<ul style="list-style-type: none"> <li>WALT the probability of a chance event is a number between 0 and 1 that expresses</li> </ul>	

	<p>the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around <math>\frac{1}{2}</math> indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event</p>	<ul style="list-style-type: none"> <li>● NJSLA Released Items</li> <li>● Khan Academy</li> <li>○</li> </ul>
<p><b>7.SP.6</b></p>	<ul style="list-style-type: none"> <li>● WALT approximate the probability of a chance event by collecting data on the chance process that it produces observing long run relative frequency</li> <li>● WALT predict the approximate relative frequency</li> </ul>	
<p><b>7.SP.7</b></p>	<ul style="list-style-type: none"> <li>● WALT develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events</li> <li>● WALT develop a probability model, which may not be uniform, by observing frequencies in data generated from a chance process</li> <li>● WALT compare probabilities from a model to observed frequencies and explain possible sources of the discrepancy if the agreement is not good</li> </ul>	

<p><b>7.SP.8</b></p>	<ul style="list-style-type: none"> <li>● WALT the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs</li> <li>● WALT represent the sample space for a compound event using various methods such as, organized lists, tables, and tree diagrams</li> <li>● WALT identify the outcomes in the sample space which compose an event that has been described in everyday language</li> <li>● WALT design and use a simulation to generate frequencies for compound events</li> </ul>	
<p><b>8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.</b></p>	<ul style="list-style-type: none"> <li>● WALT construct scatter plots</li> <li>● WALT interpret scatter plots to investigate patterns of association between two quantities</li> <li>● WALT describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association</li> </ul>	

**Evidence of Learning**

## Assessment

### Formative Assessments may include:

- Observation
- Homework
- Class participation
- Whiteboards/communications
- Do-Now
- Notebook
- Exit passes

### Benchmark Assessments may include:

- Quarterly Portfolio
- Middle of Year i-Ready Diagnostic
- NJSLA

### Summative Assessments may include:

- Chapter/Unit Test
- Quizzes
- Presentations
- i-Ready quizzes
- NJSLA

### Alternative Assessments may include:

- Authentic Performance Tasks
- Unit Projects

## Modifications & Reflections

### Suggested Options for Differentiation

#### *English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

#### *Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

#### *Special Education*

- Extension activities
- Opportunities for Critical Thinking

- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

**Unit 10: Writing and Graphing Linear Equations**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 25 days**

**Unit Essential Questions:**

- How can linear equations be used to represent real-life

**Unit Enduring Understandings:**

*Students will understand that...*

<p>situations?</p> <ul style="list-style-type: none"> <li>• What does a proportional relationship indicate happens in a table, graph and equation?</li> </ul>	<ul style="list-style-type: none"> <li>• Proportional relationships are represented in different ways in graphs, lines and tables</li> <li>• Equation solving is working backwards and undoing operations.</li> <li>• Like terms must be combined.</li> </ul>
<p><b>Primary Interdisciplinary Connections:</b>  Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:</p> <ul style="list-style-type: none"> <li>• <a href="#">NJSLSA.R4</a></li> <li>• <a href="#">NJSLSA.R7</a></li> <li>• <a href="#">NJSLSA.R8</a></li> <li>• <a href="#">8.1.8.D.4</a></li> <li>• <a href="#">8.1.8.E.1</a></li> </ul>	<p><b>21st Century Career Ready Practices:</b>  Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:</p> <ul style="list-style-type: none"> <li>• <a href="#">CRP2</a> - Apply appropriate academic and technical skills.</li> <li>• <a href="#">CRP4</a> - Communicate clearly and effectively and with reason.</li> <li>• <a href="#">CRP8</a> - Utilize critical thinking to make sense of problems and persevere in solving them.</li> <li>• <a href="#">CRP11</a> - Use technology to enhance productivity.</li> <li>• <a href="#">CRP12</a> - Work productively in teams while using cultural global competence.</li> <li>• <b>9.1.8.B.2</b> - Construct a simple personal savings and spending plan based on various sources of income.</li> <li>• <b>9.1.8.B.2</b> Construct a simple personal savings and spending plan based on various sources of income.</li> </ul>
<p><b>Standards for Mathematical Practices:</b>  The following <a href="#">Standards for Mathematical Practice</a> will be covered throughout the unit:</p> <ul style="list-style-type: none"> <li>• MP.1 - Make sense of problems and persevere in solving them.</li> <li>• MP.2 - Reason abstractly and quantitatively.</li> <li>• MP.3 - Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 - Model with Mathematics.</li> <li>• MP.5 - Use appropriate tools strategically.</li> <li>• MP.6 - Attend to precision.</li> <li>• MP.7 - Look for and make use of structure.</li> <li>• MP.8 - Look for and express regularity in repeated reasoning.</li> </ul>	

**Learning Targets**



Content Standard	Student Learning Objectives	Activities & Resources
<p><b>8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.</b></p>	<ul style="list-style-type: none"> <li>● WALT graph proportional relationships represented in different ways (i.e. ordered pairs, table, equation, phrases, etc.)</li> <li>● WALT recognize that for proportional relationships, the unit rate is the slope of the graph</li> <li>● WALT compare the unit rates of two proportional relationships represented in different ways</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Red <ul style="list-style-type: none"> <li>○ Sections 5.5</li> </ul> </li> <li>● Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>○ Sections 4.1, 4.2, 4.3, 4.4, 4.6</li> </ul> </li> <li>● Big Ideas Math - Blue <ul style="list-style-type: none"> <li>○ Sections 4.1, 4.2, 4.3, 4.4, 4.6</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 8.EE.5 <a href="https://tasks.illustrativemathematics.org/content-standards/8/EE/B/5/tasks">https://tasks.illustrativemathematics.org/content-standards/8/EE/B/5/tasks</a></li> <li>○ 8.EE.7 <a href="https://tasks.illustrativemathematics.org/content-standards/8/EE/C/7/tasks">https://tasks.illustrativemathematics.org/content-standards/8/EE/C/7/tasks</a></li> </ul> </li> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy <ul style="list-style-type: none"> <li>○</li> </ul> </li> </ul>
<p><b>8.EE.C.7 Solve linear equations in one variable.</b>  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 <math>x = a</math>, <math>a = a</math>, or <math>a = b</math> results (where <math>a</math> and <math>b</math> are different numbers).  b. Solve linear equations with rational number coefficients, including equations whose</p>	<ul style="list-style-type: none"> <li>● WALT a linear equation in one variable can result in one solution, infinitely many solutions, or no solution</li> <li>● WALT show which of these outcomes is the case by transforming the original equation into the form <math>x = a</math>, <math>a = a</math>, or <math>a = b</math></li> <li>● WALT solve linear equations in one variable with rational number coefficients, including equations that require expanding expressions using the distributive property and combining like terms</li> </ul>	<ul style="list-style-type: none"> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy <ul style="list-style-type: none"> <li>○</li> </ul> </li> </ul>

<p>solutions require expanding expressions using the distributive property and collecting like terms.</p>		
---	--	--

Evidence of Learning			
Assessment			
<p><b>Formative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Observation</li> <li>● Homework</li> <li>● Class participation</li> <li>● Whiteboards/communicators</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<p><b>Benchmark Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Quarterly Portfolio</li> <li>● NJSLA</li> </ul>	<p><b>Summative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Chapter/Unit Test</li> <li>● Quizzes</li> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<p><b>Alternative Assessments may include:</b></p> <ul style="list-style-type: none"> <li>● Authentic Performance Tasks</li> <li>● Unit Projects</li> </ul>
Modifications & Reflections			
<p><b>Suggested Options for Differentiation</b></p> <p><i>English Language Learners</i></p> <ul style="list-style-type: none"> <li>● Peer tutoring</li> <li>● Manipulatives</li> <li>● Use of Home Language</li> <li>● Limiting Concepts or Vocabulary</li> <li>● Providing Visuals</li> </ul> <p><i>Students at Risk of Failure</i></p> <ul style="list-style-type: none"> <li>● Extended Time</li> </ul>			

- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*504*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

## Unit 11: Radical and Integer Exponents Rules

Course: 7th Grade Pinnacle/Advanced Math

Timeframe: 12 days

### Unit Essential Questions:

- How can we simplify expressions involving exponents?
- How do you add, subtract, multiply and divide very large and small numbers?
- How do you use square and cube roots to represent solutions to equations?

### Unit Enduring Understandings:

*Students will understand that...*

- There are several properties of exponents that can be used to simplify expressions.
- Square and cube roots can be used to represent solutions to equations

### Primary Interdisciplinary Connections:

Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:

- [NJSLSA.R4](#)
- [NJSLSA.R7](#)
- [NJSLSA.R8](#)
- [8.1.8.D.4](#)
- [8.1.8.E.1](#)

### 21st Century Career Ready Practices:

Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:

- [CRP2](#) - Apply appropriate academic and technical skills.
- [CRP4](#) - Communicate clearly and effectively and with reason.
- [CRP8](#) - Utilize critical thinking to make sense of problems and persevere in solving them.
- [CRP11](#) - Use technology to enhance productivity.
- [CRP12](#) - Work productively in teams while using cultural global competence.
- **9.1.8.D.3** Differentiate among various investment options
- **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).

### Standards for Mathematical Practices:

The following [Standards for Mathematical Practice](#) will be covered throughout the unit:

- MP.1 - Make sense of problems and persevere in solving them.
- MP.2 - Reason abstractly and quantitatively.
- MP.3 - Construct viable arguments and critique the reasoning of others.

- MP.4 - Model with Mathematics.
- MP.5 - Use appropriate tools strategically.
- MP.6 - Attend to precision.
- MP.7 - Look for and make use of structure.
- MP.8 - Look for and express regularity in repeated reasoning.

Learning Targets		
Content Standard	Student Learning Objectives	Activities & Resources
8.EE.A.1	<ul style="list-style-type: none"> <li>● WALT know the properties of integer exponents.</li> <li>● WALT determine whether two numerical expressions involving integer exponents are equivalent.</li> <li>● WALT generate equivalent expressions using the properties of exponents.</li> </ul>	<ul style="list-style-type: none"> <li>● Big Ideas Math - Blue <ul style="list-style-type: none"> <li>○ Sections 10.1, 10.2, 10.3, 10.4</li> </ul> </li> <li>● Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>○ Sections 10.1, 10.2, 10.3, 10.4</li> </ul> </li> <li>● i-Ready</li> <li>● Illustrative Mathematics <ul style="list-style-type: none"> <li>○ 8.EE.1</li> </ul> </li> </ul> <p><a href="https://tasks.illustrativemathematics.org/content-standards/8/EE/A/1/tasks">https://tasks.illustrativemathematics.org/content-standards/8/EE/A/1/tasks</a></p>
8.EE.A.2	<ul style="list-style-type: none"> <li>● WALT use square root and cube root symbols to represent solutions to equations in the form <math>x^2 = p</math> and <math>x^3 = p</math></li> <li>● WALT evaluate square roots of small perfect squares and cube roots of small perfect cubes</li> <li>● <math>\sqrt{2}</math> is an irrational number</li> </ul>	<ul style="list-style-type: none"> <li>● Activities on the Team Drive: <ul style="list-style-type: none"> <li>○</li> </ul> </li> <li>● NJSLA Released Items</li> <li>● Khan Academy</li> </ul>

## Evidence of Learning

### Assessment

#### Formative Assessments may include:

- Observation
- Homework
- Class participation
- Whiteboards/communications
- Do-Now
- Notebook
- Exit passes

#### Benchmark Assessments may include:

- Quarterly Portfolio
- End of Year i-Ready Diagnostic
- NJSLA

#### Summative Assessments may include:

- Chapter/Unit Test
- Quizzes
- Presentations
- i-Ready quizzes
- NJSLA

#### Alternative Assessments may include:

- Authentic Performance Tasks
- Unit Projects

### Modifications & Reflections

#### Suggested Options for Differentiation

##### *English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

##### *Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

**Unit 12: Scientific Notation**

**Course: 7th Grade Pinnacle/Advanced Math**

**Timeframe: 12 days**

<p><b>Unit Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• How can we use scientific notation to compare magnitudes of numbers?</li> </ul>	<p><b>Unit Enduring Understandings:</b> <i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• Scientific notation is used to make it easier to work with very large and very small numbers.</li> </ul>
<p><b>Primary Interdisciplinary Connections:</b> Infused within the unit are connections to the content standards for English Language Arts and Technology, specifically:</p> <ul style="list-style-type: none"> <li>• <a href="#">NJSLSA.R4</a></li> <li>• <a href="#">NJSLSA.R7</a></li> <li>• <a href="#">NJSLSA.R8</a></li> <li>• <a href="#">8.1.8.D.4</a></li> <li>• <a href="#">8.1.8.E.1</a></li> </ul>	<p><b>21st Century Career Ready Practices:</b> Through well-planned, student-based instruction models, students will develop the attributes that will prepare them for life as citizens and workers in the 21st century:</p> <ul style="list-style-type: none"> <li>• <a href="#">CRP2</a> - Apply appropriate academic and technical skills.</li> <li>• <a href="#">CRP4</a> - Communicate clearly and effectively and with reason.</li> <li>• <a href="#">CRP8</a> - Utilize critical thinking to make sense of problems and persevere in solving them.</li> <li>• <a href="#">CRP11</a> - Use technology to enhance productivity.</li> <li>• <a href="#">CRP12</a> - Work productively in teams while using cultural global competence.</li> <li>• <b>9.1.8.E.5</b> Analyze interest rates and fees associated with financial services, credit cards, debit cards, and gift cards.</li> <li>• <b>9.1.8.B.2</b> Construct a simple personal savings and spending plan based on various sources of income.</li> <li>• <b>9.1.8.D.3</b> Differentiate among various investment options.</li> </ul>
<p><b>Standards for Mathematical Practices:</b> The following <a href="#">Standards for Mathematical Practice</a> will be covered throughout the unit:</p> <ul style="list-style-type: none"> <li>• MP.1 - Make sense of problems and persevere in solving them.</li> <li>• MP.2 - Reason abstractly and quantitatively.</li> <li>• MP.3 - Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 - Model with Mathematics.</li> <li>• MP.5 - Use appropriate tools strategically.</li> <li>• MP.6 - Attend to precision.</li> <li>• MP.7 - Look for and make use of structure.</li> <li>• MP.8 - Look for and express regularity in repeated reasoning.</li> </ul>	

**Learning Targets**



Content Standard	Student Learning Objectives	Activities & Resources
8.EE.A.3	<ul style="list-style-type: none"> <li>WALT estimate a very large or very small number as a single digit times an integer power of ten.</li> <li>WALT determine how many times larger one quantity is compared to another when written as a single digit times an integer power of ten.</li> </ul>	<ul style="list-style-type: none"> <li>Big Ideas Math - Blue <ul style="list-style-type: none"> <li>Sections 10.5, 10.6, 10.7</li> </ul> </li> <li>Big Ideas Math - Advanced 2 <ul style="list-style-type: none"> <li>Sections 10.5, 10.6, 10.7</li> </ul> </li> <li>i-Ready</li> <li>Illustrative Mathematics <ul style="list-style-type: none"> <li>8.EE.3</li> </ul> </li> </ul>
8.EE.A.4	<ul style="list-style-type: none"> <li>WALT add, subtract, multiply and divide numbers expressed in scientific notation.</li> <li>WALT add, subtract, multiply and divide numbers where one is expressed in decimal notation and the other is expressed in scientific notation.</li> <li>WALT choose appropriate units to represent measurements of very large or very small quantities.</li> <li>WALT interpret scientific notation generated by technology as a number multiplied by a power of ten.</li> </ul>	<ul style="list-style-type: none"> <li> <a href="https://tasks.illustrativemathematics.org/content-standards/8/EE/A/3/tasks">https://tasks.illustrativemathematics.org/content-standards/8/EE/A/3/tasks</a> </li> <li>8.EE.4 <ul style="list-style-type: none"> <li> <a href="https://tasks.illustrativemathematics.org/content-standards/8/EE/A/4/tasks">https://tasks.illustrativemathematics.org/content-standards/8/EE/A/4/tasks</a> </li> </ul> </li> <li>Activities on the Team Drive: <ul style="list-style-type: none"> <li></li> </ul> </li> <li>NJSLA Released Items</li> <li>Khan Academy <ul style="list-style-type: none"> <li></li> </ul> </li> </ul>

### Evidence of Learning

### Assessment

Formative Assessments may include:	Benchmark Assessments may include:	Summative Assessments may include:	Alternative Assessments may include:
<ul style="list-style-type: none"> <li>Observation</li> <li>Homework</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly Portfolio</li> <li>End of Year i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>Chapter/Unit Test</li> <li>Quizzes</li> </ul>	<ul style="list-style-type: none"> <li>Authentic Performance Tasks</li> </ul>

<ul style="list-style-type: none"> <li>● Class participation</li> <li>● Whiteboards/communicators</li> <li>● Do-Now</li> <li>● Notebook</li> <li>● Exit passes</li> </ul>	<p>Diagnostic</p> <ul style="list-style-type: none"> <li>● NJSLA</li> </ul>	<ul style="list-style-type: none"> <li>● Presentations</li> <li>● i-Ready quizzes</li> <li>● NJSLA</li> </ul>	<ul style="list-style-type: none"> <li>● Unit Projects</li> </ul>
---	---	---	---

**Modifications & Reflections**

**Suggested Options for Differentiation**

*English Language Learners*

- Peer tutoring
- Manipulatives
- Use of Home Language
- Limiting Concepts or Vocabulary
- Providing Visuals

*Students at Risk of Failure*

- Extended Time
- Flexible Grouping
- Small Group Instruction
- Peer Buddies
- Graphic Organizers
- Chunking Information
- Scaffolded Questioning
- Tiered Activities
- Centers in Academic Activity

*Special Education*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

504

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities

*Gifted & Talented*

- Extension activities
- Opportunities for Critical Thinking
- Problem Solving/Design Challenges
- Technology Integration
- Student Choice Activities
- Student Driven Activities
- Group Projects
- Tiered Activities