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UNIT 1 FOCUS	
Using Integers and Rational Numbers in Various Operations	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
• 7.NS.A.1 - Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. • 7.NS.A.1a - Describe situations in which opposite quantities combine to make 0. • 7.NS.A.1b - Understand $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. • 7.NS.A.1c - Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. • 7.NS.A.1d - Apply properties of operations as strategies to add and subtract rational numbers. • 7.NS.A.2a - Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the	• 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.

distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. ● 7.NS.A.2b - Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If *p* and *q* are integers, then -(*p*/*q*) = (-*p*)/*q* = *p*/(-*q*). Interpret quotients of rational numbers by describing real-world contexts. ● 7.NS.A.2c - Apply properties of operations as strategies to multiply and divide rational numbers. ● 7.NS.A.2d - Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. ● 7.NS.A.3 - Solve real-world and mathematical problems involving the four operations with rational numbers. ● 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.	
INTERDISCIPLINARY CONNECTIONS	**UNIT 1 GENERAL ASSESSMENTS**
Interdisciplinary connections may include but are not limited to: STEM Project “How Cold is Too Cold” ● Next Generation Science Standards: MS-ESS3-2, MS-ETS1-2, MS-ETS1-3	● Lesson Quizzes ● Topic Readiness Assessment ● Mid-Topic Assessment ● Topic Assessment ● Topic Performance Task

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21st Century Standards
9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.
9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.

21st Century Skills: Career Ready Practice Standards:
CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12

Additional interdisciplinary connections to be determined during Curriculum Development Periods

RESOURCES	TECHNOLOGY INTEGRATION
● Lesson Resources ○ Student Edition ○ Additional Practice Workbook ○ Teaching Resources ■ Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment ● Topic Resources ○ Student's Edition ■ Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project	● Lesson Resources ○ Digital Lesson Courseware ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video Tutorials, Animated Glossary, Digital Math Tools, Online Math Games ● Topic Resources ○ Digital Topic Support for Students ■ Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson **STANDARDS** **8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.**

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	8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media. **8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.** **8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.** **8.1.8.D.4 Assess the credibility and accuracy of digital content.** **8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse.** **8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.** Link: NJDOE Technology Standards *Additional technology connections to be determined during Curriculum Development Periods.*

KEY VOCABULARY
Repeating Decimal, Terminating Decimal, Additive Inverse, Complex Fraction, Multiplicative Inverse

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms

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with Student Language Portraits (SLPs).	Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.*	Enrichment

CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
1-1: 7.NS.A.1 1-2: 7.NS.A.2.d 1-3: 7.NS.A.1b, 7.NS.A.1d 1-4: 7.NS.A.1c, 7.NS.A.1d 1-5: 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d	1-1: MP.1, MP.2, MP.3, MP.4 1-2: MP.1, MP.2, MP.6, MP.7 1-3: MP.2, MP.3, MP.4, MP.5, MP.7 1-4: MP.1, MP.2, MP.3, MP.4, MP.7 1-5: MP.2, MP.3, MP.4, MP.7, MP.8	● 1-1: Relate Integers and Their Opposites ○ Understand how integers and their opposites are related ● 1-2: Understand Rational Numbers ○ Identify rational numbers and write them in decimal form ● 1-3: Add Integers ○ Add positive and negative integers. ○ Model integer addition in real-life applications. ● 1-4: Subtract Integers ○ Understand subtraction of integers as adding the additive inverse, $p - q = p + (-q)$

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1-6: 7.NS.A.2a, 7.NS.A.2c 1-7: 7.NS.A.2a, 7.NS.A.2c 1-8: 7.NS.A.2b, 7.NS.A.2c 1-9: 7.NS.A.2b, 7.NS.A.2c 1-10: 7.NS.A.3, 7.EE.B.3	1-6: MP.1, MP.2, MP.3, MP.4, MP.6, MP.7, MP.8 1-7: MP.4, MP.6, MP.8 1-8: MP.2, MP.4, MP.7, MP.8 1-9: MP.1, MP.2, MP.3, MP.7, MP.8 1-10: MP.1, MP.2, MP.3, MP.4, MP.7	● 1-5: Add and Subtract Rational Numbers ○ Use properties of operations to add and subtract rational numbers. ● 1-6: Multiply Integers ○ Multiply positive and negative integers. ○ Apply integer multiplication to real-life applications. ● 1-7: Multiply Rational Numbers ○ Find the product of rational numbers ● 1-8: Divide Integers ○ Understand how to divide integers by applying the rules of multiplying integers. ○ Determine equivalencies among integer quotients. ● 1-9: Divide Rational Numbers ○ Understand how the signs of integers in a multiplication sentence relate to the signs in a related division sentence. ● 1-10: Solve problems with Rational Numbers ○ Decide which operations to use to solve problems. ○ Use precision when solving problems with rational numbers.

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UNIT 2 FOCUS	
Analyze and Use Proportional Relationships	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
● 7.RP.A.1 - Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units ● 7.RP.A.2 - Recognize and represent proportional relationships between quantities. ● 7.RP.A.2a - Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. ● 7.RP.A.2b - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. ● 7.RP.A.2c - Represent proportional relationships by equations. ● 7.RP.A.2d - Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. ● 7.RP.A.3 - Use proportional relationships to solve multistep ratio and percent problems.	● 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.

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INTERDISCIPLINARY CONNECTIONS	UNIT 2 GENERAL ASSESSMENTS
Interdisciplinary connections may include but are not limited to: Stem Project: "An Essential Resource" ● Next Generation Science Standards: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4 **21st Century Standards** **9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.** **9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.** **21st Century Skills: Career Ready Practice Standards:** **CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12** *Additional interdisciplinary connections to be determined during Curriculum Development Periods*	● Lesson Quizzes ● Topic Readiness Assessment ● Mid-Topic Assessment ● Topic Assessment ● Topic Performance Task
RESOURCES	**TECHNOLOGY INTEGRATION**
● Lesson Resources ○ Student Edition ○ Additional Practice Workbook ○ Teaching Resources ■ Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment	● Lesson Resources ○ Digital Lesson Courseware ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video

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- Topic Resources
  - Student's Edition
    - Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project

Tutorials, Animated Glossary, Digital Math Tools, Online Math Games

- Topic Resources
  - Digital Topic Support for Students
    - Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson

STANDARDS

8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.
8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.
8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.
8.1.8.D.4 Assess the credibility and accuracy of digital content.
8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse.
8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.

Link: NJDOE Technology Standards

Additional technology connections to be determined during Curriculum Development Periods.

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KEY VOCABULARY
Proportional Relationship, Proportion, Constant of Proportionality

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.*	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms Enrichment

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CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
2-1: 7.RP.A.1, 7.RP.A.3 2-2: 7.RP.A.1, 7.RP.A.3 2-3: 7.RP.A.2a 2-4: 7.RP.A.2b, 7.RP.A.2c 2-5: 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2d 2-6: 7.RP.A.2, 7.RP.A.3	2-1: MP.1, MP.3, MP.6, MP.7, MP.8 2-2: MP.2, MP.3, MP.6, MP.7 2-3: MP.1, MP.2, MP.3, MP.7, MP.8 2-4: MP.2, MP.3, MP.4, MP.6, MP.8 2-5: MP.2, MP.3, MP.4, MP.7 2-6: MP.1, MP.2, MP.5, MP.7	● 2-1: Connect Ratios, Rates, and Unit Rates ○ Use ratios and rates to describe the relationship between two quantities. ○ Find equivalent ratios and use unit rates to solve multi-step problems. ● 2-2: Determine Unit Rates with Ratios of Fractions ○ Find unit rates with ratios of fractions ○ Use unit rates to solve multi-step problems. ● 2-3: Understand Proportional Relationships: Equivalent Ratios ○ Determine whether quantities are proportional by testing for equivalent ratios. ● 2-4: Describe Proportional Relationships: Constant of Proportionality ○ Use the constant of proportionality to write equations that represent proportional relationships ○ Use equations to solve problems involving proportional relationships. ● 2-5: Graph Proportional Relationships ○ Use a graph to recognize proportionality ○ Identify a constant of proportionality from a graph ○ Interpret a point on a graph of a proportional relationship ● 2-6: ○ Explain whether a situation represents a proportional relationship.

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UNIT 3 FOCUS	
Analyze and Solve Percent Problems	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
● 7.RP.A.2c - Represent proportional relationships by equations. ● 7.RP.A.3 - Use proportional relationships to solve multistep ratio and percent problems. ● 7.NS.A.3 - Solve real-world and mathematical problems involving the four operations with rational numbers.	● 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.6 - Attend to precision. ● MP.7 - Look for and make use of structure. ● MP.8 - Look for and express regularity in repeated reasoning.
INTERDISCIPLINARY CONNECTIONS	**UNIT 3 GENERAL ASSESSMENTS**
Interdisciplinary connections may include but are not limited to: Stem Project: “Analyze Activity Tracker Data” ● Next Generation Science Standards: MS-ESS3-1, MS-ESS3-4, MSETS1-3, MS-ETS1-4 **21st Century Standards** **9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.** **9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.**	● Lesson Quizzes ● Topic Readiness Assessment ● Mid-Topic Assessment ● Topic Assessment ● Topic Performance Task

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21st Century Skills: Career Ready Practice Standards: **CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12** *Additional interdisciplinary connections to be determined during Curriculum Development Periods*	
RESOURCES	**TECHNOLOGY INTEGRATION**

• Lesson Resources
  ○ Student Edition
  ○ Additional Practice Workbook
  ○ Teaching Resources
  ■ Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment
• Topic Resources
  ○ Student's Edition
  ■ Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project
	• Lesson Resources
	  ○ Digital Lesson Courseware
	  ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video Tutorials, Animated Glossary, Digital Math Tools, Online Math Games
	• Topic Resources
	  ○ Digital Topic Support for Students
	  ■ Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson
	
	STANDARDS
	
	8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.
	8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
	8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.
	8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.
	8.1.8.D.4 Assess the credibility and accuracy of digital content.

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	8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse. **8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.** Link: NJDOE Technology Standards *Additional technology connections to be determined during Curriculum Development Periods.*

KEY VOCABULARY
Percent Equation, Percent Change, Percent Error, Markup, Markdown, Percent Markup, Percent Markdown, Interest Rate, Principal, Simple Interest

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an*	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms Enrichment

	identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.	

CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
3-1: 7.RP.A.3 3-2: 7.RP.A.2c, 7.RP.A.3 3-3: 7.RP.A.2c, 7.RP.A.3 3-4: 7.RP.A.3 3-5: 7.RP.A.3 3-6: 7.RP.A.3	3-1: MP.1, MP.2, MP.3, MP.7 3-2: MP.1, MP.2, MP.3, MP.7 3-3: MP.1, MP.2, MP.3, MP.4, MP.6, MP.7 3-4: MP., MP.3, MP.4, MP.6, MP.7 3-5: MP.2, MP.3, MP.4, MP.6, MP.8 3-6: MP.1, MP.2, MP.3	● 3-1: Analyze Percent of Number ○ Understand that equivalent rates can be used to find percents. ○ Analyze percents of numbers in a real-world context ● 3-2: Connect Percent and Proportion ○ Construct a percent proportion ○ Use a percent proportion to find an unknown part, whole, or percent. ● 3-3: Represent and Use the Percent Equation ○ Understand the relationship between proportional reasoning and percent. ○ Interpret the results of a percent equation in a real-life scenario. ● 3-4: Solve Percent Change and Percent Error Problems ○ Solve real-world problems involving percent change and percent error ○ Understand the percent equation and the different ways it can be used ● 3-5: Solve Markup and Markdown Problems ○ Understand and calculate markups and

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		markdowns ○ Relate percent change to percent markup and percent markdown ● 3-6: Solve Simple Interest Problems ○ Identify the parts of interest problems and how the values are related ○ Understand what simple interest is and how it is calculated

UNIT 4 FOCUS	
Generate Equivalent Expressions	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
● 7.EE.A.1 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. ● 7.EE.A.2 - Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.	● 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.6 - Attend to precision. ● MP.7 - Look for and make use of structure. ● MP.8 - Look for and express regularity in repeated reasoning.

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• 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.	
INTERDISCIPLINARY CONNECTIONS	**UNIT 4 GENERAL ASSESSMENTS**
Interdisciplinary connections may include but are not limited to: Stem Project: "Analyze Activity Tracker Data" • Next Generation Science Standards: MS-ESS3-1, MS-ESS3-4, MSETS1-3, MS-ETS1-4 **21st Century Standards** **9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.** **9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.** **21st Century Skills: Career Ready Practice Standards:** **CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12** *Additional interdisciplinary connections to be determined during Curriculum Development Periods*	• Lesson Quizzes • Topic Readiness Assessment • Mid-Topic Assessment • Topic Assessment • Topic Performance Task
RESOURCES	**TECHNOLOGY INTEGRATION**

• Lesson Resources
  ○ Student Edition
  ○ Additional Practice Workbook
  ○ Teaching Resources
	• Lesson Resources
	  ○ Digital Lesson Courseware
	  ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act

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- Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment
- Topic Resources
  - Student's Edition
    - Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project

Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video Tutorials, Animated Glossary, Digital Math Tools, Online Math Games

- Topic Resources
  - Digital Topic Support for Students
    - Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson

STANDARDS

8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.
8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.
8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.
8.1.8.D.4 Assess the credibility and accuracy of digital content.
8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse.
8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.

Link: NJDOE Technology Standards

Additional technology connections to be determined during Curriculum Development Periods.

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KEY VOCABULARY
none in this unit

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.*	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms Enrichment

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CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
4-1: 7.EE.B.4 4-2: 7.EE.A.1 4-3: 7.EE.A.1, 7.EE.A.2 4-4: 7.EE.A.1, 7.EE.A.2 4-5: 7.EE.A.1, 7.EE.A.2 4-6: 7.EE.A.1, 7.EE.A.2 4-7: 7.EE.A.1, 7.EE.A.2 4-8: 7.EE.A.2	4-1: MP.2, MP.4, MP.6, MP.7 4-2: MP.1, MP.3, MP.4, MP.7 4-3: MP.1, MP.2, MP.3, MP.7 4-4: MP.1, MP.2, MP.4, MP.7 4-5: P.1, MP.2, MP.3, MP.8 4-6: MP.1, MP.2, MP.3, MP.4, MP.6, MP.7 4-7: MP.1, MP.2, MP.3, MP.4, MP.7 4-8: MP.2, MP.7	● 4-1: Write and Evaluate algebraic Expressions ○ Understand how variables are used to represent unknown values in problems ● 4-2: Generate Equivalent Expressions ○ Recognize when two expressions are equivalent ○ Use properties of operations to write equivalent expressions ● 4-3: Simplify Expressions ○ Combine like integer and rational terms ● 4-4: Expand Expressions ○ Use the Distributive Property to expand expressions ● 4-5: Factor Expressions ○ Understand expanding an expressions is the reverse of factoring ○ Identify the GCF of an algebraic terms in expressions ● 4-6: Add Expressions ○ Use Properties of operations to add expressions ○ Model addition of expressions in real-life applications ● 4-7: Subtract Expressions ○ Use Properties of operations to subtract expressions ○ Model subtraction of expressions in real-life applications ● 4-8: Analyze Equivalent Expressions ○ Write equivalent expressions to show how quantities are related in real-life applications

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UNIT 5 FOCUS	
Solve Problems Using Equations and Inequalities	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
• 7.EE.B.3 - Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies • 7.EE.B.4 - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. • 7.EE.B.4a - Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. • 7.EE.B.4b - Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	• 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.

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INTERDISCIPLINARY CONNECTIONS	UNIT 5 GENERAL ASSESSMENTS
Interdisciplinary connections may include but are not limited to: STEM Project "Water is Life!" ● Next Generation Science Standards: MS-LS2-1, MS-LS2-5, MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4 **21st Century Standards** **9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.** **9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.** **21st Century Skills: Career Ready Practice Standards:** **CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12** *Additional interdisciplinary connections to be determined during Curriculum Development Periods*	● Lesson Quizzes ● Topic Readiness Assessment ● Mid-Topic Assessment ● Topic Assessment ● Topic Performance Task
RESOURCES	**TECHNOLOGY INTEGRATION**
● Lesson Resources ○ Student Edition ○ Additional Practice Workbook ○ Teaching Resources ■ Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment	● Lesson Resources ○ Digital Lesson Courseware ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video Tutorials, Animated Glossary, Digital Math Tools, Online Math Games

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- Topic Resources
  - Student's Edition
    - Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project

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- Topic Resources
  - Digital Topic Support for Students
    - Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson

STANDARDS

8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.
8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.
8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.
8.1.8.D.4 Assess the credibility and accuracy of digital content.
8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse.
8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.

Link: NJDOE Technology Standards

Additional technology connections to be determined during Curriculum Development Periods.

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<tr>
<td colspan="2">KEY VOCABULARY</td>
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GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.*	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms Enrichment

CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
5-1: 7.EE.B.4 5-2:	5-1: MP.2, MP.4, MP.7 5-2:	• 5-1: Write Two-Step Equations ○ Analyze word problems to write two-step equations

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7.EE.B.3, 7.EE.B.4a 5-3: 7.EE.B.3, 7.EE.B.4a 5-4: 7.EE.B.4b 5-5: 7.EE.B.4b 5-6: 7.EE.B.4b 5-7: 7.EE.B.4b	MP.1, MP.7 5-3: MP.1, MP.2, MP.3, MP.4, MP.7 5-4: MP.2, MP.4 5-5: MP.2, MP.3, MP.6, MP.7 5-6: MP.1, MP.2, MP.4, MP.7 5-6: MP.2, MP.3, MP.4, MP.7	○ Understand the relationship between the terms of the equation and the values they represent ● 5-2: Solve Two-Step Equations ○ Use models to solve two-step equations ○ Compare algebraic and arithmetic solutions ● 5-3: Solve Equations Using the Distributive Property ○ Solve equations using the Distributive Property ● 5-4: Solve Inequalities Using Addition or Subtraction ○ Graph the solution of inequalities on a number line ○ Solve inequalities using the Addition and Subtraction Properties of Inequality ● 5-5: Solve Inequalities Using Multiplication of Division ○ Write inequalities and solve them using Multiplication and Division Properties in Inequality ○ Graph the solutions of an inequality on a number line. ● 5-6: Solve Two-Step Inequalities ○ Write and solve two-step inequality to solve a problem. ○ Solve an inequality by multiplying or dividing a negative rational number. ● 5-7: Solve Multi-Step Inequalities

		○ Explore the relationship between two-step inequalities and multi-step inequalities. ○ Apply the distributive property to simplify and solve multi-step inequalities

UNIT 6 FOCUS	
Use Sampling to Draw Inferences About Populations	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
● 7.SP.A.1 - Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. ● 7.SP.A.2 - Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. ● 7.SP.B.3 - Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. ● 7.SP.B.4 - Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. ● 7.RP.A.2c - Represent proportional relationships by equations.	● 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.6 - Attend to precision. ● MP.7 - Look for and make use of structure. ● MP.8 - Look for and express regularity in repeated reasoning.

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• 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.	
INTERDISCIPLINARY CONNECTIONS	**UNIT 6 GENERAL ASSESSMENTS**
Interdisciplinary connections may include but are not limited to: Stem Project: "Golden Path" • Next Generation Science Standards: MS-ETS-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4 **21st Century Standards** **9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.** **9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.** **21st Century Skills: Career Ready Practice Standards:** **CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12** *Additional interdisciplinary connections to be determined during Curriculum Development Periods*	• Lesson Quizzes • Topic Readiness Assessment • Mid-Topic Assessment • Topic Assessment • Topic Performance Task

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RESOURCES	TECHNOLOGY INTEGRATION

• Lesson Resources
  ○ Student Edition
  ○ Additional Practice Workbook
  ○ Teaching Resources
  ■ Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment
• Topic Resources
  ○ Student's Edition
  ■ Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project
	• Lesson Resources
	  ○ Digital Lesson Courseware
	  ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video Tutorials, Animated Glossary, Digital Math Tools, Online Math Games
	• Topic Resources
	  ○ Digital Topic Support for Students
	  ■ Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson
	
	STANDARDS
	
	8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.
	8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
	8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.
	8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.
	8.1.8.D.4 Assess the credibility and accuracy of digital content.
	8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse.
	8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.
	
	Link: NJDOE Technology Standards

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	Additional technology connections to be determined during Curriculum Development Periods.

KEY VOCABULARY
Random Sample, Representative Sample, Valid Inference

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.*	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms Enrichment

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CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
6-1: 7.SP.A.1 6-2: 7.SP.A.1, 7.SP.A.2, 7.EE.B.3, 7.RP.A.2c 6-3: 7.SP.B.3, 7.SP.B.4 6-4: 7.SP.B.3, 7.SP.B.4	6-1: MP.1, MP.2, MP.3, MP.6, MP.8 6-2: MP.1, MP.2, MP.3, MP.4 6-3: MP.1, MP.2, MP.4, MP.7, MP.8 6-4: MP.2, MP.3, MP.4, MP.8	● 6-1: Populations and Samples ○ Distinguish between a population and a sample ○ Establish whether a sample is representative of a population ○ Generate random samples ● 6-2: Draw Inferences From Data ○ make qualitative inferences from a sample data set ○ Make quantitative inferences from a sample data set. ○ Make estimates about a population based on a sample data set, and assess whether the inferences are valid. ● 6-3: Make Comparative Inferences About Populations ○ Use box-plots to compare and make inferences about populations ○ Use the median and IQR of datasets to informally compare and make inferences about two populations ● 6-4: Make More Comparative Inferences About Populations ○ Use mode, range, mean, and mean absolute deviation (MAD) to compare populations

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UNIT 7 FOCUS	
Probability	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
• 7.SP.C.5 - Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. • 7.SP.C.6 - Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. • 7.SP.C.7 - Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. • 7.SP.C.7a - Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. • 7.SP.C.7b - Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. • 7.SP.C.8a - Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	• 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.

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• 7.SP.C.8b -Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. • 7.SP.C.8c - Design and use a simulation to generate frequencies for compound events. • 7.RP.A.2c - Represent proportional relationships by equations. • 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.	
INTERDISCIPLINARY CONNECTIONS	**UNIT 7 GENERAL ASSESSMENTS**
Interdisciplinary connections may include but are not limited to: Stem Project: "International Trending" • Next Generation Science Standards: MS-LS2-1, MS-LS2-4, MS-ESS3-4 **<u>21st Century Standards</u>** **9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.** **9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.** **<u>21st Century Skills: Career Ready Practice Standards:</u>**	• Lesson Quizzes • Topic Readiness Assessment • Mid-Topic Assessment • Topic Assessment • Topic Performance Task

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CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12 *Additional interdisciplinary connections to be determined during Curriculum Development Periods*	
RESOURCES	**TECHNOLOGY INTEGRATION**
● Lesson Resources ○ Student Edition ○ Additional Practice Workbook ○ Teaching Resources ■ Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment ● Topic Resources ○ Student's Edition ■ Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project	● Lesson Resources ○ Digital Lesson Courseware ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video Tutorials, Animated Glossary, Digital Math Tools, Online Math Games ● Topic Resources ○ Digital Topic Support for Students ■ Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson **STANDARDS** **8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.** **8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.** **8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.** **8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.** **8.1.8.D.4 Assess the credibility and accuracy of digital content.**

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	8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse. **8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.** Link: NJDOE Technology Standards *Additional technology connections to be determined during Curriculum Development Periods.*

KEY VOCABULARY

Outcomes, Probability, Event, Theoretical Probability, Experimental Probability, Relative Frequency, Sample Space, Probability Model, Compound Event, Simulation

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS

English Language Learners	Students Receiving Special Education Services	Advanced Learners
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized*	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms Enrichment

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	Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.	

CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
7-1: 7.SP.C.5, 7.EE.B.3 7-2: 7.SP.C.6, 7.RP.A.2c 7-3: 7.SP.C.6, 7.SP.C.7 7-4: 7.SP.C.7a, 7.SP.C.7b, 7.EE.B.3 7-5: 7.SP.C.8b 7-6: 7.SP.C.8a 7-7: 7.SP.C.8c	7-1: MP.1, MP.2, MP.3, MP.4 7-2: MP.1, MP.2, MP.3, MP.4, MP.7 7-3: MP.2, MP.3, MP.7 7-4: MP.2, MP.3, MP.4, MP.6, MP.7 7-5: MP.1, MP.2, MP.7, MP.8 7-6: MP.1, MP.4, MP.7, MP.8 7-7: MP.1, MP.3, MP.4, MP.5, MP.7	● 7-1: Understand Likelihood and Probability ○ Use Probability to describe the likelihood that an event will occur ○ Relate Probability to mathematical fairness ● 7-2: Understand Theoretical Probability ○ Understand Theoretical Probability and how it can be used. ○ Use theoretical probability to predict an outcome ● 7-3: Understand Experimental Probability ○ Compare theoretical and experimental probability ○ Use experimental probability to make predictions ○ explain differences between theoretical and experimental probability. ● 7-4: Use Probability Models ○ Develop a probability model ○ Use a probability model to evaluate a situation ○ Use a probability model to make an estimate ● 7-5: Determine Outcomes of Compound Events

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		○ Use a tree diagram, a table, or an organized list to represent a sample space for a compound event ● 7-6: Find Probability of Compound Events ○ Organize information about a compound event on a table, a tree diagram, or an organized list ○ Find the probability of a compound event ● 7-7: Simulate Compound Events ○ Use different tools to simulate a compound event ○ Model a real-world situation involving a compound event and predict its outcome using a simulation

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UNIT 8 FOCUS	
Solve Problems Involving Geometry	
STANDARDS FOR MATHEMATICAL CONTENT	**STANDARDS FOR MATHEMATICAL PRACTICE**
• 7.G.A.1 - Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. • 7.G.A.2 - Draw (freehand, with ruler and protractor, and with technology) 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. • 7.G.A.3 - Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. • 7.G.B.4 - Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. • 7.G.B.5 - Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. • 7.G.B.6 - Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. • 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	• 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.

reasonableness of answers using mental computation and estimation strategies. • 7.EE.B.4a - Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. • 7.NS.A.3 - Solve real-world and mathematical problems involving the four operations with rational numbers.	
INTERDISCIPLINARY CONNECTIONS	**UNIT 8 GENERAL ASSESSMENTS**
Interdisciplinary connections may include but are not limited to: Stem Project: "Upscale Design" • Next Generation Science Standards: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4 **21st Century Standards** **9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.** **9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.** **21st Century Skills: Career Ready Practice Standards:** **CRP1, CRP2, CRP3, CRP4, CRP5, CRP6, CRP7, CRP8, CRP9, CRP10, CRP11, CRP12** *Additional interdisciplinary connections to be determined during Curriculum Development Periods*	• Lesson Quizzes • Topic Readiness Assessment • Mid-Topic Assessment • Topic Assessment • Topic Performance Task

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RESOURCES	TECHNOLOGY INTEGRATION

• Lesson Resources
  ○ Student Edition
  ○ Additional Practice Workbook
  ○ Teaching Resources
  ■ Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy, Enrichment
• Topic Resources
  ○ Student's Edition
  ■ Review What You Know, Build Literacy in Mathematics, Mid-Topic Checkpoint and Performance Task, Topic Review, Fluency Practice Activity, STEM Project
	• Lesson Resources
	  ○ Digital Lesson Courseware
	  ■ Today's Challenge, Visual Learning Animation Plus, Key Concepts, Additional Examples, 3-Act Mathematical Modeling, Online Practice powered by MathXL for School, Virtual Nerd Video Tutorials, Animated Glossary, Digital Math Tools, Online Math Games
	• Topic Resources
	  ○ Digital Topic Support for Students
	  ■ Math Practice Animations, STEM Project, 3-Act Mathematical Modeling Lesson
	STANDARDS
	8.1.8.A.1 Demonstrate knowledge of a real world problem using digital tools.
	8.1.8.D.1 Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
	8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.
	8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.
	8.1.8.D.4 Assess the credibility and accuracy of digital content.
	8.1.8.D.5 Understand appropriate uses for social media and the negative consequences of misuse.
	8.1.8.E.1 Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.
	
	Link: NJDOE Technology Standards
	
	Additional technology connections to be determined during Curriculum Development Periods.

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KEY VOCABULARY
Scale Drawing, Adjacent Angles, Complementary Angles, Supplementary Angles, Vertical Angles, Circumference, Cross Section, Composite Figure

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	**Students Receiving Special Education Services**	**Advanced Learners**
• WIDA Can Do Descriptors for Grades 6-8* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol *Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).	• New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms Response to Intervention: Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy *Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.*	• Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms Enrichment

(7) Math Curricular Framework

CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
8-1: 7.G.A.1 8-2: 7.G.A.2 8-3: 7.G.A.2 8-4: 7.G.B.5 8-5: 7.G.B.4, 7.EE.B.4a 8-6: 7.G.B.4, 7.EE.B.3, 7.EE.B.4a 8-7: 7.G.A.3 8-8: 7.G.B.6, 7.NS.A.3, 7.EE.B.3, 7.EE.B.4a 8-9: 7.G.B.6, 7.NS.A.3, 7.EE.B.3, 7.EE.B.4a	8-1: MP.2, MP.7, MP.8 8-2: MP.1, MP.2, MP.3, MP.5 8-3: MP.1, MP.7, MP.8 8-4: MP.2, MP.3, MP.7 8-5: MP.1, MP.3, MP.6, MP.7, MP.8 8-6: MP.2, MP.6, MP.7 8-7: MP.1, MP.6, MP.7, MP.8 8-8: MP.1, MP.2, MP.7 8-9: MP.1, MP.2, MP.4, MP.7	● 8-1: Solve Problems Involving Scale Drawings ○ Use a scale drawing as a representational of actual lengths and area. ● 8-2: Draw Geometric Figures ○ Sketch quadrilaterals with given conditions ○ Name and Classify quadrilaterals according to their properties ● 8-3: Draw Triangles with Given Conditions ○ Construct Triangles with given conditions ○ Conclude whether or not a triangle is formed and what type of triangle it is. ● 8-4: Solve Problems Using Angle Relationships ○ Calculate the measures of angles by using angle relationships ● 8-5: Solve Problems Involving Circumference of a Circle ○ Calculate the circumference, radius, or diameter of a circle ○ Recognize the relationship between the circumference and the diameter of a circle and pi. ● 8-6: Solve Problems Involving Area of a Circle ○ Find the area of a circle ○ Use the area to find the radius and diameter ○ Solve Problems involving the area of circle ● 8-7: Describe Cross Sections ○ Describe cross sections of right rectangular prisms and pyramids ○ solve problems involving cross sections ● 8-8: Solve Problems Involving Surface Area ○ Find the surface area of two-dimensional

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		composite shapes. ○ Find the surface area of three-dimensional composite shapes ● 8-9: Solve Problems Involving Volume ○ Calculate the volume of various three-dimensional figures ○ Solve problems involving the volume of three-dimensional figures