

**ROBBINSVILLE PUBLIC  
SCHOOLS**

**OFFICE OF CURRICULUM AND INSTRUCTION**

**MATHEMATICS**

**Math 7**

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### Course Philosophy

The content of a mathematics course is brought to life when the student is involved in investigating real-world applications using inductive reasoning, cooperative learning, and critical thinking skills. To be able to communicate effectively in mathematics, a student needs to have a conceptual understanding of the mathematical topics. Use of technology and the use of real-world data will expand the students' mathematics experience so that they are able to solve real problems, reason effectively, make logical connections, and think mathematically.

### Course Description

Math Seven is a 7<sup>th</sup> Grade Mathematics course that is aligned to the Common Core Standards. Students will be using problem solving and critical thinking skills to develop a foundation of algebraic concepts. The course content will include, but is not limited to:

- Ratios, Rates, & Proportions
- Percentages
- Integers
- Rational Numbers
- Expressions
- Equations
- Inequalities
- Geometry
- Data
- Probability & Statistics

### **Core and Supplemental Instructional Materials**

Core Materials	Supplemental Materials
<ul style="list-style-type: none"><li>● Course 2 Textbook (EdGems)</li><li>● Course 2 Workbook (EdGems)</li><li>● Google Classroom</li><li>● Chromebooks</li><li>● Mathematics Notebook</li></ul>	<ul style="list-style-type: none"><li>● EdGems Online Resources</li><li>● IXL Account Resources</li><li>● Anchor Charts in Classroom</li><li>● Headphones and External Mouse</li><li>● Calculators</li><li>● Whiteboards, Markers, Erasers</li><li>● Correction Pen/Highlighters/Art Supplies</li></ul>

## Social Emotional Learning Connections

Below are the five core SEL Competencies as outlined by CASEL, and examples of how each may be addressed within this curriculum

**Self-awareness:** The ability to accurately recognize one's emotions and thoughts and their influence on behavior. This includes accurately assessing one's strengths and limitations and possessing a well-grounded sense of confidence and optimism.

**Example 1:** Students use self-reflection strategies to understand their strengths and areas of need within each given standard.

**Example 2:** Students take mathematical risks with confidence and optimism without fear of consequence.

**Self-management:** The ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. This includes managing stress, controlling impulses, motivating oneself, and setting and working toward achieving personal and academic goals.

**Example 1:** Students individually or collaboratively analyze a situation and formulate a plan before executing a solution strategy.

**Example 2:** Students are provided various strategies throughout their learning process such as step by step directions, guided notes, and graphic organizers to help them manage stress and achieve personal goals.

**Social awareness:** The ability to take the perspective of and empathize with others from diverse backgrounds and cultures, to understand social and ethical norms for behavior, and to recognize family, school, and community resources and supports.

**Example 1:** Students share their personal perspectives within their family, school, and community groups to promote global awareness.

**Example 2:** Students analyze and appreciate the mathematical approaches of their peers, especially ones different from their own.

**Relationship skills:** The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking and offering help when needed.

**Example 1:** Students work collaboratively to make connections and provide support within their peer groups.

**Example 2:** Students listen carefully to peer thoughts and ask appropriate questions to further the conversation.

**Responsible decision-making:** The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others.

**Example 1:** Students develop class norms and work collaboratively to hold each other accountable to class standards.

**Example 2:** Students develop higher-order thinking skills, which enhances learning and achievement across content areas, when working collaboratively and being held accountable for supporting their ideas.

# Integration of 21st Century Themes and Skills

NJSLS-CLKS 9.4: Life Literacies and Key Skills	
<b>Creativity and Innovation</b>	<ul style="list-style-type: none"> <li>• 9.4.8.CI.1: Assess data gathered on varying perspectives on causes of climate change (e.g., cross cultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions</li> <li>• 9.4.8.CI.2: Repurpose an existing resource in an innovative way.</li> <li>• 9.4.8.CI.3: Examine challenges that may exist in the adoption of new ideas.</li> </ul> <p>Example: Students work collaboratively to design a solution to a problem with limited resources.</p> <p>Can be found in unit: 1, 2, 6, 7, 8, 9</p>
<b>Critical Thinking and Problem Solving</b>	<ul style="list-style-type: none"> <li>• 9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective.</li> <li>• 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option.</li> <li>• 9.4.8.CT.3: Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.</li> </ul> <p>Example: Students analyze and compare international savings accounts to choose the most effective interest-earning account over their lifetime. (Unit 2)</p> <p>Can be found in unit: All Units</p>
<b>Digital Citizenship</b>	<ul style="list-style-type: none"> <li>• 9.4.8.DC.4: Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.</li> <li>• 9.4.8.DC.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure.</li> <li>• 9.4.8.DC.6: Analyze online information to distinguish whether it is helpful or harmful to reputation</li> <li>• 9.4.8.DC.7: Collaborate within a digital community to create a digital artifact using strategies such as crowdsourcing or digital surveys.</li> <li>• 9.4.8.DC.8: Explain how communities use data and technology to develop measures to respond to effects of climate change (e.g., smart cities).</li> </ul> <p>Example: Students appropriately share ideas, strategies, and feedback in class message boards to support each other while they are not together.</p>

	<p>Can be found in unit: All units</p>
<b>Global and Cultural Awareness</b>	<ul style="list-style-type: none"> <li>• <i>9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect.</i></li> <li>• <i>9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.</i></li> </ul> <p>Example: Students work together to create class/group norms, which emphasize inclusion and acceptance.</p> <p>Can be found in unit: All units</p>
<b>Information and Media Literacy</b>	<ul style="list-style-type: none"> <li>• <i>9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b).</i></li> <li>• <i>9.4.8.IML.4: Ask insightful questions to organize different types of data and create meaningful visualizations.</i></li> <li>• <i>9.4.8.IML.5: Analyze and interpret local or public data sets to summarize and effectively communicate the data.</i></li> </ul> <p>Example: Students create and implement a statistical question to collect data on a current world issue. They will analyze the data, form conclusions, and present their findings to the group.</p> <p>Can be found in unit: 9</p>
<b>Technology Literacy</b>	<ul style="list-style-type: none"> <li>• <i>9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making.</i></li> <li>• <i>9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).</i></li> <li>• <i>9.4.8.TL.3: Select appropriate tools to organize and present information digitally.</i></li> </ul> <p>Example: Students collect and analyze data to create a visual presentation for their peers involving a current world issue.</p> <p>Can be found in unit: 9</p>

## Robbinsville Ready 21st Century Skill Integration

**The following skills will be embedded throughout the curriculum and instruction of this course.**

**Collaborative Team Member:** Robbinsville students will learn more by working together than in isolation. As educational theorist Lev Vygotsky advocated, learning is a social process. Many workplaces today encourage employees to work in teams to solicit diverse perspectives, brainstorm new ideas and/or products, and solve problems. Further, collaboration fosters interpersonal relationships, self-management skills, cooperation, and a sense of collective responsibility. Collaborative team members are able to work with diverse groups of people who hold a variety of perspectives.

**Effective Communicator:** Robbinsville students must be able to clearly articulate their ideas orally, in writing, and across various media in order to successfully connect to the world around them. As the world becomes increasingly globalized, communication is more than just sharing one's ideas. Effective communicators are able to communicate their convictions, actively listen and analyze others' work to identify perspective and/or potential bias.

**Emotionally Intelligent Learner:** Robbinsville students who are emotionally intelligent learn to be empathetic, demonstrate integrity and ethical behavior, are kind, are self-aware, willing to change, and practice self-care. They are better able to cope with the demands of the 21st century digital society and workplace because they are reliable, responsible, form stable and healthy relationships, and seek to grow personally and professionally. Emotionally intelligent people are able to manage their emotions, work effectively on teams and are leaders who can grow and help to develop others.

**Informed and Involved Citizen:** Robbinsville students need to be digital citizens who are civically and globally aware. The concept of what it means to be "literate" has evolved along with 21st century technological and cultural shifts. Our progressive vision of literacy entails having our students explore real world problems in the classroom. Informed and involved citizens are able to safely and accurately communicate with people all around the world and are financially, environmentally and informationally literate.

**Innovative Thinker:** Robbinsville students must encompass innovative thinking skills in order to be successful lifelong learners in the 21st century world. As stated by Karl Fisch and Scott McLeod in the short film Shift Happens, "We are currently preparing students for jobs that don't yet exist . . . using technologies that haven't been invented . . . in order to solve problems we don't even know are problems yet." Innovative thinkers are able to think analytically, solve problems critically, creatively engage in curiosity and tinkering, and demonstrate originality.

**Resilient and Self-Directed Learner:** Robbinsville students need to take risks and ultimately make independent and informed decisions in an ever-changing world. Author of Life, the Truth, and Being Free, Steve Maraboli stated, "Life doesn't get easier or more forgiving, we get stronger and more resilient." Self-directed scholars of the 21st century are able to set goals, initiate resolutions by seeking creative approaches, and adjust their thinking in light of difficult situations. Resilient students are able to take risks without fear of failure and overcome setbacks by utilizing experiences to confront new challenges. Resilient and self directed scholars will consistently embrace opportunities to initiate solutions and overcome obstacles.

## Personal Financial Literacy Standards 9.1

9.1.8.CDM.1: Compare and contrast the use of credit cards and debit cards for specific purchases and the advantages and disadvantages of using each.	Students learn the difference between credit vs. debit and the accompanying interest.
9.1.8.CDM.2: Demonstrate an understanding of the terminology associated with different types of credit (e.g., credit cards, installment loans, mortgages, lines of credit) and compare and calculate the interest rates associated with each.	Students learn to calculate and compare interest amounts in various types of situations.
9.1.8.CDM.3: Compare and contrast loan management strategies, including interest charges and total principal repayment costs.	Students compare loans and savings accounts to choose the most profitable scenarios.
9.1.8.CP.1: Compare prices for the same goods or services.	Students compare prices to determine a better buy with unit rates.
• 9.1.8.PB.1: Predict future expenses or opportunities that should be included in the budget planning process.	Students budget for a cross-country road trip.
• 9.1.8.PB.2: Explain how different circumstances can affect one's personal budget.	Students learn how personal experiences could cause their personal budget to be different from their peers.
• 9.1.8.PB.3: Explain how to create a budget that aligns with financial goals.	Students learn how to save towards a goal.
• 9.1.8.PB.4: Construct a simple personal savings and spending plan based on various sources of income and different stages of life (e.g. teenager, young adult, family).	Students learn how to balance credits and expenses to meet a monthly goal.
• 9.1.8.PB.6: Construct a budget to save for short-term, long term, and charitable goals.	Students learn the difference between saving for a short-term or long-term goal.
• 9.1.8.RM.4: Explain the purpose of insurance products and the reasons for property product and liability insurance protection.	Students learn why insurance is necessary and how it is calculated into a monthly budget.



### Career Awareness and Planning Standards 9.2

- 9.2.8.CAP.2: Develop a plan that includes information about career areas of interest.

Students learn about careers with a central focus on mathematics.

- 9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.

Students learn about the financial benefits of being proficient in mathematics.

- 9.2.8.CAP.12: Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.

Students learn how mathematics is connected to an occupational field they are interested in.

- 9.2.8.CAP.20: Identify the items to consider when estimating the cost of funding a business.

Students research and create a business plan while analyzing costs vs. income.

**Robbinsville Public Schools**  
**Scope, Sequence and, Assessment**

**Course Name**  
**MATH 7**

Unit Title	Unit Understandings and Goals	Recommended Duration	Assessments			
			Formative	Summative	Common Benchmark	Alternative Assessment
Unit #1: Ratios and Proportional Reasoning	Students will extend their understanding of ratios and develop understanding of proportionality to solve real-world and mathematical problems. They will engage in instructional tasks that provide them with the opportunities to recognize and represent proportional relationships between quantities. Proportional relationships express how quantities change in their relationship to each other.	25 Days	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation
Unit #2: Percents	Students will extend their knowledge of percentages and learn the different types of percent problems and how to represent the percent equations algebraically. They will also learn how to solve real-world application problems involving percents.	25 Days	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation
Unit #3: Integers	Students will extend their knowledge of integers to understand that operations of whole numbers are extended to integers by requiring that operations continue to satisfy properties of operation.	25 Days	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation
Unit #4 Rational Numbers	Students will build on their knowledge of whole numbers, integers, fractions, and decimals. They will represent all rational numbers as the quotient of two whole numbers. They will solve real-world and mathematical problems involving the four operations with rational numbers.	15 Days	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation

Unit #5 Expressions	Algebraic expressions are used to model real-life problems and represent quantitative relationships, so that the numbers and symbols can be manipulated to make sense of the relationship.	17 Days	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation
Unit #6 Equations	Algebraic Equations are used to model real-life problems and represent quantitative relationships, so that the numbers and symbols can be manipulated to reach a solution.	24 Days	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation
Unit #7 Inequalities	Students will build on and apply their knowledge of equations to writing and solving inequalities. Students will demonstrate that the solution to a one-variable inequality is more than just one number and needs to be represented on a number line.	15 Days	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation
Unit #8 Geometry (Unit spread throughout the year)	Throughout the year, students will be introduced to various aspects of Geometry. Students will calculate perimeter, area, volume, and surface area for basic geometric shapes. Students will work with circles (area and circumference).	Infused into units throughout the year.	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation
Unit #9 Analyzing Data, Probability & Statistics	Throughout the year, students will provide analysis of graphs and tables. They will make predictions based on data and forecast how graphs will behave in the future. Additionally, students will calculate probabilities of both independent and dependent events to calculate the odds of real world events.	Infused into units throughout the year.	Quizzes Check - Ins Class discussions Observations Review Games Short Responses Group Work Exit Slips	Unit Test Unit Project	Cummulative Exam Final Exam	3 Act Tasks Anticipatory Set/Warm Up HW Quiz Open Ended Questions Partner Quiz Student Presentation

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## Unit #1 : Ratios and Proportional Reasoning

<b>Enduring Understandings:</b> Students will extend their understanding of ratios and develop understanding of proportionality to solve real-world and mathematical problems. They will engage in instructional tasks that provide them with the opportunities to recognize and represent proportional relationships between quantities. Proportional relationships express how quantities change in their relationship to each other.	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>What is the relationship between a ratio and a proportion?</li> <li>How do ratios relate to fraction and division?</li> <li>How does a proportion compare two equivalent ratios?</li> <li>In what ways can students apply proportional reasoning to solve real-world problems?</li> </ul>
<b>Interdisciplinary Connections</b> <b>SCI (MS-ESS1-3):</b> Recognize and represent proportional relationships between quantities. <i>Example:</i> Students use proportional reasoning to find a scale factor between two quantities. <b>ELA (CCSS.ELA-LITERACY.RST.6-8.7)</b> Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). <i>Example:</i> Students will represent the constant of proportionality on a graph, in a table, and in an equation.	
<b>Career/Real World Connections</b> <b>Example:</b> Understanding of ratios and proportional reasoning are crucial in the real world. Any time you are comparing a part-whole relationship or trying to scale a quantity proportionally, you are using skills from this unit. A discipline that would frequently use ratios and proportional reasoning is a chef scaling quantities of a recipe to fit the needs of his restaurant.	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.RP.1 7.RP.2 7.RP.2a 7.RP.2 7.RP.2c 7.G.1 8.EE.B.5	<p>What is a ratio and how can it be expressed?</p> <p>When expressing equivalent ratios, what pattern do you notice?</p> <p>How can calculating a unit rate help us make efficient decisions when shopping?</p> <p>How can we identify a relationship as proportional?</p>	<p>Write Ratios in simplest form</p> <p>Find Unit rates and use them to compare quantities</p> <p>Proportion is an equation stating that two ratios are equivalent.</p> <p>Determine if ratios are proportional from a table, equation, or graph.</p> <p>Identify Proportional relationships by graphing in the coordinate plane.</p>	<p>Powerpoint Presentation</p> <p>Lesson Tutorial Videos</p> <p>Hands-On Lab: Identifying and Writing Proportions</p> <p>Technology Lab: Solving Proportions</p> <p>Hands-On Lab: Similar Figures and Proportions</p> <p>Hands-On Lab: Using Similar Figures</p> <p>Hands-On Lab: Making Scale</p> <p>Drawings and Models</p> <p>Hands-On Lab: Use Scale Drawings</p>	<p>Sample problems from T.E. - Prentice Hall Course 2 Mathematics Common Core</p> <p><a href="http://www.brainingcamp.com">www.brainingcamp.com</a> (Rates)</p> <p>Dunk Tank! pbslearningmedia.org</p> <p><a href="http://www.brainpop.org">www.brainpop.org</a> Ratio Rumble</p> <p>Building Map, Graph Paper and Measuring Tape (Scale Drawings)</p>	<p>Checkpoint exercises</p> <p>Extra examples in packet/worksheets</p> <p>Homework quick check</p> <p>Mid-Chapter Quizzes</p> <p>Tests/Standard Tests</p> <p>Chapter Reviews</p> <p>Extension Projects</p>

	<p>In what ways can you represent and analyze the relationship between independent and dependent variables?</p> <p>How can proportional relationships be used to scale quantities?</p> <p>If figures are similar, what properties do you notice about them?</p>	<p>Identify constant rates of change using tables, graphs, and verbal descriptions.</p> <p>Use proportions to solve real world problems</p> <p>Find missing side lengths of similar figures using proportions.</p> <p>Calculate the scale factor of similar figures.</p>		<p><a href="http://www.mathplayground.com">www.mathplayground.com</a> Dirt Bike Proportions</p> <p>IXL - solving proportions</p>	
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## Unit #2 : Percentages

<b>Enduring Understandings:</b> Students will extend their knowledge of percentages and learn the different types of percent problems and how to represent the percent equations algebraically. They will also learn how to solve real-world application problems involving percentages.	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>What method can be used to convert between fractions, decimals, and percents?</li> <li>How can proportions be used to solve percent problems?</li> <li>What is percent of change and how is it calculated?</li> <li>What are real-world applications that involve percent?</li> <li>How can percent be used to calculate interest or tax?</li> </ul>
<p align="center"><b>Interdisciplinary Connections</b></p> <p><b>SCI (MS-PS2-2):</b> Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form, 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.  <i>Example:</i> Students will solve percent problems using proportions or equations in which different forms of a number are used in order to compute accurately.</p> <p><b>TECH 8.1.8.DA.1:</b> Organize and transform data collected using computational tools to make it usable for a specific purpose.  <i>Example:</i> Students who solve percent problems with equations must convert percentages into decimals before calculating. Students who solve percent problems by using proportions must convert decimals to percentages after calculating.</p>	
<p align="center"><b>Career/Real World Connections</b></p> <p><b>Example:</b> Percentages are a key part of everyday life with a specifically strong connection to finance. We use percentages to calculate tax, interest, commission, tips, and much more. Among the disciplines that frequently use percentages include Loan Officers, Financial Analysts, Data Engineers, etc.</p>	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.EE.B.3 7.EE.2 7.NS.1d 7.RP.3	How can a ratio be expressed as a percentage?	Read, write, and convert between decimals, percents, and fractions	Interactive 3 - column table. Students work in groups to create and fill in different representations of the same number throughout the table.	store ads/magazines menus (gratuity)	Checkpoint exercises
	What are some benchmark percentages that we can quickly use to estimate using fractions or decimals?	Estimate percentages.	Students estimate real world quantities (stock market gains and losses, caloric intake, etc) by using compatible numbers and percentages.	<a href="http://www.mathplayground.com">www.mathplayground.com</a> percent shopping & math at the mall	Extra examples in packet/worksheets
	How can a percentage problem be expressed as a proportion or a multiplication equation?	Distributive Property and Multiplication Property of Equality	Students translate words to mathematical symbols to set up equations involving percentages.	Visnos.com/demos Percent Fraction Decimal Table	Homework quick check
		Solve equations with percentages	Mail Man Story to represent the distributive property (deliver to each house)	<a href="http://www.shepardsoftware.com">www.shepardsoftware.com</a> Matching Game percents fractions and decimals	Mid-Chapter Quizzes
		Calculate Percent of Change	Percent Shopping		Tests/Standard Tests
		Percent applications (tax, discount, etc)			Chapter Reviews
					Extension Projects

	<p>Where do we use percentages to compare quantities in the real world?</p> <p>How does percent of change differ from percent of a whole?</p> <p>How can percentages be effective in comparing different size quantities?</p>	<p>Calculate Simple Interest</p>	<p>IXL - Percent of Change Problems</p> <p>Math Playground - Math at the Mall... Tax Tip Discount</p>	<p>Quia - Simple Interest Rates Battleship</p> <p>Sample problems from T.E. - Prentice Hall Course 2 Mathematics Common Core</p>	
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## Unit # 3: Integers

<p><b>Enduring Understandings:</b></p> <p>Students will extend their knowledge of integers to understand that operations of whole numbers are expanded to integers by requiring that operations continue to satisfy properties of operation.</p> <p>Students will build on their knowledge of whole numbers, integers, fractions, and decimals. They will represent all rational numbers as the quotient of two whole numbers. They will solve real-world and mathematical problems involving the four operations with rational numbers.</p>	<p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>• What is an integer?</li> <li>• Why can a number line be useful when using integers?</li> <li>• Explain the difference between an opposite number and an absolute value.</li> <li>• What real world situations involve the use of negative numbers?</li> </ul>
<p style="text-align: center;"><b>Interdisciplinary Connections</b></p> <p><b>ELA CCSS.ELA-LITERACY.RST.6-8.3</b> Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.  <i>Example:</i> Students must follow the order of operations in a specific order to accurately simplify a mathematical problem.</p> <p><b>TECH • 8.1.8.AP.4:</b> Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.  <i>Example:</i> Students can utilize the order of operations in error analysis. When students have to retrace their steps in a problem, they can break down each step and check if they followed the order of operations correctly.</p>	
<p style="text-align: center;"><b>Career/Real World Connections</b></p> <p><b>Example:</b> Integers are found in the real world in everything that can be counted. Specifically, the introduction of negative numbers shines a light on quantities that scale below zero (temperature, depth below sea level, debt, loss, etc). Many careers put an emphasis on integers, such as Accounting.</p>	

Guiding / Topical Questions with Specific Standards	Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
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7.NS.1 7.NS.1.b 7.NS.1.c 7.NS.2 7.NS.2.a 7.NS.2.b 7.NS.2.c 7.NS.3 7.NS.3 7.NS.3	<p>How can a number line be a useful visual to compare integers?</p> <p>When can the absolute value of a number be a more appropriate representation of the number?</p> <p>Why are “opposites” or “zero-pairs” helpful when adding integers?</p> <p>What pattern do you see when you multiply even or odd amounts of negative numbers?</p> <p>How can integer operations be infused into our previous knowledge of equations?</p>	<p>Compare and Order Integers on a number line</p> <p>Determine and define the absolute value of a number</p> <p>Add and Subtract Integers</p> <p>Multiply and Divide Integers</p> <p>Use inverse operations to solve equations with integers and rational numbers</p>	<p>Power Presentation</p> <p>Lesson Tutorial Videos</p> <p>Integer War game</p> <p>Integer Black Jack</p> <p>Whiteboard activity</p> <p>Hands on Lab: Model Integer Addition</p> <p>Extension: Additive Inverse and Absolute Value</p> <p>Hands On Lab: Model Integer Subtraction</p> <p>Hands On Lab: Model Integer Multiplication and Division</p> <p>Hands On Lab: Model Integer Equations</p> <p>Technology Lab: Explore Order of Operations</p> <p>Extension: Additive Inverse and Absolute Value</p>	<p>Index Cards for Human Number Line</p> <p>Playing Cards for Integer War or Integer Blackjack</p> <p>Integer Counting Chips</p> <p><a href="http://www.Khanacademy.com">www.Khanacademy.com</a> (all operations of integers)</p> <p><a href="http://www.math-play.com">www.math-play.com</a> integer games</p> <p>IXL - Integer Games</p>	<p>Checkpoint exercises</p> <p>Extra examples in book and worksheets</p> <p>Homework quick check</p> <p>Mid-Chapter Quizzes</p> <p>Tests/Standard Tests</p> <p>Chapter Reviews</p> <p>Extension Projects</p>
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# Robbinsville Public Schools

## Unit # 4: Applying Rational Numbers

<b>Enduring Understandings:</b> Students will build on their knowledge of whole numbers, integers, fractions, and decimals. They will represent all rational numbers as the quotient of two whole numbers. They will solve real-world and mathematical problems involving the four operations with rational numbers.	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>What is a rational number?</li> <li>Why can't the denominator of a rational number be zero?</li> <li>How do you compare and order rational numbers?</li> <li>What is different about adding/subtracting rational numbers and multiplying/dividing them?</li> <li>How can you determine if two rational numbers are equal?</li> </ul>
<b>Interdisciplinary Connections</b> <b>SCI (MS-PS2-2)</b> Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form, 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. <i>Example:</i> Students will solve problems with rational numbers by applying the order of operations and also converting between different forms of a number.  <b>TECH 8.1.8.DA.3:</b> Identify the appropriate tool to access data based on its file format. <i>Example:</i> Students will determine the most appropriate method to solve a problem based on the number forms presented in the problem (i.e. a fraction that is a repeating decimal cannot be converted into a decimal).	
<b>Career/Real World Connections</b> <b>Example:</b> Diving deeper through Integers, Rational Number Application can be found anywhere that we use real numbers. Our focus becomes on numbers that are not whole. The financial world is a perfect example of applying operations on rational numbers. We use rational numbers to represent and perform calculations on costs and rates that are not whole.	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.NS.1 7.NS.2 7.EE.4 7.NS.1 7.NS.2 7.EE.4 8.NS.A.1 8.NS.A.2	<p>How can the number sets be visually represented containing each other?</p> <p>How many numbers are between 0 and 1 on a number line?</p> <p>What are the properties of an irrational number and how can we estimate them?</p> <p>What strategies can we use to calculate</p>	<p>Use Number Sets to classify Numbers</p> <p>Locate Rational Numbers on a number line</p> <p>Approximate Irrational Numbers (Square Roots)</p> <p>Add and Subtract Rational Numbers</p> <p>Multiply and Divide Rational Numbers</p>	<p>Bullseye Diagram Activity for number sets.. Students use post-it notes to put numbers in the right area.</p> <p>IXL - Identify Rational Numbers</p> <p>Students balance a checkbook for adding and subtracting decimals.</p> <p>Students will scale recipes up or down by multiplying or dividing the amount for each ingredient (Fractions)</p>	<p>Bullseye chart with Number Set Labels</p> <p>IXL website - classify and identify rational numbers</p> <p>Fake bank statements with purchases and deposits.</p> <p>Recipes pulled from cookbooks (or have</p>	<ul style="list-style-type: none"> <li>Checkpoint exercises</li> <li>Extra examples in packet/worksheets</li> <li>Homework quick check</li> <li>Mid-Chapter Quizzes</li> <li>Tests/Standard Tests</li> <li>Chapter Reviews</li> <li>Extension Projects</li> </ul>

	<p>sum, difference, product, and quotient with rational numbers?</p> <p>How can reciprocals be used to simplify complex fractions?</p> <p>How can we use known unit rates to convert units of measure?</p> <p>How can the common denominator be used to simplify equations with fractions?</p>	<p>Simplify Complex Fractions</p> <p>Convert Units of Measurement</p> <p>Solving equations with rational numbers using inverse operations.</p>	<p>Sweeney Math Blog Rainbow Rule for complex Fractions</p> <p>Unit Conversions: Propose the idea of your long lost cousin coming over to the US from another country with different units of measure. We need to help him out by converting his strange units of measure.</p>	<p>students bring their own)</p> <p>Sweeney Math Blog (Rainbow Rule Fractions)</p> <p>Quia website unit conversion game</p>	
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# Robbinsville Public Schools

## Unit #5: Expressions

<b>Enduring Understandings:</b> Algebraic expressions are used to model real-life problems and represent quantitative relationships, so that the numbers and symbols can be manipulated to make sense of the relationship.	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>• Within a single problem, does the value of a variable change?</li> <li>• What are synonyms for mathematical operations?</li> <li>• How do you evaluate an algebraic expression for a given value?</li> <li>• Why is combining terms helpful when working with expressions?</li> <li>• Why is it important to distinguish “like terms”?</li> </ul>
<b>Interdisciplinary Connections</b> <b>TECH 8.1.8.AP.1:</b> Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. <i>Example:</i> Students create algebraic expressions to represent unknown values and relationships between quantities.  <b>SCI MS-PS2-1:</b> 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. <i>Example:</i> Students must define a variable and set up an equation when solving word problems.	
<b>Career/Real World Connections</b> <b>Example:</b> Algebraic expressions can be found in almost every profession. While we may not always write them down, many occupations require evaluation of a simple expression. An example would be a carpenter providing an estimate for a new bathroom. The calculations would include an expression for the amount of materials and labor needed for the total cost of the job.	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.EE.A.1 7.EE.A.2 7.EE.B.3 7.EE.B.4	How can we use the properties to mentally simplify expression?  What key words translate to mathematical symbols or operations?  What connection can be found between input/output tables and evaluating algebraic expressions?	Identify Properties  Translating between verbal phrases and algebraic expressions  Evaluate Algebraic Expressions (Substitution)  Simplify Algebraic Expressions (Combine Like Terms)  Generate equivalent expressions	Flashcard Activity - Students have multiple cards and hold up the card that corresponds with the problem shown on the projector.  Table of operational words where students create examples for each word  Substitution scavenger hunt  Matching Game (Memory)	Property Flashcards  Algebraic Expressions Millionaire... <a href="http://www.math-play.com">www.math-play.com</a>  <a href="http://www.algebra4children.com">www.algebra4children.com</a> Math Basketball with algebraic expressions  Scavenger hunt cards  Memory Cards	Flashcard observations Class Discussion  Matching activity  Collect final results  Game Winners

	<p>What is the difference between variables and constants? Why can't they be combined?</p> <p>Is there another (or multiple) way(s) to represent a given algebraic expression?</p>		<p>Illuminations Activity with algebraic expressions</p>	<p>Sample problems from T.E. - Prentice Hall Course 2 Mathematics Common Core</p> <p>The variable machine - illuminations</p>	<p>Exit Ticket</p>
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# Robbinsville Public Schools

## Unit #6: Equations

<b>Enduring Understandings:</b> Algebraic Equations are used to model real-life problems and represent quantitative relationships, so that the numbers and symbols can be manipulated to reach a solution.	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>• Within a single problem, does the value of a variable change?</li> <li>• What are synonyms for mathematical operations?</li> <li>• What are inverse operations?</li> <li>• How are inverse operations used to solve equations?</li> <li>• How do you know if your solution is reasonable?</li> </ul>
<b>Interdisciplinary Connections</b> <b>TECH 8.1.8.AP.1:</b> Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. <i>Example:</i> Students create algebraic expressions to represent unknown values and relationships between quantities.  <b>SCI MS-PS2-1:</b> 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. <i>Example:</i> Students must define a variable and set up an equation when solving word problems.	
<b>Career/Real World Connections</b> <b>Example:</b> Similar to expressions, algebraic equations are found all over the real world.. Many professions model problems and utilize equations to come up with exact solutions. Such fields include Predictive Modeling, Market Research Analyst, Computer Engineers, Economists, Electricians, and Home Inspectors.	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.EE.A1 7.EE.A2 7.EE.B.3 7.EE.B.4 8.EE.C.7	What are inverse operations? What does a solution to an equation look like?  How do I solve two-step equations? What order do you complete the steps for solving the equation?  What are different methods I can use to solve this problem? Does it matter what step I do first?  How do I solve multi-step equations?  How do you move variables from one side of an equation to the other	Solve One Step Equations   Solve Two Step Equations   Solve Equations w/ Distributive Prop   Solve Multi Step Equations   Solve Equations with variables on both sides	See Saw Story (Balance) Gallery Walk (Finding errors)   Game of Risk: Students risk an amount of points on each problem and compete against each other.   Mail-Man Story (Deliver to each house)   Speed Dating - Exchange digits and solve each other's equation	Chart Paper & Examples   Problem Cards   Whiteboards & Markers   Dating Cards   Knovel Interactive equations app   BrainPop Distributive Property Activity	Gallery Walk guided notes and results   Game Results   Communicators   Students assess each other   Group discussion and assessments

	side? Are there different ways to solve this problem?		Pass the problem... Groups of four take turns solving equations	<a href="https://phet.colorado.edu/en/simulation/balancing-chemical-equations">https://phet.colorado.edu/en/simulation/balancing-chemical-equations</a> Students explore balancing equations through chemistry	
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## Unit #7: Inequalities

<b>Enduring Understandings:</b> Students will build on and apply their knowledge of equations to writing and solving inequalities. Students will demonstrate that the solution to a one-variable inequality is more than just one number and needs to be represented on a number line.	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>What are the symbols used for inequalities and what do they represent?</li> <li>How do you know if a value is part of the solution set?</li> <li>How do inequalities differ from equations?</li> <li>When does the inequality sign change and why?</li> <li>When can inequalities be useful in a real world situation?</li> </ul>
<b>Interdisciplinary Connections</b> <b>ELA CCSS.ELA-Literacy.RI.7.7</b> Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject <i>Example:</i> Students will write and solve inequalities resulting from content presented in various media and formats.	
<b>Career/Real World Connections</b> <b>Example:</b> Inequalities help us compare quantities that might not be equal. You might see a sign at the amusement park that reads "You must be at least 54 inches tall to ride". A few professions that make use of inequalities are Statisticians, Cashiers, Financial Advisors, Nutritionists, etc.	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.EE.A.1 7.EE.A.2 7.EE.B.3 7.EE.B.4	What is an inequality? How many solutions does an inequality have? How do you graph the solution? When do you use closed circles? Open circles?  How do I get a variable by itself when there is an inequality symbols? What are the similarities and differences between solving equations and inequalities?  Why do you need to flip the inequality symbol when multiplying or dividing by a negative?  What order should we solve multi-step inequalities?	Write and graph inequalities  Solve inequalities by adding or subtracting  Solve inequalities by multiplying or dividing  Solve multi-step inequalities	Discuss real world scenarios where problems can have multiple solutions... "You need at least \$40 to buy something" How could we represent that algebraically?  Recall steps for solving equations and apply to this concept  Speed dating, scavenger hunt, gallery walk are all good options	<a href="http://www.mangahigh.com">www.mangahigh.com</a> Graphing Inequalities game  Genius Boxing <a href="http://www.mrnussbaum.com">www.mrnussbaum.com</a> Solving Inequalities  Sample problems from T.E. - Prentice Hall Course 2 Mathematics Common Core  Whiteboards and Markers (sample problems Course 2 Mathematics T.E.)  Scavenger Hunt Index Cards around the room	Students create their own real world inequalities  Communicators  Activity observations and results



## Unit #8: Geometry

<p><b>Enduring Understandings:</b></p> <p>Throughout the year, students will be introduced to various aspects of Geometry. Students will calculate perimeter, area, volume, and surface area for basic geometric shapes. Students will work with circles (area and circumference).</p>	<p><b>Essential Questions: :</b></p> <ul style="list-style-type: none"> <li>• To what measure do the three angles of a triangle always sum to?</li> <li>• What are complementary/supplementary angles?</li> <li>• How can we use knowledge of rectangular area to find the area of a parallelogram?</li> <li>• What is the formula for the area of a triangle?</li> <li>• Explain the meaning of Pi with respect to the circumference of a circle.</li> <li>• How is a net constructed and what does it represent?</li> <li>• How can the volume of three-dimensional figures be determined?</li> <li>• How can the surface area of three-dimensional figures be determined?</li> <li>• How do two-dimensional and three-dimensional figures differ?</li> <li>• How are nets related to surface area?</li> <li>• Why are cross-sections of three-dimensional figures useful?</li> </ul>
<p><b>Interdisciplinary Connections</b></p> <p><b>TECH 8.1.8.AP.1:</b> Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.  <i>Example:</i> Students will construct geometric figures such as polygons given specific parameters (i.e. an obtuse triangle, a square pyramid, a polygon with fifteen sides, etc.)</p>	
<p><b>Career/Real World Connections</b></p> <p><b>Example:</b> Geometry is one of the most useful fields of mathematics. It can be found in the construction of every building and bridge in the world. Professions that specialize in geometry include Architects, Contractors, Animator, Video Game Developer, Interior Designer, etc.</p>	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.G.A.1 7.G.A.2 7.G.A.3 7.G.B.4 7.G.B.5 7.G.B.6 8.G.C.9	<p>What is a complementary angle?</p> <p>Supplementary angle?</p> <p>Vertical angle?</p> <p>Adjacent angle?</p> <p>How can I find missing angles?</p> <p>What is perimeter/circumference and how do you find it?</p> <p>What formulas do you have to know in order to find area of 2 dimensional figures?</p>	<p>Angle Relationships (Vertical, Complimentary, Supplementary, Adjacent)</p> <p>Find the area and circumference of circles</p> <p>Construct nets and cross sections for 3D figures</p> <p>Find the volume and surface area of 3D figures involving (prisms, pyramids, and cylinders)</p>	<p>Student exploration to find that vertical angles will always be congruent</p> <p>Student exploration to connect Pi to its meaning... the number of times the diameter fits around the circle.</p> <p>Use boxes to have students take apart and construct nets.</p> <p>“slice” open 3D objects to explore cross sections</p>	<p><a href="http://www.geogebra.com">www.geogebra.com</a></p> <p>String and Soup Can <a href="http://www.mathgoodies.com">www.mathgoodies.com</a> Pi day activities</p> <p>Boxes and other cardboard 3D figures</p> <p><a href="https://illuminations.nctm.org/uploadedFiles/Content/Lessons/Resources/6-8/Popcorn-AS-Cylinders.pdf">https://illuminations.nctm.org/uploadedFiles/Content/Lessons/Resources/6-8/Popcorn-AS-Cylinders.pdf</a></p>	<p>Mathcing game</p> <p>Group Results</p> <p>Partners Construction of Nets and cross sections</p> <p>Popcorn guesses and explanations... Calculations after</p>

	What is a net? How do you use a net to help you find surface area? How do you find the volume of 3D figures?		Popcorn activity to explore volumes of different shaped figures. Try to derive formulas	Illuminations Popcorn activity  Popcorn Bags Construction Paper	
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<p><b>Enduring Understandings:</b></p> <p>Throughout the year, students will provide analysis of graphs and tables. They will make predictions based on data and forecast how graphs will behave in the future. Additionally, students will calculate probabilities of both independent and dependent events to calculate the odds of real world events.</p>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• What is a random sample?</li> <li>• What are the characteristics of a good survey question?</li> <li>• How can you describe a set of data using the measures of center?</li> <li>• How can we make inferences about population from data?</li> <li>• Why do we use proportions to estimate population size?</li> <li>• What is probability?</li> <li>• What is the complement of an event?</li> <li>• What is the difference between experimental and theoretical probability?</li> <li>• How is the counting principle used?</li> <li>• What is the difference between independent and dependent events?</li> </ul>
<p align="center"><b>Interdisciplinary Connections</b></p> <p><b>TECH: 8.1.8.AP.3:</b> Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.  <i>Example:</i> Students will use computers to generate a random sampling for experimental probability.</p>	
<p align="center"><b>Career/Real World Connections</b></p> <p><b>Example:</b> The field of Statistics and Data Analysis is invaluable to the world. Almost every business in the world has a team dedicated to research and data analysis. Companies use data to drive planning and future decisions. Fields that specialize in data analysis and statistics are Marketing, Data Engineers, Software Design, Risk Management, Insurance Agencies, Store Managers, etc.</p>	

Guiding / Topical Questions with Specific Standards		Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
7.SP.A.1 7.SP.A.2 7.SP.B.3 7.SP.B.4 7.SP.B.5 7.SP.B.6 7.SP.B.7 7.SP.B.8	<p>What are outcomes, events, and complements of an event in probability? How do you find probability?</p> <p>What is a sample space?</p> <p>What is the counting principle?</p> <p>What is a compound event? When are two events independent or dependent? How do you find the probability of dependent events?</p>	<p>Find the probability and complement of an event occurring</p> <p>Create and use a sample space and the counting principle</p> <p>Find the probability of independent and dependent events</p>	<p>Real World Examples (Die, Cards, Flipping a coin, etc)</p> <p>Introduce tree diagrams, charts, and tables to help with the counting principle</p> <p>“What’s in the bag?” Activity. Pull objects from the bag and have students create probabilities of what will be pulled next. Use examples with and without replacement.</p>	<p>Die, Cards, Coins, Etc</p> <p>Bag (non-transparent) and items</p> <p>Probability Fair  <a href="http://mrnussbaum.com/probfair/">http://mrnussbaum.com/probfair/</a></p> <p>Probability Spinner (twister game) or use Illuminations Adjustable spinner  <a href="https://illuminations.nctm.org/adjustablespinner/">https://illuminations.nctm.org/adjustablespinner/</a></p>	<p>Students should be able to predict what SHOULD happen</p> <p>Students list all possible outcomes of an event.</p> <p>Calculations and predictions</p>

## General Differentiated Instruction Strategies

- Leveled texts
- Chunking texts
- Choice board
- Socratic Seminar
- Tiered Instruction
- Small group instruction
- Guided Reading
- Sentence starters/frames
- Writing scaffolds
- Tangible items/pictures
- Adjust length of assignment

- Repeat, reword directions
- Brain breaks and movement breaks
- Brief and concrete directions
- Checklists for tasks
- Graphic organizers
- Assistive technology (spell check, voice to type)
- Study guides
- Tiered learning stations
- Tiered questioning
- Data-driven student partnerships
- Extra time

Possible Additional Strategies for Special Education Students, 504 Students, At-Risk Students, and English Language Learners (ELLs)

<b>Time/General</b>	<b>Processing</b>	<b>Comprehension</b>	<b>Recall</b>
<ul style="list-style-type: none"> <li>● Extra time for assigned tasks</li> <li>● Adjust length of assignment</li> <li>● Timeline with due dates for reports and projects</li> <li>● Communication system between home and school</li> <li>● Provide lecture notes/outline</li> </ul>	<ul style="list-style-type: none"> <li>● Extra Response time</li> <li>● Have students verbalize steps</li> <li>● Repeat, clarify or reword directions</li> <li>● Mini-breaks between tasks</li> <li>● Provide a warning for transitions</li> <li>● Reading partners</li> </ul>	<ul style="list-style-type: none"> <li>● Precise step-by-step directions</li> <li>● Short manageable tasks</li> <li>● Brief and concrete directions</li> <li>● Provide immediate feedback</li> <li>● Small group instruction</li> <li>● Emphasize multi-sensory learning</li> </ul>	<ul style="list-style-type: none"> <li>● Teacher-made checklist</li> <li>● Use visual graphic organizers</li> <li>● Reference resources to promote independence</li> <li>● Visual and verbal reminders</li> <li>● Graphic organizers</li> </ul>
<b>Assistive Technology</b>	<b>Assessments and Grading</b>	<b>Behavior/Attention</b>	<b>Organization</b>
<ul style="list-style-type: none"> <li>● Computer/whiteboard</li> <li>● Tape recorder</li> <li>● Spell-checker</li> <li>● Audio-taped books</li> </ul>	<ul style="list-style-type: none"> <li>● Extended time</li> <li>● Study guides</li> <li>● Shortened tests</li> <li>● Read directions aloud</li> </ul>	<ul style="list-style-type: none"> <li>● Consistent daily structured routine</li> <li>● Simple and clear classroom rules</li> <li>● Frequent feedback</li> </ul>	<ul style="list-style-type: none"> <li>● Individual daily planner</li> <li>● Display a written agenda</li> <li>● Note-taking assistance</li> <li>● Color code materials</li> </ul>

### **Enrichment**

The goal of Enrichment is to provide learners with the opportunity to participate in extension activities that are differentiated and enhance the curriculum. All enrichment decisions will be based upon individual student needs.

- Show a high degree of intellectual, creative and/or artistic ability and demonstrate this ability in multiple ways.
- Pose questions and exhibit sincere curiosity about principles and how things work.
- The ability to grasp concepts and make real world and cross-curricular connections.
- Generate theories and hypotheses and pursue methods of inquiry.
- Produce products that express insight, creativity, and excellence.
- Possess exceptional leadership skills.
- Evaluate vocabulary
- Elevate Text Complexity
- Inquiry based assignments and projects
- Independent student options

- Tiered/Multi-level activities
- Purposeful Learning Center
- Open-ended activities and projects
- Form and build on learning communities
- Providing pupils with experiences outside the 'regular' curriculum
- Altering the pace the student uses to cover regular curriculum in order to explore topics of interest in greater depth/breadth within their own grade level
- A higher quality of work than the norm for the given age group.
- The promotion of a higher level of thinking and making connections.
- The inclusion of additional subject areas and/or activities (cross-curricular).
- Using supplementary materials in addition to the normal range of resources.

### **English Language Learner (ELL) Resources**

- Learning style quiz for students- <http://www.educationplanner.org/students/self-assessments/learning-styles-quiz.shtml>
- "Word clouds" from text that you provide-<http://www.wordle.net/>
- Bilingual website for students, parents and educators: <http://www.colorincolorado.org/>
- Learn a language for FREE-[www.Duolingo.com](http://www.Duolingo.com)
- Time on task for students-<http://www.online-stopwatch.com/>
- Differentiation activities for students based on their Lexile-[www.Mobymax.com](http://www.Mobymax.com)
- WIDA-<http://www.wida.us/>
- Everything ESL - <http://www.everythingESL.net>
- ELL Tool Box Suggestion Site [Http://www.wallwisher.com/wall/ell toolbox](http://www.wallwisher.com/wall/ell_toolbox)
- Hope4Education - <http://www.hope4education.com>
- Learning the Language <http://blogs.edweek.org/edweek/learning-the-language/>
- FLENJ (Foreign Language Educators of NJ) 'E-Verse' wiki: <http://www.flenj.org/Publications/?page=135>
- OELA - <http://www.ed.gov/offices/OBEMLA>
- New Jersey Department of Education- Bilingual Education information <http://www.state.nj.us/education/bilingual/>

### **Special Education Resources**

- Animoto -Animoto provides tools for making videos by using animation to pull together a series of images and combining with audio. Animoto videos or presentations are easy to publish and share. <https://animoto.com>
- Bookbuilder -Use this site to create, share, publish, and read digital books that engage and support diverse learners according to their individual needs, interests, and skills. <http://bookbuilder.cast.org/>
- CAST -CAST is a non-profit research and development organization dedicated to Universal Design for Learning (UDL). UDL research demonstrates that the challenge of diversity can and must be met by making curriculum flexible and responsive to learner differences. <http://www.cast.org>
- CoSketch -CoSketch is a multi-user online whiteboard designed to give you the ability to quickly visualize and share your ideas as images. <http://www.cosketch.com/>
- Crayon -The Crayon.net site offers an electronic template for students to create their own newspapers. The site allows you to bring multiple sources together, thus creating an individualized and customized newspaper. <http://crayon.net/> Education Oasis -Education Oasis offers a collection of graphic organizers to help students organize and retain knowledge – cause and effect, character and story, compare and contrast, and more! <http://www.educationoasis.com/printables/graphic-organizers/>
- Edutopia -A comprehensive website and online community that increases knowledge, sharing, and adoption of what works in K-12 education. We emphasize core strategies: project-based learning, comprehensive assessment, integrated studies, social and emotional learning, educational leadership and teacher development, and technology integration. <http://www.edutopia.org/>
- Glogster -Glogster allows you to create "interactive posters" to communicate ideas. Students can embedded media links, sound, and video, and then share their posters with friends. <http://edu.glogster.com/?ref=personal>
- Interactives – Elements of a Story -This interactive breaks down the important elements of a story. Students go through the series of steps for constructing a story including: Setting, Characters, Sequence, Exposition, Conflict, Climax, and Resolution. <http://www.learner.org/interactives/story/index.html>
- National Writing Project (NWP) -Unique in breadth and scale, the NWP is a network of sites anchored at colleges and universities and serving teachers across disciplines and at all levels, early childhood through university. We provide professional development, develop resources, generate research, and act on knowledge to improve the teaching of writing and learning in schools and communities. <http://www.nwp.org>
- Pacecar -Vocab Ahead offers videos that give an active demonstration of vocabulary with audio repeating the pronunciation, definition, various uses, and synonyms. Students can also go through flash cards which give a written definition and visual representation of the word. <http://pacecar.missingmethod.com/>