ROBBINSVILLE PUBLIC SCHOOLS

OFFICE OF CURRICULUM AND INSTRUCTION

MATHEMATICS

MATH LAB 9

Board of Education

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BOARD OF EDUCATION INITIAL ADOPTION DATE:

Course Philosophy

The New Jersey Student Learning Standards set a lofty goal for the mathematics curriculum when they state "All of our children, as well as our state and our nation, will be better served by higher expectations, by curricula that go far beyond basic skills and include a variety of mathematical models, and by programs which devote a greater percentage of instructional time to problem-solving learning." In addition, they adopt the Principals for School Mathematics published by the National Council of Teachers of Mathematics (NCTM) that address the overarching themes of equity, curriculum, teaching, learning, assessment and technology, with three key components including:

Equity: "Excellence in mathematics education requires equity - high expectations, worthwhile opportunities, accommodation for differences, resources, and strong support of all students."

Learning: "Conceptual understanding is an important component of proficiency. Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge. Learning with understanding is essential to enable students to solve the new kinds of problems they will inevitably face in the future."

Technology: "Technology, not to be used as a replacement for basic understandings and intuitions, is an essential tool in teaching and learning mathematics; it influences the mathematics that is taught, supports visualization, facilitates organizing and analyzing data, and offers computation."

The New Jersey Student Learning Standards seek to narrow the focus and foster a coherent progression of skills and concepts across grade levels. In addition, they require both mastery of conceptual understanding and procedural fluency. We seek to adopt these practices and share the nation's goal to enrich mathematics education.

It is our belief that the content of a mathematics course is brought to life for the student when it involves the student in investigating real-world applications using inductive and deductive reasoning while working cooperatively with others and communicating mathematically. This is reinforced by the use of technology and the use of real-world data. In order to be competitive in today's global, information-based economy, students' mathematics experience must go beyond computation so that they are able to solve real problems, reason effectively, make logical connections, and think mathematically.

Through engagement in mathematics learning outlined in this curriculum, the students of Robbinsville Public Schools will acquire the mathematical skills, understanding and reasoning to be successful citizens of the world.

Course Description

This MATH LAB 9 course is designed to remediate identified elementary and middle-school level skill gaps while emphasizing foundational content for Algebra. It is recommended for students based on standardized test scores and other entrance criteria. The course allows for one-on-one and small group learning with teacher support to remediate and reinforce identified elementary and middle-school level skill gaps throughout the school year. The foundational pre-skills for Algebra that are reinforced include operations with integers (signed numbers), operations with fractions and rational numbers (common denominators and decimal placement), number sense on a number line, the proper order of operations (PEMDAS), factors of a number, perfect squares and square roots, variables and solving one-variable and two-variable equations and inequalities, proportions, functions and identifying function patterns, and algebra readiness for linear and quadratic functions.

The MATH LAB 9 course also serves as a companion course for Algebra 1 to reinforce and remediate learned skills with repetition and support, and allow for additional hands-on practice time to strengthen understanding of Algebra 1 concepts including solving equations and inequalities, linear functions and solving systems of linear equations, operations with polynomials, factoring, quadratic functions, exponential functions, rational expressions, and data analysis. Problem solving situations are emphasized and practiced regularly.

Student learning is also individualized through a web-based program called Imagine Learning Math 3+ that personalizes student learning and immerses students in a math language-rich curriculum that scaffolds curriculum for each learner, and leads students to deeper understanding of material and college and career readiness.

Core and Supplemental Instructional Materials

Core Materials	Supplemental Materials
 Imagine Math 3+ Imagine Learning Prentice Hall Mathematics PreAlgebra and Algebra 1 textbooks RHS Algebra 1 Curriculum standards DESMOS Algebra/Math Lab Curriculum (Dr. Milou) Algebra/Math Lab Unit Resources - Google Sheets 	 Google Jamboards (teacher prepared resources) DESMOS Graphing Calculator & Resources <u>Desmos Beautiful, Free Math</u> PSAT Prep 2021 Edition, Kaplan College Board 2020 Edition The Official SAT Study Guide ixl.com: <u>IXL Math Learn math online</u> NCTM Illuminations: <u>Illuminations (nctm.org)</u>

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 will self-identify their areas of strength and weakness as they reflect on the Diagnostic Benchmark in Imagine Learning during the first week of school as well as on the Summer Packet for Algebra 1.

Example 2: Students will show retention of skills and gain confidence and optimism about taking the Post Quizzes in Imagine Learning by showing mastery and familiarity with some questions being identical to and similar to the questions from the Guided Practice and Practice sections.

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 choose the number of sections to complete in our Imagine Learning web-based program each block. They pace themselves to meet the benchmark goal of the week and month, and have the option to ask for teacher assistance when frustrated, or work on other homework to reduce their overall stress.

Example 2: Students are given the option to choose their greatest need each block to manage their support needs for their Algebra 1 class or Imagine Learning goals. They self-identify and manage their workload each block to ensure homework and study guide completion and needs for all classes are met.

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 collaborate regularly in socially diverse groups during our Jamboard practice sessions where they can see each other's work in real-time and communicate/ask questions of others. They share their thought process and solving techniques with others.
Example 2: Cultural diversity is built into applications and word problems on a regular basis. This includes using both culturally diverse names (such as Mukesh, LaQuisha, Pratham, Daphee, LeBron) and places, items and holidays (such as Budapest, Quatar, Sarees, Yom Kippur, Kwanza, Holi).

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 and Teacher spend a minimum of 10 minutes per block sharing weekend plans or daily happenings, what happened at their job, favorite meals and what's for lunch, happenings or struggles in other classes, and sports. Teacher encourages participation with questions. **Example 2:** On "Music Mondays", students take turns sharing their favorite songs to be played in class during independent practice time. This usually leads into "oh, I love that song too", "have you heard this one", or "have you seen them in concert" and conversations between students and with the teacher.

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 are given the opportunity to agree on a "plan" for who gets to sit in the one special rolling chair in class each block to be fair, respectful and considerate of all students in the class.

Example 2: Students are given the choice to complete math work by writing on desks, whiteboards, and windows in the classroom as long as they are responsible and wipe-off/clean all work before the bell rings each block.

Integration of 21st Century Themes and Skills

NJSLS-CLKS 9.4: Life Literacies and Key Skills			
Creativity and Innovation	See specific standards and their connections/examples for this disciplinary concept listed within each individual unit		
	Can be found in unit: 1,2,3,4		
	See specific standards and their connections/examples for this disciplinary concept listed within each individual unit		
Critical Thinking and Problem Solving	Can be found in unit: 1,2,3,4,5		
Digital Citizenship	See specific standards and their connections/examples for this disciplinary concept listed within each individual unit		
	Can be found in unit: n/a		
Global and Cultural Awareness	See specific standards and their connections/examples for this disciplinary concept listed within each individual unit		
	Can be found in unit: n/a		
Information and Media Literacy	See specific standards and their connections/examples for this disciplinary concept listed within each individual unit		
	Can be found in unit: 2,4		
Technology Literacy	See specific standards and their connections/examples for this disciplinary concept listed within each individual unit		
	Can be found in unit: 1,2,3,4,5		

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.

Career Awareness and Planning Standards 9.2		
9.2.12.CAP.3 Investigate how continuing education contributes to one's career and personal growth.	Example : In the beginning of the year, students identify their desired career after high-school and plans for college and continuing education and learn about how mathematics is used/required for life experiences needed to pursue their desired career. A "Mathematics in Careers" Poster is hung in the back of the classroom for ideas as needed.	
9.2.12.CAP.5: Assess and modify a personal plan to support current interests and postsecondary plans.	Example: Students will decide if their postsecondary plans will include the need for mathematics (specifically algebra), and if so, what next steps they may take to achieve them, including choosing to practice through SAT Math, ACT Math, and other college entrance test practice during Marking Period 4.	
9.2.12.CAP.22: Explain low-cost and low-risk ways to start a business.	Example: In Unit 3, students will analyze/compare two different business scenarios with differing starting investment costs and potential profit per month (slope-intercept form) to explain which model they would choose at given times and to identify when the businesses would break-even and match a return on the investment.	

Robbinsville Public Schools Scope, Sequence, Pacing and Assessment

Math Lab 9

Unit Title	Unit Understandings and Goals	Recommended Duration/ Pacing	Assessments
Unit 1 Diagnostic and Algebra Readiness Basic Skills Reinforcement and Review	 Identify elementary and middle-school level skill gaps for each individual student through a diagnostic benchmark assessment in imaginelearning.com Students will self-reflect and self-identify their individual learning needs from imagine learning diagnostic benchmark and algebra 1 summer packet skills Identify a personalized learning plan to remediate and reinforce identified skill gap concepts Review essential foundational pre-skill concepts for Algebra Readiness including but not limited to operations with integers (signed numbers), operations with fractions and rational numbers (common denominators and decimal placement), number sense on a number line, factors of a number, applying the distributive property, the proper order of operations (PEMDAS) Identify and review proper use of TI-84 graphing calculator as a tool including but not limited to properly squaring signed numbers, using MATH button for fraction/decimal conversions, cubing numbers, taking roots of numbers, using ^ button for powers, etc. 	5 weeks Note: depending on student needs, topics may be readdressed in each of the following units as needed Note: Students will work at their own pace in Imagine Learning and will be in many different places at once, teacher shares time equally and does whatever it takes to make students feel successful wherever they may be in their learning journey, teacher works one-on-one with slower learners to ensure progress is made each week	 Formative Algebra 1 Summer Packet Survey and Self-Reflection followed by individualized support on Summer Packet Topics Google Jamboard Quick Checks Graphing Calculator Pre-Assessment Summative Graphing Calculator Post-Assessment Diagnostic Benchmark in Imagine Learning Common Benchmark Assessments (mid/end of course) Benchmark #1 in Imagine Learning Alternative Assessments: DESMOS resources and activities <u>Online Resources Dr. Milou - Google Sheets</u> Whiteboard question responses and Small Group Brainstorm discussions Algebra 1 Summer Packet support individualized and small group support activities as requested or as needed in discussions/collaboration with Algebra 1 teacher Toss-Across Game for Factors of a Number

Unit 2 Algebra Readiness Preskill Reinforcement for Solving Equations and Inequalities Concepts	 Identify elementary and middle-school level skill gaps for each individual student through mini pre assessments on Unit topics Review essential foundational pre-skill concepts for Algebra Readiness including but not limited to concept(s) of variables, adding signed numbers and terms, combining like terms, distributive property, solving one and two-step equations and inequalities, removing fractions from an equation using common denominator Solve multi-step equations and equations with variables on both sides including rational numbers Solve literal equations and transform formulas Write, solve and apply proportions in real-life context Solve multi-step inequalities and graph solutions on a number line Solve applications and word problems involving equations and inequalities 	8 weeks	 Formative Imagine Learning Pre-Quiz, Warm-up Games, Guided Learning and Practice Sections Mini PreAssessment(s) on Unit topics Google Jamboards (teacher-prepared) DESMOS activities <u>Online Resources Dr. Milou -</u><u>Google Sheets</u> Teacher observations and feedback Polygraph lines Guess Who? Game (in Desmos) Versatiles activities (teacher-prepared) Summative Google Jamboard Assessment(s) (teacher-prepared) Post-Quizzes in Imagine Learning Common Benchmark Assessments (mid/end of course) Benchmark in Imagine Learning Alternative Assessments (projects, etc when appropriate) Student created word problems and feedback Homework support for Algebra 1 DESMOS practice activities <u>Online Resources Dr. Milou -</u><u>Google Sheets</u>
Unit 3 Algebra Readiness Preskill Reinforcement for Linear Functions and Systems	 Identify elementary and middle-school level skill gaps for each individual student through mini pre assessments on Unit topics Review essential foundational pre-skill concepts for Algebra Readiness including but not limited to subtraction of signed numbers, concept(s) of slope, plotting points (x,y) properly in coordinate plane, x&y-intercepts, slope-intercept form of a line y = mx+b with emphasis on proper vocabulary, graphing linear functions given its equation or table of values, writing linear functions given its graph or table of values, using TI-84 graphing 	8 weeks	Formative • Imagine Learning Pre-Quiz, Warm-up Games, Guided Learning and Practice Sections • Mini PreAssessment(s) on Unit topics • Google Jamboards • DESMOS activities <u>Online Resources Dr. Milou - Google Sheets</u> • Teacher observations and feedback • Summative • Google Jamboard Assessment(s) • Post-Quizzes in Imagine Learning Common Benchmark Assessments (mid/end of course) • Benchmark in Imagine Learning

	 calculator to graph a line and identify points in table Solve Linear Systems using Elimination Solve Linear Systems using Substitution Solve Linear Systems graphically Solve real-world applications involving linear systems Graph and Solve Systems of Inequalities Support students with any areas of concern from Algebra 1 teacher 		 Alternative Assessments (projects, etc when appropriate) Student created problems and feedback Homework support for Algebra 1 Graphing on Large Pull-Down Graph in class DESMOS practice activities <u>Online Resources Dr. Milou</u> <u>Google Sheets</u> .
Unit 4 Algebra Readiness Preskill Reinforcement for Polynomials, Factoring and Quadratics	 Identify elementary and middle-school level skill gaps for each individual student through mini pre assessments on Unit topics Review essential foundational pre-skill concepts for Algebra Readiness including but not limited to concept(s) of operations with signed numbers, reinforcing multiplication table recall to 20x20, finding all factors of a number, finding factors of a number that sum to another number, identifying and combining like terms, applying distributive property, identifying greatest common factors Perform operations with polynomials Factor polynomials by grouping Identify and label important parts of a quadratic graph and their behaviors focusing heavily on vocabulary, identify standard and vertex forms and memorization of formulas used in each Solve quadratics by factoring, taking square roots, and by using quadratic formula Represent and analyze real-world situations using quadratic functions Support students with any areas of concern from Algebra 1 teacher 	12 weeks	 Formative Imagine Learning Pre-Quiz, Warm-up Games, Guided Learning and Practice Sections Mini PreAssessment(s) on Unit topics Google Jamboards (teacher-prepared) DESMOS activities <u>Online Resources Dr. Milou - Google Sheets</u> Teacher observations and feedback Versatiles activities (teacher-prepared) Polygraph Quadratic Guess Who? Game (in Desmos) Summative Google Jamboard Assessment(s) Post-Quizzes in Imagine Learning Common Benchmark Assessments (mid/end of course) Benchmark in Imagine Learning Alternative Assessments (projects, etc when appropriate) Student created application problems and feedback Homework support for Algebra 1 Graphing on Large Pull-Down Graph in class DESMOS practice activities <u>Online Resources Dr. Milou - Google Sheets</u> Toss-Across Game for Factors of a Number

Unit 5 Reinforcement and HW Help for Algebra 1 Course and Mixed PSAT/SAT/ACT Practice for Repetition of learned skills	Init 5-Review essential foundational pre-skillRemainingeinforcement and HW Help or Algebra 1 Course and Mixed-Review essential foundational pre-skillRemainingSAT/SAT/ACT Practice for epetition of learned skillsfor HW support for Algebra 1 class including but not limited to concept(s) of square roots, perfect squares (diagonal on multiplication table), cube roots, etc.Note: stup pacing of 1-4 and w through repetition on Algebra 1 skills•Use Pythagorean Theorem to solve right triangle problemsSome may finish in t reinforcer roots	Remaining weeks in school year Note: students will vary in their pacing of Units 1-4 and will reach Unit 5 readiness in their own pacing, some may not finish in time for reinforcement and will still be learning core skills	 Formative Imagine Learning Pre-Quiz, Warm-up Games, Guided Learning and Practice Sections Mini PreAssessment(s) on Unit topics including 5min multiplication table challenge, minute to win it perfect squares on multiplication table diagonal Google Jamboards DESMOS activities <u>Online Resources Dr. Milou - Google Sheets</u> Teacher observations and feedback Pythagorean Theorem Escape Room (teacher-prepared in Desmos) Summative Google Jamboard Assessment(s)
	 Rational Expressions Data Analysis Support students with any areas of concern from Algebra 1 teacher Unit 1 through 4 repetition and reinforcement through PSAT/SAT/ACT practice 	Note: teacher will prioritize HW help and support and repetition with Algebra 1 skills over reinforcement with standardized testing practice	 Post-Quizzes in Imagine Learning Common Benchmark Assessments (mid/end of course) Benchmark in Imagine Learning Alternative Assessments (projects, etc when appropriate) PSAT/SAT/ACT practice on Unit 1-4 learned skills (mix of small group, partners, and individual challenges) Homework support for Algebra 1 DESMOS practice activities <u>Online Resources Dr. Milou</u> <u>Google Sheets</u>

Unit #1: Diagnostic and Algebra Readiness Basic Skills Reinforcement and Review

Enduring Understandings:	Essential Questions:		
• Strengthening elementary and middle school level foundational pre-skills	• Which elementary and middle school foundational skills should you		
will aid student success in high-school Algebra.	review and reinforce to help you be successful in Algebra?		
• Signed numbers can be added and subtracted correctly using a number	• How can you use a number line to compare and perform operations		
line model.	with numbers?		
• Students can determine and interpret the components of algebra	• Can expressions that appear to be different be equivalent?		
expressions using proper vocabulary.	• How can I apply previous understandings of operations with		
• Algebraic expressions can be simplified, translated, and evaluated using	fractions to add, subtract, multiply and divide rational numbers?		
the Order of Operations (PEMDAS) and Properties of Algebra to generate	 How do you simplify expressions containing fractions? 		
equivalent expressions.	• How can the TI-84 graphing calculator, when allowed, help me work		
• The TI-84 graphing calculator is a useful tool in mathematics if you	more efficiently and save effort in Algebra?		
understand all of its capabilities.			
Interdisciplinary Connections			

NJSLS Technology Literacy 9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task (e.g., W.11-12.6.).

Example: Students will learn that the use of the TI-84 graphing calculator and its capabilities, when allowed, can save time and effort when problem-solving.

NJSLS Creativity and Innovation 9.4.12.CL1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a). Example: Students will learn that they will need a growth mindset in the Math Lab 9 classroom and that it is a safe space for mistakes, that they will learn from their mistakes, and that mistakes are an important part of successful learning.

Guidi wit	ing / Topical Questions th Specific Standards	Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
Standar	How can I overcome my	Students will become self-aware of their	Guided and Independent Practice	Imagine Learning Math	Imagine Learning Math
d for	feelings of anxiety,	elementary and middle-school level skill gaps.	Activities in Imagine Learning Math	3+ Diagnostic	3+ Diagnostic
Mathe	negative past experiences		3+ Program	Benchmark	Benchmark
matical	in math, and fear of	Students will understand that the Math Lab			
Practice	failing?	course will help develop stronger skills for	Use Whiteboards and Windows for	Teacher-prepared	Untimed Basic Skills
#1		success in high-school Algebra.	analyzing student work	materials for basic	Diagnostic
	What can I do when I			skills diagnostic	(teacher-prepared)
9.4.12.	don't understand a topic in		Getting to know students' likes,		
CI.1	math?		dislikes, how they learn best, what		

	Do I understand my individual strengths and weaknesses after taking the Imagine Learning Diagnostic and PreAssessment in Math Lab 92	Students will understand that the Math Lab classroom is a safe space designed to support them unconditionally for success.	they've liked and disliked about math in previous years, and their interests outside of schol to build into lessons Music Mondays!	How do I Learn Best? Survey (teacher-prepared) ixl.com	How do I Learn Best? Survey Google Jamboard Mini-Practice Sessions Discussion Questions
5.NBT. B 7.NS.A 7.EE.A	How can you use a number line (in back of room) to properly add and subtract signed numbers? What is the proper order of operations to simplify an algebra expression?	Add, subtract, multiply and divide signed numbers. Understand and use the properties of numbers. Use the order of operations (PEMDAS) to simplify algebraic expressions.	Use untimed Imagine Learning Pre-Quiz, Warm-up Games, Guided Learning and Practice Sections (students take independent paths, and may pre-quiz out of a section they have previously mastered to move toward following units)	Imagine Learning Math 3+ Teacher-prepared materials DESMOS activities	Imagine Learning Math 3+ Post-Quizzes Google Jamboard mini-assessments Whiteboard response questions
5.NF.A	How do you add or subtract fractions with unlike denominators?	Add and subtract fractions and decimals.	Use Guided and Independent Practice Activities Use Whiteboards and Windows for analyzing student classwork practice	Google Jamboard teacher-prepared practice Number line in back of	Small group brainstorm assessments (teacher listens to student discussions)
A.SSE. B3 6.EE.A 2 7.EEA 1,2 6.EE.A 3,4	What is the proper vocabulary for the parts of an algebra expression? How do you simplify algebra expressions like 6y+4y?	Determine and interpret the components of algebra expressions including terms, factors, variables, coefficients, constants, and parts of powers in number and word problems. Identify and combine like terms. Apply the distributive property.	Use Google Jamboard for cooperative learning activities Use class whiteboard practice for immediate feedback	TI-84 Graphing Calculators	
Standar d for Math Practice #5 9.4.12. TL.1	How do you properly square a negative number using the TI-84 graphing calculator? What operations can you perform using the MATH button on the TI-84 graphing calculator?	Use TI-84 graphing calculator as a tool to: - properly square signed numbers - perform operations with signed numbers - convert fractions and decimals - cube numbers - take roots of numbers - take higher powers using ^ symbol plus others			

9.4.12. TL.2	How can you simplify a fraction using the TI-84?		
9.4.12. CT.1	How can you convert between fractions and decimals using the TI-84? How do you take square roots, cube roots and higher roots using the TI-84?		

Unit #2: Algebra Readiness Preskill Reinforcement for Solving Equations and Inequalities Concepts

Enduring Understandings:	Essential Questions:		
• You can use properties of numbers and properties of equality to	• How do you identify "like terms" to combine them?		
transform equations into equivalent, simpler equations and find solutions.	• What order of operations should you use to solve two-step equations?		
• You can use equations to model real-world situations and find unknown	multi-step equations?		
quantities.	• How do you know which inequality symbol to use?		
• You can use algebraic inequalities to represent relationships between	• How can you solve the formula for Perimeter $(P = 2l + 2w)$ for the		
quantities that are not equal.	width, w?		
• You can rearrange any formula for one of its variables using properties	• What real-world everyday problems can be solved using proportions?		
of equality.			
Interdisciplinary Connections			

NJSLS - CLKS Computer Science and Design Thinking 8.2.12.ED.2: Create scaled engineering drawings for a new product or system and make modification to increase optimization based on feedback.

Example: Students will use proportions to find missing dimensions on scaled drawings, and/or real-world dimensions using scaled drawings.

NJSLS - CLKS Personal Finance - 9.1.12.PB.2: Prioritize financial decisions by considering alternatives and possible consequences. Example: Students will create and use equations and inequalities to compare two different investments and/or two different membership plans to identify when (months, years) the costs will be the same, and/or make a decision as to which one would be a better choice for a given amount of time (months, years).

Guidi wi	ing / Topical Questions th Specific Standards	Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
6.EE.A	How do I identify like	Identify and combine like terms.	Use untimed Imagine Learning	Imagine Learning Math	Imagine Learning Math
3,4	terms to combine them?		Pre-Quiz, Warm-up Games, Guided	3+	3+ Post-Quizzes
		Use Distributive Property (focus on negative	Learning and Practice Sections		
8.EE.C	How can you tell how many	signs).	(students take independent paths, and	Teacher-prepared	Google Jamboard
7	solutions an equation has?		may pre-quiz out of a section they	materials	mini-assessments
A-REI.		Solve one and two-step equations.	have previously mastered to move		
A1, A2			toward following units)	NJSLA Formula	Whiteboard response
		Remove fractions from equations by multiplying		Reference Sheet (literal	questions
A-REI.	How is solving an equation	both sides by a common denominator.	Use Guided and Independent Practice	equations section -	
B3	with two variable terms on		Activities	revise formulas to	Student created
	one side of the equal sign	Solve multi-step equations with variables on		solve for specific	examples for
	different than solving an	both sides.	Use Whiteboards and Windows for	variables)	properties of equality
	equation with variable		analyzing student classwork practice		and properties of
	terms on both sides of the			DESMOS activities	

	equal sign?	Identify equations that are identities or have no	Use Google Jamboard for cooperative		numbers justifying each
A-CED		solution.	learning activities	Google Jamboard	step in simplifying
.A4	How can you rearrange the			teacher-prepared	
	Volume formula to solve	Solve literal equations and transform formulas	Use class whiteboard practice for	practice	Small group
	for the length?	for one of its variables.	immediate feedback		brainstorm
				Number line in back of	assessments (teacher
6.EE.B	How can you use	Write, solve, and apply proportions in real-life	Use Challenge Creators in DESMOS	classroom	listens to student
8	proportions to find a	context, using Cross Products Property.	for students to create their own unique		discussions)
7.EE.B	distance that is difficult to		problems and solve other	TI-84 Graphing	
4a,b	measure?		student-created problems.	Calculators	
A.REI.					
B3	What does the scale on a			NJSLA Formula	
	map tell you?			Reference Sheet (literal	
				equations section -	
7.EE.B	How do you identify a	Write, graph, and solve/interpret a simple		revise formulas to	
3,4	number set of all numbers	inequality		solve for specific	
A CED	less than 10?			variables)	
A-CED		Solve and graph solutions for two-step and			
.A1		multi-step inequalities			
0.EE.A 2					
2	How can you use equations	Define a variable in terms of another variable			
A CED	to determine the most	(skill for applications and word problems)			
A1	economic membership	(skin for applications and word problems)			
	based on monthly cost and	Solve applications and word problems using			
9.4.12.	sign-up fee?	equations and inequalities.			
CI.1	- 0 °F · · · ·	1			
9.4.12.		Create unique application problems to be solved			
CT.2		by other students in class.			
9.4.12.I					
ML.3					
9.4.12.		Use TI-84 Graphing Calculator as a tool to			
TL.1		solve equations and inequalities.			
9.4.12.					
TL.4					

Unit #3: Algebra Readiness Preskill Reinforcement for Linear Functions and Systems

Enduring Understandings:	Essential Questions:		
• A linear function is a relationship that pairs one input value with exactly	• In what order do you plot an ordered pair (x,y)?		
one output value forming a line. You can use words, tables, equations, sets of	• What are two ways to find the slope of a line?		
ordered pairs, and graphs to represent linear functions.	• How do you know when a function relationship is linear?		
• Slope is the steepness of a line, or its vertical change divided by its	• What are the slope and y-intercept of $y = -2x+3$?		
horizontal change between any two given points.	• What real-world situations can be modeled using a linear function?		
• Linear functions can be written in three main forms: slope-intercept	• What does the Standard Form of a line equation help you find easily?		
form ($y = mx+b$), point-slope form ($y-y1=m(x-x1)$), and standard form (Ax+By	• How do you know when lines are parallel? perpendicular?		
= C) with each communicating different information.	• What types of lines have a slope of 0? undefined slope?		
• A linear system can be solved graphically or algebraically using	• What are the 3 types of solutions for a linear system?		
substitution method or elimination method.	• In what form do the line equations of a linear system need to be		
• A system of inequalities can be solved graphically to show a region of a	entered to solve it using a TI-84 graphing calculator?		
graph that represents all of its solutions.	• How can you determine whether an ordered pair is a solution of a		
• You can represent many real-world mathematical problems algebraically.	system of linear inequalities?		
When you need to find two unknowns, you may be able to write and solve a			
system of equations or inequalities.			
Interdisciplinary	Connections		

NJSLS CLKS Career Awareness and Planning 9.2.12.CAP.22: Compare risk and reward potential and use the comparison to decide whether starting a business is feasible.

Example: Students will use linear systems to compare income potential, start-up costs, etc. of two businesses to decide which one will earn the most, which combination of purchased materials with maximize revenue and many others.

Science HS-LS4-5: "Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species,"

Example: Students will use linear equations to model the data of a population of a species growing over time, like the number of kangaroo in Australia or number of rhinos in zoos.

Guiding / Topical Questions with Specific Standards Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
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5.G.A1	What is the proper way to	Plot ordered pairs (x,y) on a coordinate plane.	Use untimed Imagine Learning	Imagine Learning Math	Imagine Learning Math
	plot a point (x,y) on the		Pre-Quiz, Warm-up Games, Guided	3+	3+ Post-Quizzes
	coordinate plane?		Learning and Practice Sections		
			(students take independent paths, and	Teacher-prepared	Google Jamboard
F-IF.B.	How does finding a line's	Determine slope of a line given two points on	may pre-quiz out of a section they	materials	mini-assessments
6	slope by counting units of	the line, including properly subtracting signed	have previously mastered to move		
	vertical and horizontal	numbers.	toward following units)	NJSLA Formula	Whiteboard response
8.F.A2	change on a graph			Reference Sheet (literal	questions
	compare with finding it	Determine slope of a line from tables, graphs,	Use Guided and Independent Practice	equations section -	
	using the slope formula?	and ordered pairs.	Activities	revise formulas to	Student created
0 - 1 - 1 - 2	XX71 . 1 11			solve for specific	examples for
8.F.A3	What does m and b	Identify and name proper vocabulary for the	Use Whiteboards and Windows for	variables)	properties of equality
	represent in the	parts of a linear function in slope-intercept	analyzing student classwork practice	DESMOS	and properties of
	slope-intercept form of a	Iorm y-mx+b.	Use Coople Ismboard for approxima	DESMOS activities	numbers justifying each
	inte equation?		lograting activities	Coogle Jamboard	step in simpilying
E IEC7	Why is the slope intercept	Graph linear functions given its equation or	learning activities	teacher prepared	Small group
a -11.07	form of a line equation	table of values	Use class whiteboard practice for	practice	brainstorm
Æ-BFA	called the 10-second	table of values.	immediate feedback	praetiee	assessments (teacher
1	graph?			Number line in back of	listens to student
-	Subu		Use Challenge Creators in DESMOS	classroom	discussions)
8.F.B4	How does a table of values	Write linear functions given its graph or table of	for students to create their own		,
F-LE.B	help you write a linear	values.	problems to be solved by other	TI-84 Graphing	
5	equation?		students in class	Calculators	
A-CED	*	Write and graph linear functions using			
.A2		point-slope form.		NJSLA Formula	
				Reference Sheet (literal	
F-IF-B	Why do you substitute 0 for	Write and graph linear functions using Standard		equations section -	
4	y to find the x-intercept?	Form.		revise formulas to	
				solve for specific	
F-IF.C7	In what form do line	Use TI-84 graphing calculator to graph a line		variables)	
а	equations need to be	and identify its table of values.			
0.4.4.0	converted to in order to				
9.4.12.	graph using 11-84 graphing	Determine whether lines are parallel.			
11.1	calculator?	perpendicular, or neither.			
		Write equations for percellel and percendicular			
		lines			
		Intes.			
		Transform one form of a line equation to			
F-IF.C8		another, for example, slope-intercept form to			
		standard form.			

A-REI.	How does graphing each	Solve Linear Systems graphically by hand and	see list above	see list above	see list above
C6	linear equation in a system	by using TI-84 graphing calculator.			
A-REI-	help you find the solution?				
D11					
	How can your fingers be	Identify the three possible solution types for a			
	used to represent a linear	linear system.			
	possible solution types?				
	possible solution types.				
	When is Substitution a better	Solve Linear Systems algebraically using			
	method than graphing for	Substitution.			
	solving a system of linear				
	equations?				
	If you add two aquations in	Solva Linear Systems algebraically using			
C5	two variables and the sum is	Elimination.			
	an equation in one variable,				
	what method are you using to				
	solve the system?				
A-CED	How do you use a linear	Write a linear system to describe a real-world			
.A3	break-even point for a new	solving			
	business?	solving.			
A-REI.		Graph and solve systems of linear inequalities			
D12	How can you determine	and apply to real-world situations.			
	whether an ordered pair is a				
	solution of a system of linear				
0.0.10	inequalities?				
9.2.12. CAP22	Which business investment		students are restaurant owners and		
0/11.22	will vield more profitable?		need to make a business decision to		
9.4.12.			optimize pounds of tomatoes for		
TL.1			meals given cost and space constraints.		
9.4.12.					
C1.2					
9.4.12.					
TL.4					
9.4.12.					
LU.1	1		1		1

9.4.12.			
IML.3			

Unit #4: Algebra Readiness Preskill Reinforcement for Polynomials, Factoring and Quadratics

Enduring Understandings:	Essential Questions:		
• When you add, subtract, multiply, divide, and factor polynomials, you	• How do you know when you have like terms to combine?		
replace one expression with an equivalent expression.	• What are all the factors of a given number, say 24? What are factors		
• You can write some quadratic trinomials as the product of two binomial	of 24 that sum to 10? What are factors of -24 that sum to 2?		
factors.	• How do you find the Greatest Common Factor of a Polynomial?		
• The family of quadratic functions has equations of the form	• What can you identify about a quadratic function just by looking at its		
$f(x) = ax^2 + bx + c$. The graph of a quadratic function is a parabola. The	graph?		
important parts of a quadratic to identify are its Axis of Symmetry, Vertex Point,	• How is factoring a quadratic in the form $x^2 + bx + c = 0$ similar		
y-intercept and x-intercept(s).You can solve quadratic equations by several methods, including	to and different from factoring a quadratic in the form $ax^2 + bx + c = 0$		
graphing, taking square roots, factoring and by using the quadratic formula. Sometimes the characteristics of the equation make one method more efficient	 If a quadratic equation is not factorable, what can you use to solve it? What does the discriminant (portion of the quadratic formula under 		
than the others.	the radical) tell you about the number of solutions a quadratic equation will		
• Many real-world situations can be modeled using quadratic functions,	have?		
like fireworks, throwing a ball in the air, or diving off a diving board.	• If an aerial firework is projected from a starting height of 610 ft, with		
	an initial upward velocity of 88 ft/s, how long will it take for it to reach its		
	maximum height?		

Interdisciplinary Connections

Science HS-PS2-1: Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration. [Clarification Statement: Examples of data could include tables or graphs of position or velocity as a function of time for objects subject to a net unbalanced force, such as a falling object,

Example: Students will work with the projectile motion formula as a real-world application for quadratics for falling objects after they are thrown into the air. They will identify an object's position in air as a function of time.

HPE - Movement and Skills and Concepts: 2.2.12.MSC.2: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.

Example: Students will work with differing quadratics functions that model that path of different balls being thrown into the air with varying initial speeds. Students will be asked to compare models and choose which improves distance of throw based on starting varying starting heights and initial force/velocities.

Guidi wi	ing / Topical Questions th Specific Standards	Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
A-SSE- A1	How do you identify the degree of a polynomial?	Identify and classify polynomials based on their degree and number of terms.	Use untimed Imagine Learning Pre-Quiz, Warm-up Games, Guided Learning and Practice Sections	NJSLA Formula Reference Sheet (literal equations section -	Imagine Learning Math 3+ Post-Quizzes
7.EE.A 2	How do you know when an expression is in its fully	Identify and combine like terms.	(students take independent paths, and may pre-quiz out of a section they	revise formulas to solve for specific	Google Jamboard mini-assessments
A-APR. A.1	simplified form?	Add, subtract, and multiply polynomials.	have previously mastered to move toward following units)	variables)	Whiteboard response
A-SSE. A2	What is the GCF of the terms in an expression say	Factor polynomials using their greatest common factor and grouping method.	Use Guided and Independent Practice Activities	Google Jamboard	Student created
	$4x^4 + 6x^2?$		Use Whiteboards and Windows for	teacher-prepared practice	examples for properties of equality
			analyzing student classwork practice	Number line in back of	and properties of numbers justifying each
			Use Google Jamboard for cooperative learning activities	classroom	step in simplifying
			Use class whiteboard practice for immediate feedback	Calculators	Small group brainstorm assessments (teacher
			Use Challenge Creators in DESMOS	NJSLA Formula Reference Sheet (literal	listens to student discussions)
			for students to create problems for others to solve.	equations section - revise formulas to	,
				solve for specific variables)	
F-IF.C7 a	What shape do all quadratics make?	Identify the Axis of Symmetry, Vertex, y-intercept and x-intercept(s) of a quadratic function	see list above	see list above	see list above
F-IF.B4	How do you find the maximum or minimum point	Graph quadratic functions of the form			
F-IF.C8 a	on a quadratic function?	$ax^{2} + bx + c$, using its Axis of Symmetry, Vertex, y-intercept, and x-intercept(s).			
9.4.12. TL.1		Use TI-84 Graphing Calculator to graph quadratic functions and calculate vertex and intercept points using CALC feature,			

6.NS.B 4	What are all the factors of a given number, say 24? What are the factors of 24 that sum to 10? What are the factors of -24 that sum to 2?	Identify the factors of a given number.	see list above	see list above	see list above
A-REI. B4b	Which method should be used to solve a quadratic in the form $ax^2 - c = 0$?	Solve quadratic equations by taking square roots.			
A-APR. B3	Are all quadratic equations factorable?	Solve quadratic equations by factoring.			
A-REI. B4b	How do you solve a quadratic equation that is not factorable?	Solve quadratic equations using the Quadratic Formula.			
	How does the discriminant of the equation $ax^2 + bx + c = 0$ relate to the number of x-intercepts of the graph of the function $f(x) = ax^2 + bx + c$?	Identify the number of solutions a Quadratic equation would have by using the discriminant (part of quadratic formula).			
A-CED .A1 A-CED .A2 A-CED .A3 F-IF.B4 F-IF-C 7a 9.4.12.I ML.3 9.4.12. CI.1 9.4.12. CT.1	What real-life situations can be modeled using a quadratic function?	Write, graph and solve quadratic functions given various real-life applications and data. Use the projectile motion formula $h(t) = -16t^2 + vt + c$ to find the starting height of an object, its maximum height, when the object reaches the ground, and its total time in the air. Create unique application problems involving quadratic functions for other students to solve in class.	see list above	see list above	see list above

Unit #5: Reinforcement and HW Help for Algebra 1 Course and Mixed PSAT/SAT/ACT Practice for Repetition of learned skills

Enduring Understandings:	Essential Questions:		
• Math Lab is a companion class for Algebra 1 and HW help, study guide	• Do you need help with your homework and/or extra practice for		
review, and extra practice is offered every block to support students on topics	your current Algebra 1 topic?		
throughout the school year	• How can you be better prepared for your Algebra 1 quizzes and tests?		
• The skills learned in Math Lab 9 will help students be successful in	• What would you like to practice to improve your skills as you learn		
high-school Algebra, college and their chosen careers.	Algebra 1?		
• The topics reinforced and learned in Math Lab 9 will help students	• How will what we've learned in Units 1-4 help you on PSAT, SAT		
improve their skills for standardized testing such as PSAT, SAT, ACT for college	and ACT?		
and career readiness.			

Interdisciplinary Connections

NJSLS Creativity and Innovation 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a). Example: Students will learn that they will need a growth mindset in the Math Lab 9 classroom and that it is a safe space for mistakes, that they will learn from their

mistakes, and that mistakes are an important part of successful learning.

NJSLS Technology Literacy 9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task (e.g., W.11-12.6.).

Example: Students will learn additional features of the TI-84 graphing calculator as new Algebra 1 topics are supported that will help them save time and effort when problem-solving. For example, inputting square root functions, rational functions and exponential functions into Y= editor; taking square and cube roots, converting between fractions and decimals, and others.

Guidi wi	ing / Topical Questions th Specific Standards	Content, Themes, Concepts, and Skills	Teaching Strategies	Instructional Resources and Materials	Assessment Strategies
Math	Do you need HW support	HW Help - Math Lab is also a companion	The following are used as needed and	Teacher-prepared	Student take turns
Practice	for your Algebra 1 class?	course for students who are also in Algebra 1.	plans change on a daily basis to meet	materials from	answering HW
# 1-8		HW help is offered on a regular basis to	the learning needs of each student.	previously teaching	questions with leading
	Did you finish your study	reinforce and allow repetition of skills to help		Algebra 1	questions from teacher
9.4.12.	guide for the upcoming	students reinforce and master concepts as the	Use of Small group instruction		or mini-lessons to
CT.1	Algebra 1 quiz/test and	year progresses. Cooperative learning		College Board and	reinforce topics as
	really understand it?	activities are also regularly used for repetition	Use of One-on-One instruction	Kaplan practice tests	needed.
		of skills practice on Google Jamboard for			

9.4.12.	How can I help you in	teacher to student and student to student	Use Google Jamboard practice	from current sources	Google Jamboard Mini
TL.1	Math Lab tp prepare for	communication for deeper understanding in a	sessions (students can see other	on-line	5-question practice
	your Algebra 1	small group or one-on-one setting.	student work and get immediate		
WILL	assessments?		feedback from teacher)	RHS Algebra 1	Brainstorm Challenges
VARY		Student Support - Math Lab class is also used		Curriculum	for individuals,
based		to support students with any areas of concern	Use PSAT/SAT/ACT challenge		partners, and small
on		from their Algebra 1 teacher. Math Lab	sessions of Unit 1 - 4 topic questions		groups, both timed and
student		teacher communicates with Algebra 1 teacher			untimed depending on
needs		on a regular basis to address topic concerns			topics and difficulty of
with		and individual student needs for success.			standardized testing
HW					questions
help -		HW help and topic reinforcement through			
SEE		repetition on Algebra 1 skills including but not			
ALG1		limited to:			
Curricu		 Simplifying radicals and 			
lum		identifying perfect squares			
Standar		 Use Pythagorean Theorem 			
ds		to solve right triangle			
		problems			
		• Solve equations with square			
		roots			
		• Exponential Functions			
		Rational Expressions			
		Data Analysis			
		Practice learned skills from Units 1 through 4			
		through PSA1/SA1/AC1 practice for			
		repetition and reinforcement of skills and for			
		use problem-solvings skills and collaborative			
		learning skills.			

General Differentiated Instruction Strategies						
• Leveled texts	• Repeat, reword directions					
Chunking texts	 Brain breaks and movement breaks 					
Choice board	• Brief and concrete directions					
Socratic Seminar	 Checklists for tasks 					
Tiered Instruction	• Graphic organizers					
Small group instruction	• Assistive technology (spell check, voice to type)					
Guided Reading	• Study guides					
 Sentence starters/frames 	Tiered learning stations					
Writing scaffolds	Tiered questioning					
Tangible items/pictures	 Data-driven student partnerships 					
• Adjust length of assignment	• Extra time					

Possible Additional Strategies for Special Education Students, 504 Students, At-Risk Students, and English Language Learners (ELLs)								
Time/General	Processing	Comprehension	Recall					
 Extra time for assigned tasks Adjust length of assignment Timeline with due dates for reports and projects Communication system between home and school Provide lecture notes/outline 	 Extra Response time Have students verbalize steps Repeat, clarify or reword directions Mini-breaks between tasks Provide a warning for transitions Reading partners 	 Precise step-by-step directions Short manageable tasks Brief and concrete directions Provide immediate feedback Small group instruction Emphasize multi-sensory learning 	 Teacher-made checklist Use visual graphic organizers Reference resources to promote independence Visual and verbal reminders Graphic organizers 					

Assistive Technology	Assessments and Grading	Behavior/Attention	Organization
 Computer/whiteboard Tape recorder Spell-checker Audio-taped books 	Extended timeStudy guidesShortened testsRead directions aloud	 Consistent daily structured routine Simple and clear classroom rules Frequent feedback 	 Individual daily planner Display a written agenda Note-taking assistance Color code materials

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
- Time on task for students-http://www.online-stopwatch.com/
- Differentiation activities for students based on their Lexile-www.Mobymax.com
- WIDA-http://www.wida.us/
- Everything ESL http://www.everythingESL.net
- ELL Tool Box Suggestion Site http://www.wallwisher.com/wall/elltoolbox
- 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. <u>http://www.edutopia.org/</u>
- Glogster -Glogster allows you to create "interactive posters" to communicate ideas. Students can embed 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/