Trimester:	Unit Title:	Recommended Instructional Days:
1	**Expressions**	**12 - 15 days**

Domain: Expressions and Equations

Strand:

7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*

Key:

Major Cluster **Supporting Cluster** **Additional Cluster** **Climate Change Opportunity**

Progress Indicators: ◊ Tests ◊ Homework / Classwork ◊ Projects ◊ Formative Assessments ◊ Summative Assessments

Mathematical Practices:

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

Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CLKS within Unit

Essential Questions:
Lesson 1: How can we determine which terms in an expression are like terms? Why is it important to combine like terms when simplifying algebraic expressions?
Lesson 2: How are properties of operations used to simplify expressions?
Lesson 3: How can we use the Distributive Property to simplify algebraic expressions?
Lesson 4: How does the Distributive Property relate to factoring expressions?

Essential Understandings:
Rearranging or combining like terms does not change the value of an expression.
All like terms must be combined in order for expressions to be simplified.
Expanded expressions represent an equivalent way to represent the original expression.
The same rules apply for coefficients and constants when adding expressions.
Add the inverse when subtracting an expression.
The Distributive Property and common factors are used to factor expressions.
Understanding mathematical structure is important for solving deeper, unconventional expressions.
Algebraic expressions can be used to represent and solve problems in real-world contexts.

Vocabulary:
- like terms
- simplest form
- linear expression
- factoring an expression

**Encourage students to practice using the unit vocabulary as they talk and write about mathematics. Understanding vocabulary will aid their understanding of the concepts. When students encounter a new definition, encourage them to write in their Big Ideas Student Journals. They will revisit these definitions during the Chapter Review.*

Suggested Activity Descriptions:
- Chapter Exploration problems on TB page 90.
- Exploration Activities at the beginning of each section.
- Write several different types of terms on the board. Ask two students to come up to the board with a fly swatter. When you call out a term, the first student to "swat" a like term wins the point for the team. Continue with other students.
- Help students to see that they are already familiar with the distributive property by connecting it to 4(5+2). Then, show students how the same process applies even with a variable.
- Students tend to struggle when distributing a negative number, especially a negative one. It might help struggling students to highlight the

value that is being distributed before they begin solving the problem.

Interdisciplinary Connections:
Science:
1. Big Ideas STEAM Video and corresponding questions on TB page 89.
2. Big Ideas STEAM Performance Task. QR Code on TB page 115.

Social Studies:
1. Question #31 on TB page 96: You apply gold foil to a piece of red poster board to make the design shown. Find the area of the gold foil when x = 3. Justify your answer. The pattern at the right is called "St. George's Cross." Find a country that uses this pattern as its flag.

Physical Education:
1. Question #9 on TB page 100: In a basketball game, the home team scores (2m + 39) points and the away team scores (3m + 40) points, where m is the number of minutes since halftime. Who wins the game? What is the difference in the scores m minutes after halftime? Explain.

Art:
1. Question #47 on TB page 114: A three-dimensional printing pen uses heated plastic to create three-dimensional objects. A kit comes with one 3D-printing pen and p packages of plastic. An art club purchases 6 identical kits for (180 + 58.5p) dollars. Write and interpret an expression that represents the cost of one kit.

Language Arts:
1. Writing Question #10 on TB page 93: Explain how to identify the terms and like terms of $3y - 4 - 5y$.
2. Vocabulary Question #14 on TB page 93: Is the expression $3x + 2x - 4$ in simplest form? Explain.
3. Writing Question #7 on TB page 99: Describe how to distinguish a linear expression from a nonlinear expression. Give an example of each.
4. Writing Question #8 on TB page 105: Explain how to use the Distributive Property when simplifying an expression.
5. Writing Question #15 on TB page 111: Describe the relationship between using the Distributive Property to simplify an expression and to factor an expression. Give an example to justify your answer.

Spot Light On: John Urschel

Social and Emotional Learning: *Competencies*	**Social and Emotional Learning: *Sub-Competencies***
SEL Competencies: • Self-Awareness • Social Awareness • Self-Management • Relationship Skills • Responsible Decision-Making	• Recognizing the importance of self-confidence in handling daily tasks and challenges. • Demonstrate an awareness of the expectations for social interactions in a variety of ways. • Demonstrate an understanding of the need for mutual respect when viewpoints differ.

	• Identify and apply ways to persevere through alternative methods to achieve goals. • Utilize positive communication and social skills to interact effectively with others. • Develop, implement, and model effective problem solving and critical thinking skills.
Assessments (Formative) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
Formative Assessments: • Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Big Ideas Student Journals • Homework/Classwork • Teacher Created Assessments • Progress Monitoring Items • Formative Assessment Tips in Big Ideas Teacher Edition	**Benchmarks & Summative Assessments:** • Chapter/Unit Assessments • Standardized Tests • Project-based Assessments • Benchmark Tests

Differentiated Student Access to Content:
Teaching and Learning *Resources/Materials*

Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
Big Ideas Student Journal, Dynamic Assessment System, iReady, Khan Academy, Illustrative Mathematics, Learn360, TeacherTube, BrainPOP, Freckle, LearnZillion, MobyMax, 60 minutes of weekly ST Math, Edulastic, Achieve the Core, Desmos	Reteach worksheets, Extra Practice worksheets, Math manipulatives, Scaffolding Instructions in each section of textbook, Tutorial Videos, Skills Review Handbook, Skills Trainer	Dictionary for native language, Video tutorial in native language, ELL Support in each section of Big Ideas Teacher's Edition	ST Math Challenge Objectives, G&T tasks, Enrichment and Extension worksheets, Art of Problem Solving, Leveled assessments

Supplemental Resources

Technology:
• Chromebooks • Scientific Calculators • Online math manipulatives
Other:
• Google Classroom, Google Meets, Schoology, Interactive Workbooks • Illustrative Mathematics • insidemathematics.org • National Library of Virtual Manipulatives

Differentiated Student Access to Content: **Recommended *Strategies & Techniques***			
Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core**
Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics.	Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake test for additional credit, provide additional times and preferential seating as needed, review, restate and repeat directions, provide study guides, and/or break assignments into segments of shorter tasks.	Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.	Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect students to related content.

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept(s):** Critical Thinking and Problem Solving	
	Core Ideas:	With a growth mindset, failure is an important part of success.
	Performance Expectation/s:	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
	Career Readiness, Life Literacies, & Key Skills Practices	
	Act as a responsible and contributing community member and employee. **Attend to financial well-being.** **Consider the environmental, social and economic impacts of decisions.** **Demonstrate creativity and innovation.** **Utilize critical thinking to make sense of problems and persevere in solving them.** **Model integrity, ethical leadership and effective management.**	

	Plan education and career paths aligned to personal goals. **Use technology to enhance productivity, increase collaboration and communicate effectively.** **Work productively in teams while using cultural/global competence.**

New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)									
X	Amistad Law: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*		LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*	**X**	Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*		Standards in Action: *Climate Change*