









Trimester	Unit Title	Recommended Instructional Days
3	Graphs and Patterns	10-12 days
Domain: Operations and Algebraic Thinking; Geometry		
<p>Strand:</p> <p> 5.OA.B.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i></p> <p> 5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p> <p> 5.G.A.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. </p> <p>Key:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> Major Cluster</div> <div style="text-align: center;"> Supporting Cluster</div> <div style="text-align: center;"> Additional Cluster</div> <div style="text-align: center;"> Climate Change Opportunity</div> </div> <p>Progress Indicator: ◊ Tests ◊ Homework / Classwork ◊ Projects ◊ Formative assessments ◊ Summative assessments ◊ Performance assessments</p>		

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 NJSL-CLKS within Unit

Essential Questions:

Lesson 18.1: How can we generate a number pattern?

Lesson 18.2: How do we write a rule to describe a pattern?

Lesson 18.3: How can we write a rule for a pattern given in a graph?

Lesson 18.4: How can we graph a number pattern?

Lesson 18.5: How can we identify and plot points?

Lesson 18.6: How can we use a coordinate plane to display data collected in an experiment?

Lesson 18.7: How can we write and graph ordered pairs on a coordinate grid using two numerical patterns?

Essential Understandings:

Lesson 18.1: Generating a number pattern involves identifying a sequence of numbers that follow a specific rule or relationship.

Lesson 18.2: Writing a rule to describe a pattern requires understanding the relationship between the numbers in the pattern and expressing it as a mathematical rule.

Lesson 18.3: Writing a rule for a pattern given in a graph involves analyzing the graphical representation to determine the underlying relationship and expressing it in a mathematical rule.

Lesson 18.4: Graphing a number pattern involves plotting the numbers on a coordinate grid to visually represent the sequence and its relationship.

Lesson 18.5: Identifying and plotting points requires understanding coordinates and accurately placing points on a coordinate grid.

Lesson 18.6: Using a coordinate plane to display data collected in an experiment involves plotting the experimental data points on the grid to analyze and interpret the results.

Lesson 18.7: Writing and graphing ordered pairs on a coordinate grid using two numerical patterns involves creating ordered pairs from the patterns and plotting them to visualize the relationship between the patterns.

Vocabulary

- ordered pair

- origin
- x-axis
- x-coordinate
- y-axis
- y-coordinate

Suggested Activity Description:

Waggle, On the Spot Videos, Tier 2 and 3 Intervention Resources, Vocabulary Activities, Grab and Go Differentiation Kit, Explore and Guided/Independent Practice related to the NJSLS, Essential Question Discussion and Check-In, Share and Show, Basic Skills Review, Manipulative Activity, Reteach Activity, Reading Strategies Activity, Making Connections, Multilingual Support, Performance Task, Enrich Activity, Exit Ticket

Interdisciplinary Connections:

Language Arts:

1. Problem #3 on TB page 673.
2. Problem #3 on TB page 679.
3. Problem #4 on TB page 679.

Science:

1. Problem #7 on TB page 682.
2. Problem #3 on TB page 700.

Physical Education:

1. Problem #8 on TB page 682.



Climate Change: Examine the impact climate change has on agriculture.

Spot Light On: *Acknowledge every student's comment or response, even if it's incorrect.*

Social and Emotional Learning: <i>Competencies</i>	Social and Emotional Learning: <i>Sub-Competencies</i>
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.

				<ul style="list-style-type: none"> • 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) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i>		Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i>		
Formative Assessments: • Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Math Journals • Homework/Classwork • Teacher created assessments		Benchmarks & Summative Assessments: Chapter/Unit Assessments • Standardized Tests • Project-based Assessments		
Differentiated Student Access to Content: Teaching and Learning <i>Resources/Materials</i>				
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources	
Go Math Workbook, Interactive Student Edition, ST MATH 60 minutes a week, Waggle, Math on the Spot Videos, iReady, Khan Academy, Illustrative Mathematics, Learn360, TeacherTube, BrainPOP, Freckle, LearnZillion, MobyMax, Achieve the Core, Desmos, RTI	Reteaching worksheets, Skill building workbook, Math manipulatives, iTools, Leveled practice worksheets	Multilingual glossary, eGlossary, Multilingual Activities on ED, Vocabulary Cards, Success for English Learners worksheets, Leveled Strategies for English Learners, Linguistic Support	ST MATH special projects, Enrichment worksheets, Art of Problem Solving, Leveled assessments	
Supplemental Resources				
Technology: • Chromebooks • 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 <i>Strategies & Techniques</i>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	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, repeat	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 student to related

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	Disciplinary Concept(s): Education and Career	
	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.	

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