P.Cert.Gr.5 My Math Unit 7: Numerical Expressions; Patterns

Content Area: **Math**
Course(s):
Time Period: **January**
Length: **4-6 Weeks**
Status: **Published**

Unit Overview

This unit explores strategies numerical expressions, order of operations and patterns.

Enduring Understandings

It is important to remember and apply certain strategies when working with expressions, order of operations and patterns.

Essential Questions

What strategies can be used to write numerical expressions, use the order of operations and work with patterns?

Instructional Strategies & Learning Activities

Chapter 7

Pacing Guide
Suggested Pacing

Instruction	9 days
Review/Assessment	2 days
Total*	11 days

*Includes additional time for remediation and differentiation.

Lesson	Objective	Material & Manipulatives	Vocabulary

Lesson	Objective	Materials	Vocabulary
Lesson 1 *pp. 481-486* **Hands On: Numerical Expressions**	Write and evaluate numerical expressions.	• counters	**numerical expression** **evaluate**
Lesson 2 *pp. 487-492* **Order of Operations**	Use the order of operations to evaluate expressions.		**order of operations**
Lesson 3 *pp. 493-498* **Write Numerical Expressions**	Use numbers and operation symbols to write verbal phrases as numerical expressions.	• index cards numbered 0-9	
Lesson 4 *pp. 499-504* **Problem Solving Investigation: Work Backward**	Solve problems by working backward.		
Check My Progress Lesson 5 *pp. 507-512* **Hands On: Generate Patterns**	Generate numerical patterns and identify pattern relationships.	• connecting cubes • counters • toothpicks	
Lesson 6 *pp. 513-518* **Patterns**	Identify and extend patterns and sequences.	• multiple-color connecting cubes • paper and colored pencils	**sequence** **term**
Lesson 7 *pp. 519-524* **Hands On: Map Locations**	Plot points on a grid to solve real-world problems.	• world globes • maps • atlases • grid paper	
Lesson 8 *pp. 525-530* **Ordered Pairs**	Graph points on a coordinate plane to solve real-world and mathematical problems.	• grid paper	**coordinate plane** **origin** **ordered pairs** *x*-**coordinate** *y*-**coordinate**

Lesson 9 *pp. 531-536*   Graph ordered pairs on a coordinate• grid paper
Graph Patterns   plane to solve problems involving
                              two numerical patterns.

My Review and Reflect

Integration of 21st Century Themes and Career Exploration

Students will work in cooperative groups to solve problems. Students will interact with the Smartboard to enhance the learning process.

CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Technology Integration

Students will interact with the Smartboard to enhance the learning process. Students will use various web-based interactive sites to expand the content, as needed.

Interdisciplinary Connections

Students read and write throughout the unit. They also use art supplies to create patterns and their knowledge of social studies latitude and longitude to apply to coordinate grids.

LA.RL.5.4	Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
LA.RI.5.10	By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.
LA.RF.5.4	Read with sufficient accuracy and fluency to support comprehension.
LA.RF.5.4.A	Read grade-level text with purpose and understanding.
LA.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Differentiation

Differentiation:

- Use of different resources to match the readiness levels of the students when working on the activities in the daily lessons.
- Respond to students' needs for reteaching, reinforcing, and extending learning.
- Use of a variety of instructional strategies to engage students in learning.
- Question prompts to promote student engagement
- Small group settings as needed for specific skills
- Use discussion to promote collaboration among students
- Integrate technology to offer varied learning experiences
- Adjust instruction based on formative tasks/assessments

Modifications & Accommodations

Modifications & Accommodations:

- In class support and scaffolding based on the individual IEP's
- Independent levels on My Math and Splash Math

Benchmark Assessments

Students will complete the AimsWeb testing.

Formative Assessments

Formative Assessments:

- Task completion
- Answers and discussions

- Student maps
- Bingo
- Quizzes
- Participation

Summative Assessments

Summative Assessments:

- Quizzes
- Final Test

Instructional Materials

My Math Textbook series grade 5

See materials in lessons above

Standards

MA.5.OA.A.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MA.5.OA.A.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
MA.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).
MA.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.
MA.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.