Grade 3 Mathematics – Unit 2: Addition and Subtraction

Phoenixville Area School District

Stage 1 Desired Results

PA Core Standards:
CC.2.1.3.B.1 Apply place-value understanding and properties of operations to perform multi-digit arithmetic.

CC.2.2.3.A.4 Solve problems involving the four operations and identify and explain patterns in arithmetic.

PSSA Assessment Anchors:
M03.A-T.1 Use place-value understanding and properties of operations to perform multi-digit arithmetic.

M03.B-O.3 Solve problems involving the four operations and identify and explain patterns in arithmetic.

Transfer

TRANSFER GOALS

Students will be able to independently use their learning to…

- Demonstrate automatic recall of addition, subtraction, multiplication and division facts.
- Persistently apply various problem-solving strategies and organized approaches to accurately understand and solve problems.
- Interpret mathematical vocabulary and apply proper terminology to engage in meaningful oral and written expression that communicates mathematical thinking, problem-solving methods, and rationale.

Meaning

UNDERSTANDINGS

Students will understand that…

- Mathematicians use place value concepts to represent amounts.
- Operations and numerical properties increase computational fluency.
- Depending on the situation, problems may be solved using a variety of tools and strategies.
- Estimation helps determine the reasonableness of an answer.
- Mathematical situations and structures can be represented and analyzed using symbols to advance algebraic thinking.

ESSENTIAL QUESTIONS

Students will keep considering...

- How are the basic operations related to one another? How do numerical properties assist in computation?
- What information and strategies do I use to solve this problem? What is the right tool (operation/ strategy/ technology) for the job?
- When is estimation more appropriate than finding an exact answer?
- How do we use symbols to create mathematical meaning?
- What is the unknown? How do I find it?
- What does this expression/equation mean? What are the ways to represent it? Is there a best way?

	Knowledge and Skills Acquisition	
	KNOWLEDGE *Students will know…* • Basic addition facts • Basic addition facts are used to add greater numbers • Numbers can be added with and without regrouping • There is a relationship between addition and subtraction • Basic subtraction facts • Basic subtraction facts are used to subtract greater numbers • Numbers can be subtracted with and without regrouping • Regrouping can occur across multiple place values • Mathematical language and vocabulary knowledge are required to know when to add or subtract in a word problem VOCABULARY • Addition • Addend / Parts • Sum / Totals • Fact Families • Subtraction • Difference	SKILLS *Students will be skilled at…* • Fluently adding basic facts (0-18). • Fluently subtracting basic facts (0-18). • Recognizing fact family relationships in addition and subtraction using manipulatives, multiple choice, and open-ended responses. • Adding numbers with and without regrouping using base-ten blocks, open-ended (white board / paper and pencil), and in performance-based problems. • Subtracting numbers with and without regrouping using base-ten blocks, open-ended (white board / paper and pencil), and in performance-based problems. • Identifying errors in open-ended addition and subtraction problems verbally. • Making sense of math vocabulary and language to know when to add or subtract when solving a problem using selected response, open-ended, and performance tasks.

Stage 2 – Evidence			
Code A/M/T	**Evaluative Criteria**	**Assessment Evidence**	
A/M/T Acquisition Meaning Making Transfer	*What criteria will be used in each assessment to evaluate attainment of the desired results?*	PERFORMANCE TASK(S) *Students will demonstrate understanding (meaning-making and transfer) through complex performance by...* • **Performance Assessment Unit 2** Students will add whole numbers with and/or without regrouping and subtract whole numbers with and/or without regrouping to complete a performance-based assessment. Students will use mathematical language and vocabulary knowledge are required to know when to add or subtract in a word problem. • ***Goal:*** Your task is to add and subtract numbers to complete a performance task(s). • ***Role/Audience:*** ***Part A: Math Competition Scenario*** ***Part B:*** Family Yard Sale ***Scenario*** • ***Situation/Product:*** You will use numbers and written expression to explain your answers • ***Success Criteria:*** Your answers must include your work, answer and a label.	Differentiation Considerations: Read Performance Task to students
A/M/T Acquisition Meaning Making Transfer	*What criteria will be used in each assessment to evaluate attainment of the desired results?*	OTHER EVIDENCE • Math in Focus 2020 Chapter Test 2 and 3 • Teacher Observation • Teacher created quizzes • Small Group Work	Differentiation Considerations: Small Group reteaching Enrichment/Put on Your Thinking Cap, Math Journal
