Designer Name(s): 4th Grade Team

Date:

Subject Area: Math

Grade Level(s): 4th

Unit Title/Focus: Lessons 11-20, Investigation 2

Estimated Amount of Instructional Time: 13 days (1 day per lesson/investigation, 1 day for testing, 1 day for Performance Task Activity)

Stage 1 – (Desired Results)

State Content and Skill Standards:

4.OA (Operations and Algebraic Thinking)

4. Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

4.NBT (Numbers and Operations in Base Ten)

1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
3. Use place value understanding to round multi-digit whole numbers to any place.
4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.

4.MD (Measurement and Data)

1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

Enduring Understandings: (*what are the big ideas, what are the specific understandings desired*)

Students will understand that…
- A missing number in subtraction can be found by adding up.
- In mathematics, story problems can translate into math problems.
- A pattern can be used to solve a missing addend problem.

Essential Questions: (*what questions will foster inquiry, understanding, and transfer of learning*)

- How can we use addition in subtraction problems?
- How are story problems and math problems related?
- How can patterns be used to solve missing addend problems?

Big Idea(s)
Generalize place value understanding for multi-digit whole numbers.
Use place value understanding and properties of operations to perform multi-digit arithmetic.
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

What Students will know: (what knowledge will they acquire)	*What Students will be able to do:* (what will they eventually be able to do as a result of their skills learned/knowledge)
Math Vocabulary – addend, equation, formula, whole, equals, minus, subtraction, fewest, sum, exchange, digit, combine, borrowing, exchanging, regrouping, even numbers, fact family, sequence, expanded form, remainder, Celsius, degree, Fahrenheit, scale, difference, temperature, tick mark, a.m., digital form, elapsed time, midnight, noon, p.m., hours, minutes, seconds, evening, multiples, round, number line, less than, centimeter, kilometer, meter, metric system, millimeter, perimeter, U.S. Customary System, yard • Understand how to evaluate a word problem and decide what you need to do (find the missing number, add, subtract) • Understand that you can solve subtraction by subtracting down or adding up to find a missing number • Understand that when adding you must line up each place value group and regroup when you have more than 10 • Understand that when subtracting you must line up each place value group and always start in the ones place • Understand when finding the missing addend you can reverse the operation and subtract to solve • Understand how to borrow or exchange for a group of tens if needed when subtracting. • Understand that each digit, depending on its place, is worth a certain amount (365 means 300+60+5). • Understanding that when adding if you end up with more than 1 group of tens you will add the number of groups to the next column. • Understand that a scale is a type of number line in which you must first determine the distance between the marks on the scale. • Understand the difference between a.m. and p.m. • Understand how to find the time passed between a start and finish time • Understand that when we round we are rounding to the nearest multiple (ex. 10's, 100's, etc.) • Understand that when rounding if the number is halfway or more to the next multiple it will round up to the next multiple and if it is less than halfway it will round to the lower multiple. • Understand that the meter is the basic unit of length in the metric system and this is what most of the world uses. • Understand that inches, feet, yards, and miles are units of length in the customary system.	• Be able to understand that having 10 - $1 bills is the same as having 1 - $10 bill • Know the difference between $365 and $563 when someone is paying you for a job • Be able to be home on time if you Mom tells you that you have a certain amount of time from when you left • Measure the distance between 2 points using metric or customary units • Add and subtract accurately to check others to make sure you are not getting short changed

Stage 2 - Assessment Evidence (acceptable assessment evidence that students understand)

Performance Tasks: (what authentic performance task (s) will students demonstrate understanding; by what criteria will it be judged?)	*Other Evidence:* (quizzes, tasks, academic prompts, homework, observations)
• Performance Task 2 • Activities from pages 79, 91, 106 (must be started 1 week prior), 113, and 126	• Daily homework • Power-up tests • Cumulative tests

• Reinforcing the Content Standards activity on insert page SOV2 • Any idea from "What will students be able to do section"	• Performance on daily Power-up activities

Stage 3 - Learning Plan (sequence of teaching and learning activities that will produce desired understandings, engagement and development) Use WHERETO elements to help you:
Learning Activities: Saxon Table of Contents: Lesson 11 – Addition Word Problems with Missing Addend 4.0A.5 Lesson 12 – Missing Numbers in Subtraction 4.OA.5, 4.NBT.1, 4.NBT.4 Lesson 13 – Adding Three – Digit Numbers including Money 4.OA.4, 4.OA.5, 4.NBT.1, 4.NBT.2, 4.NBT.4 Lesson 14 – Subtracting Two - Digit and Three - Digit Numbers and Missing Two – Digit Addends 4.OA.4, 4.OA.5, 4.NBT.1, 4.NBT.2, 4.NBT.4 Lesson 15 – Subtracting Two – Digit Numbers with Regrouping including Money 4.OA.4,.4.NBT.1, 4.NBT.2, 4.NBT.4 Lesson 16 – Expanded Form and Missing Numbers in Subtraction 4.OA.4, 4.OA.5, 4.NBT.1, 4.NBT.2, 4.NBT.4 Lesson 17 – Adding Columns of Numbers with Regrouping 4.OA.5, 4.NBT.1, 4.NBT.2, 4.NBT.4 Lesson 18 – Measuring Temperature 4.OA.4, 4.OA.5, 4.NBT.1, 4.NBT.2, 4.NBT.4 Lesson 19 – Elapsed Time Problems 4.OA.4, 4.OA.5, 4.NBT.4, 4.MD.2 Lesson 20 – Rounding 4.MBT.1, 4.NBT.2, 4.NBT.3, 4.NBT.4 Investigation 2 – Perimeter 4.MD.1, 4.MD.2, 4.MD.3   *It was discussed that the "fact" section of the daily Power-Ups be done on Tuesday/Thursday and the "mental math" section be done on Monday, Wednesday, and Friday. Teacher may also want to cut back on "Written Practice", possibly only 15 problems each day or having 1 assignment every 2 lessons. This will free up some time for higher level discussion of concepts and Performance Tasks.*

W=help the students know WHERE the unit is going and WHAT is expected/Help teacher to know where the students are coming from (prior knowledge, interests)
H=HOOK all students and hold their interest
E=EQUIP students, help them EXPERIENCE the key ideas and EXPLORE the issue
R=Provide opportunities to RETHINK and REVISE their understanding/work
E (2)=Allow students to EVALUATE their work
T=Be TAILORED (personalized) to different needs, interests, and abilities of learners
O=Be ORGANIZED to maximize initial and sustained engagement as well as effective learning

Assessment Tasks that Provide Evidence for Claims including DOK	☐ **Claim #1/DOK 1, 2, 3, 4 (circle one):**
	☐ **Claim #2/DOK 1, 2, 3, 4 (circle one):**
	☐ **Claim #3/DOK 1, 2, 3, 4 (circle one):**
	☐ **Claim #4/DOK 1, 2, 3, 4 (circle one):**
Achievement Level Descriptors	**ALD #1: ALD #2: ALD #3: ALD #4: (circle one):**
Materials/Resources	