



Bridging for Math Strength Resources

[Standards of Learning Curriculum Framework \(SOL\)](#)

Standard of Learning (SOL) 5.4 Create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of whole numbers



Student Strengths	Bridging Concepts	Standard of Learning
Students can solve a variety of computation problems with a chosen strategy, determine if a total is known or unknown, and restate a single-step word problem in their own words.	<p>Students can solve a variety of single step problems with an efficient strategy.</p> <p>Students can make connections between various computation strategies and determine how they are similar/different.</p>	Students can create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of whole numbers.

Understanding the Learning Trajectory

Big Ideas:

- By reasoning repeatedly about the connection between math drawings and written numerical work, students can come to see multiplication and division algorithms as abbreviations or summaries of their reasoning (Common Core Writing Team, 2019, p. 14)
- The relationship between inverse operations allows students to make decisions about which operations to use to solve problems. Understanding those relationships will support students' reasoning about problem solving.
- The context of a problem determines the meaning of a remainder and how the remainder affects the solution to the problem.
- In mathematics, emphasis should be placed on representing the problem and applying reasoning to understand it rather than relying on keywords (See [Grade 4 VDOE Standards of Learning Document](#) p.19).
- In mathematics, estimation should be used to determine if an answer is reasonable.
- When solving problems, using unit labels with drawings, symbols, numbers will support students' decision making and reasoning about appropriate solutions.

Formative Assessment:

- [Just in Time Mathematics Quick Check 5.4 PDF](#)

- [Just in Time Mathematics Quick Check 5.4 Desmos](#)

Important Assessment Look Fors:

- The student determines an appropriate operation to use in a single-step word problem.
- The student uses pictures, numbers, or words to represent and explain the process to solve the problem.
- The student determines the operations of a multi-step word problem and chooses an appropriate plan of action to solve.
- The student labels the units throughout the problem and in the answer to determine reasonableness (in division problems with and without remainders).

Purposeful Questions:

- What are the units? What is being counted in the problem?
- Is the total known or unknown?
- What is happening in the problem? What does that tell you about which operation(s) you will need to use?
- What do the groups represent? How many are in each group?
- How do you know your answer is reasonable and what does your answer mean?

Bridging Activity to Support Standard	Instructional Tips
Routines Would you rather?	<p>In the Would You Rather routine, emphasize reasoning, rather than key words, and making sense of the context of the problem. A key-word focus prepares students to solve a limited set of problems and often leads to incorrect solutions.</p> <p>Create your own WYR slides that build in level of difficulty and relate to your number talks. Use real-world and relatable contexts based on content, local/school happenings, etc. Additional Would You Rather slides</p>
Rich Tasks Bakery Problem Bakery Problem Part II -Division	<p>This is a multi-step problem involving addition, subtraction, multiplication, and division. You can manipulate the numbers in this problem based on the students' level of understanding. You may make the numbers larger and use this task as a post-assessment. Have manipulatives available, but support students in drawing a pictorial representation of their work with the manipulatives.</p> <p>In Part II of the problem, students determine how many whole boxes of each item can be sold and how many leftovers there are. This task is meant to help students consider the meaning of the quotient and the remainder. It is a similar bakery problem that can be solved with multiple operations, however it lends itself more to division.</p> <p>Students may struggle with units in both tasks, forgetting what each number represents. Help them label their drawings and numerical representations with appropriate units to help check their strategy. For example, "What does the number ____ represent in your equation here?" or "How does your drawing represent the equation you wrote?"</p> <p>Help students relate their different solutions to the various models/strategies for problem solving. Help them analyze and connect each other's strategies and determine which strategies are most efficient. Use this to leverage them to try a new strategy.</p>
Games	<p>The game Close to 5,000 provides practice in multiplication (multiplying factors),</p>

