



Bridging for Math Strength Resources

[Standards of Learning Curriculum Framework](#)

Standard of Learning (SOL) 2.5b Demonstrate fluency with addition and subtraction within 20.



Student Strengths	Bridging Concepts	Standard of Learning
Students can recognize and describe part whole relationships within 10.	Students can demonstrate fluency with addition and subtraction within 10.	Students can demonstrate fluency with addition and subtraction within 20.

Understanding the Learning Trajectory

Big Ideas:

- Flexible methods for computing build computational fluency.
- Composing and decomposing numbers build understanding and flexibility with number.
- Part-whole relationships are foundational to understanding computation.

Formative Assessment:

- VDOE [Just in Time Mathematics Quick Check 2.5b \(PDF\)](#)
- VDOE [Just in Time Mathematics Quick Check 2.5b \(Desmos\)](#)

Important Assessment Look Fors:

- Student identifies the symbols for representing computation and understands the meaning of the symbols for addition and subtraction.
- Student uses one or more strategies to solve addition and subtraction facts/problems.
- Student uses a manipulative to model a strategy to solve addition and subtraction facts/problems.

Purposeful Questions:

- What strategy did you use? Why did you choose that strategy?
- Is there another strategy you can use?
- Is there another fact you used to help you solve?
- How can you use a different operation to check your answer?

Bridging Activity to Support Standard	Instructional Tips
Routine Number Talks	This routine should be done regularly. It is recommended you start with dot images and connect it to the question to help students build a visual model.
Rich Task Bag o chips-3 Act Task From Graham Fletcher: Bag-o-Chips Popping Balloons-3 Act Task From Graham Fletcher: Popping Balloons	Bag o' chips could be used for both addition and subtraction concepts. As students are solving the problem, focus on strategies they are using to add bags of chips. Once the solution is revealed, you can ask comparing questions to observe subtraction strategies.
Games/Tech Addition top-it Virginia Beach City Public Schools, adapted from Everyday Math Roll and Take Away Virginia Beach City Public Schools, adapted from NCTM Desmos 2.5ab Addition Strategies Desmos 2.5b Adding Whole Numbers	<p>Both games can be scaffolded based on a student's readiness. Stay within 10 until students have a strong concept with sums to 10. Then increase the sums to 20.</p> <p>In this activity students build their understanding of addition strategies by creating various combinations to sums of 21 or less.</p> <p>In this activity, students practice adding whole numbers in the context of a card game. The goal of the game is to create two groups of cards, each with the same sum. Whoever uses the most cards wins!</p>
<p>Other Resources:</p> <ul style="list-style-type: none"> • Desmos-Additions Shapes • VDOE Mathematics Instructional Plans (MIPS): <ul style="list-style-type: none"> ○ 2.5/2.6 - The FUNction Machine (Word) / PDF Version ○ 2.5b - Four-in-a-Row Computation (Word) / PDF Version • VDOE Word Wall Cards: Grade 2 (Word) (PDF) <p>Learning Trajectory Resources:</p> <p>Charles, R. (2005). Big ideas and understandings as the foundation for elementary and middle school mathematics. <i>Journal of Mathematics Education Leadership</i>, 7(3), NCSM.</p> <p>Clements, D. H., & Sarama, J. (2019). Learning and teaching with learning trajectories [LT]2. Marsico Institute, Morgridge College of Education, University of Denver. https://www.learningtrajectories.org/</p> <p>Common Core Standards Writing Team. (2019). Progressions for the Common Core State Standards for Mathematics. Tucson, AZ: Institute for Mathematics and Education, University of Arizona.</p>	

Richardson, K. (2012). How Children Learn Number Concepts: A Guide to Critical Learning Phases. Bellingham: Math Perspectives Teacher Development Center.

Van De Walle, J., Karp, K. S., & Bay-Williams, J. M. (2018). *Elementary and Middle School Mathematics: Teaching Developmentally*. (10th edition) New York: Pearson (2019:9780134802084)

VDOE Curriculum Framework for All Grades - [Standard of Learning Curriculum Framework \(SOL\)](#)