Bridging for Math Strength Resources

Standards of Learning Curriculum Framework

Standard of Learning (SOL) 2.6a Estimate sums and differences**.**

Student Strengths	Bridging Concepts	Standard of Learning
Students can determine if a number is closer to 0, 10, 100.	Students can identify which two tens a number falls between (nesting) and identify the number then count on or back from there.	Students can estimate sums and differences.

Understanding the Learning Trajectory

Big Ideas:

- Estimation is a valuable time saving skill in practical situations when an exact answer is not needed.
- Estimation helps students complete computations with larger numbers.
- Composing and decomposing numbers can build estimation skills.

Formative Assessment:

- VDOE Just in Time Mathematics Quick Check 2.6a (PDF)
- VDOE Just in Time Mathematics Quick Check 2.6a (Desmos)

Important Assessment Look Fors:

- Student identifies which two tens a number falls between.
- Student breaks apart numbers and finds friendly combinations to solve.
- Student understands when an estimate is needed and not an exact answer.

Purposeful Questions:

- What strategy did you use to find an estimate? Why did you choose that strategy?
- How did estimation help you determine the solution?
- How can estimation help you decide if your answer is correct?

Bridging Activities to Support the Standard	Instructional Tips

Routine Estimation 180	Be sure to preview the images and be selective about which images connect to estimation as it relates to computation. Consider allowing students to orally create a number story to go along with the image.
Rich Task The Pringle Ringle 3-Act Task	When implementing this task, highlight the estimation portion and listen to student reasoning. Jot anecdotal notes as students discuss their estimations.
Games Estimation Station Virginia Beach City Public Schools	This game encourages students to explain their thinking while determining an estimate. Use talk cards such as, I know ___ because _____ is between ____ and ____.

Other Resources:

- Video: Progression of Addition and Subtraction
- VDOE Mathematics Instructional Plans (MIPS):
  - 2.5/2.6 - The FUNction Machine (Word) / PDF Version
  - 2.6ab - Hopping on the Number Line (Word) / PDF Version
  - 2.6ab - What's the Difference? What's the Sum? (Word) / PDF Version
  - 2.6ab - Target 100 (Word) / PDF Version
- VDOE Word Wall Cards: Grade 2 (Word) | (PDF)

Learning Trajectory Resources:

Charles, R. (2005). Big ideas and understandings as the foundation for elementary and middle school mathematics. *Journal of Mathematics Education Leadership*, *7*(3), NCSM.

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/

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.

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)