Bridging for Math Strength Resources

Standards of Learning Curriculum Framework (SOL)

Bridging Standards of Learning (SOL) for Grade 6

Bridging Standard of Learning (SOL) 6.5c Solve multistep practical problems involving addition, subtraction, multiplication and division of decimals

Student Strengths	Bridging Concepts	Standard of Learning
Students can create and solve single-step and multistep practical problems involving addition, subtraction of decimals.	Students can solve multistep practical problems with multiplication of decimals and single-step practical problems involving division of decimals.	Students can solve multistep practical problems involving addition, subtraction, multiplication and division of decimals.

Understanding the Learning Trajectory

Big Ideas:

- The real-world actions for addition and subtraction of whole numbers are the same for operations with decimals.
- Different real-world interpretations can be associated with the product of a whole number and decimal, a decimal and whole number, and a decimal and decimal.
- Different real-world interpretations can be associated with division calculations involving decimals (Charles, 2005).
- 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).
- Examples of practical situations solved by using estimation strategies include shopping for groceries, buying school supplies, budgeting an allowance, and sharing the cost of a pizza or the prize money from a contest.
- Different strategies can be used to estimate the result of computations and judge the reasonableness of the result.

Formative Assessment:

- Just in Time Mathematics Quick Check 6.5c Word
- Just in Time Mathematics Quick Check 6.5c PDF
- Just in Time Mathematics Quick Check 6.5c Desmos

Important Assessment Look Fors:

- The student determines the correct operation or operations needed to solve the problem and can justify his/her choices.
- The student uses estimation to determine reasonableness of solution.
- The student can justify why the answer makes sense.
- The student uses a strategy to organize the information presented in the problem, such as a chart, diagram, list, or picture.

Purposeful Questions:

- What are you trying to find in the problem?
- How can you begin to organize your thinking ? Will a picture or chart help you?
- How do you know your answer is reasonable and what does it mean?
- How can you determine the operation or operations that can be used to solve the problem?
- Have you answered the question asked in the problem?

Bridging Activity to Support Standard	Instructional Tips
Routine Math in Our World: Ruined Receipt, Math Learning Center	The student will determine the missing parts of the receipt. There is also a follow up activity and a challenge activity.
Rich Tasks VDOE 6.5c Smart Shopper Template and Task	Students have a limited budget to purchase items. They are given three stores and prices to make the best choice from.
Games/Tech Gimkit: Decimal Word Problems Desmos 6.5c Problem Solving with Decimals	Students will use what they know about operations with decimals to play the Gimkit game. This activity explores a variety of contexts and models to solve decimal word problems.

Other Resources:

- Open Middle slides: 13, 14, 15, 16, 21, 24, 25, 26, & 27. Students will use the numbers given only one time with the given operation to get as close as they can to the given number.
- VDOE Mathematics Instructional Plans (MIPS)
  - Practical Problems Involving Decimals (Word) / PDF
- VDOE Algebra Readiness Formative Assessments
  - SOL 6.5c (Word) / PDF
- VDOE Algebra Readiness Remediation Plans
  - Problem Solving- Strategies for Finding the Hidden Question (Word) / PDF
- VDOE Word Wall Cards: Grade 6 (Word) / (PDF)
  - Multiplication and Division of Decimals

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.

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.

Curriculum Framework for All Grades -Standard of Learning Curriculum Framework (SOL)

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)