Bridging for Math Strength Resources

Standards of Learning Curriculum Framework

Standard of Learning (SOL) 3.6a Determine the value of a collection of bills and coins whose total value is $5.00 or less



Student Strengths	Bridging Concepts	Standard of Learning
Students can correctly identify the value of individual bills and coins. Students can identify equivalency between coins (i.e., 5 nickels has the same value as a quarter).	Students can determine the value of a collection of bills and coins whose total value is $2.00 or less.	Students can determine the value of a collection of bills and coins whose total value is $5.00 or less.

Understanding the Learning Trajectory

Big Ideas:

- Prior experiences with coin identification and values support students' abilities in finding the value of a collection of coins and bills.
- Strategies to determine the value of the collection are counting on, starting with the highest value coin or bill, grouping like coins, or "make compatible combinations." (Van de Walle, 2019, p.495)
- Properties of operations allow for computation (addition and/or subtraction) of the collection value. (Common Core Progressions, pg. 3)

Formative Assessment:

- VDOE Just in Time Mathematics Quick Check 3.6a PDF
- VDOE Just in Time Mathematics Quick Check 3.6a Desmos

Important Assessment Look Fors:

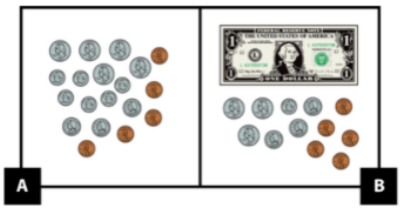
- Student groups like coins and uses repeated addition or skip counting to determine the value of a collection.
- Students group coins to allow for the use of benchmark numbers to make counting more efficient (i.e., combines a quarter and a nickel to make 30 cents and is then able to add remaining dimes).
- Student uses counting or addition strategies to find the value of a bill and coin collection.

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- Student draws an efficient collection of dollars and coins to represent a value (using combinations other than just pennies).

Purposeful Questions:

- What strategy did you use? Is there another strategy that can be used?
- Which coins might you combine to create benchmark numbers?
- What is the value of the highest coin? Or bill?
- How many quarters, dimes, nickels, pennies, or bills are there?

Bridging Activities to Support the Standard	Instructional Tips
Routine Same and Different Pocketful of Math 	Encourage students to explain ***how*** they determined the different amounts. Try to record their thought process directly on the page, circling coins they grouped together or writing how they skip count while crossing out the corresponding coins. Since A and B are equal in amount, this could also lead to a productive review of the word "value."
Rich Task 3 Act Task: It All Adds Up	Have students work in heterogeneous groups to determine which combinations could work. When they explain their thinking to the group, focus on strategies to keep track of how to count the money. The teacher should have 100s charts available and can use the debriefing to connect the coins to the base 10 system. As an extension, students can create their own version of this up to $5.00 and the teacher could choose a few to place in a center for students to continue practicing.
Game/Tech Money Tic-Tac-Toe The Math Learning Center Making Money Many Ways Theresa Wills template Desmos 3.6a Notice and Wonder: The Coin Bank	Students create collections of coins of varied amounts. Can be modified depending on students' ability. To make this into a game, students could see how many ways to make a number and be given a point for each way. This is an introduction activity to money that reviews coin values and counting sets of coins up to $1.00.

Other Resources:

- Money Pieces (virtual manipulatives)
- "Smart" by Shel Silverstein - Read the poem aloud to students multiple times. First time, go through without stopping. Second time, plan stop points to allow students to interact with the poem with amounts included in the poem. Need coin manipulatives (Prince William County Unit 1 Guide, p. 27).
- VDOE Mathematics Instructional Plans (MIPS):
  - 3.6abc - Money Counts (Word) / PDF Version
- VDOE Word Wall Cards: Grade 3 (Word) | (PDF)
  - Penny

- Nickel
- Dime
- Quarter
- Dollar

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)