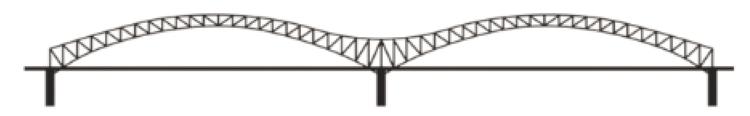


Bridging for Math Strength Resources

Standards of Learning Curriculum Framework (SOL)

Bridging Standards of Learning (SOL) for Grade 7

Standard of Learning (SOL) 7.10c Determine the *y*-intercept, *b*, in an additive relationship between two quantities and write an equation in the form y = x + b to represent the relationship



Student Strengths	Bridging Concepts	Standard of Learning
Students can determine the slope as	Students can determine the	Students can determine the
a rate of change in a proportional	difference between a proportional	y-intercept in an additive relationship
relationship between two quantities	relationship and an additive	between two quantities and write an
and write an equation in the form	relationship.	equation in the form $y = x + b$ to
y=mx to represent the relationship.		represent the relationship.

Understanding the Learning Trajectory

Big Ideas:

- The y-intercept of a line represents the initial value in a relationship between two variables.
- Two quantities, x and y, have an additive relationship when a constant value, b, exists where y = x + b, where $b \neq 0$.
- The y-intercept of an additive relationship can be determined by adding a value to the other quantity.

Formative Assessment:

- Just in Time Mathematics Quick Check 7.10c Word
- Just in Time Mathematics Quick Check 7.10c PDF
- Just in Time Mathematics Quick Check 7.10c Desmos

Important Assessment Look Fors:

- The student is able to determine the y-intercept of an additive relationship from a table, graph, and equation.
- The student is able to write the equation of a line of an additive relationship from a table, graph, and equation.
- The student is able to identify the *y*-intercept of an additive relationship by adding a value to the other quantity in a table.

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Purposeful Questions:

- How could you represent an additive relationship?
- What is the difference between an additive relationship and a proportional relationship?
- How did you determine the *y*-intercept from the table?
- How did you determine the equation of the line?

Bridging Activity to Support Standard	Instructional Tips
Routine Graphing Stories: Height of Stack by Mark Sloan	Pass out the handout, play the Height of Stack Video, and have students graph the video. Discuss the difference between this graph and one that has a proportional relationship.
Graphing Stories Template: Height of Stack	
Rich Tasks Pennies in a Jar Task: Additive Relationships From Henrico County Public Schools State Fair	Student Sheet Follow-Up Notes Key Task Adapted from 5 Practices in Practices by Margaret (Peg) Smith and Miriam Gamoran Sherin
Games/Tech Additive Functions Marble Slide Desmos Activity Desmos 7.10cd Y-Intercept	Use the equation y=x+b where b=any number to make the marble pas through all 3 stars This exploration investigates the equation $y = x + b$. It correlates directly to the new SOL standard 7.10cd.

Other Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - o <u>7.10cd Discover y-intercept (b)</u> (Word) / <u>PDF Version</u>
- VDOE Algebra Readiness Formative Assessments
 - o <u>SOL 7.10c</u> (Word) / <u>PDF</u>
- VDOE Algebra Readiness Remediation Plans
 - o Y-Intercept and Additive Relationships (Word) / PDF
- VDOE Word Wall Cards: Grade 7 (Word) | (PDF)
 - o Additive Relationship: y = x + b
 - o Additive Relationship
- Desmos Activity
 - o SOL 7.10cd Y-Intercept Investigation

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.

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)