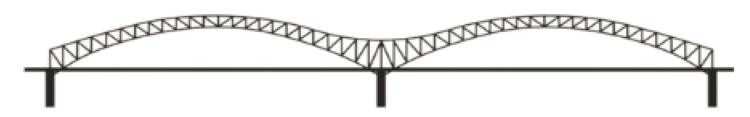


Bridging for Math Strength Resources

Standards of Learning Curriculum Framework (SOL)

Bridging Standards of Learning (SOL) for Grade 7

Standard of Learning (SOL) 7.9b Make observations and inferences about data represented in a histogram



| Student Strengths | Bridging Concepts | Standard of Learning |
|-----------------------------------|----------------------------------|--|
| Students can interpret data | Students can represent data in a | Students can make observations and |
| represented in line plots, circle | histogram. | inferences about data represented in a |
| graphs, and stem-and-leaf plots. | | histogram. |

Understanding the Learning Trajectory

Big Ideas:

- A histogram is used to deduce information and analyze data when presented in consecutive intervals.
- Comparisons, predictions and inferences are made by examining characteristics of a data set displayed in a variety of graphical representations to draw conclusions.
- Data analysis helps describe data, recognize patterns or trends, and make predictions.
- Inferential statistics uses data in a sample selected from a population to describe features of the population (Kader & Jacobbe, 2013. NCTM, Essential Understandings Statistics 6-8)
- The sampling distribution of a statistic describes the sample-to-sample variability and values of the statistic from the multiple samples of the same size selected from the same population.
- Selecting a simple random sample from a population is a fair way to select a sample.
- The predictable pattern for the sampling distribution of a statistic based on random sampling provides a way for making inferences about a population.

Formative Assessment:

- Just in Time Mathematics Quick Check 7.9b Word
- Just in Time Mathematics Quick Check 7.9b PDF
- Just in Time Mathematics Quick Check 7.9b Desmos

Virginia Department of Education

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Important Assessment Look Fors:

- The student shows understanding of the verbiage of "no fewer than" means "equal to or more."
- The student recognizes that there is more than one interval that serves a solution.
- The student computes the combination of the occurrences in each appropriate interval, and not the amount represented by the interval.
- The student is able to create a proper representation of the number of successful solutions to the scenario in comparison to the total number of cities represented.

Purposeful Questions:

- Do you know all of the exact data values? Why or why not?
- Which measures of center could be computed from a histogram? Explain your reasoning.
- Which intervals would be included in fewer than ? At least ? Greater than ? How do you know?
- How will you convert the data from the histogram to a percentage?

| Bridging Activity to Support the Standard | Instructional Tips |
|---|---|
| Routine | Data from your final exam will relate to students' lived experiences in schools. |
| Would You Rather Math? | |
| Rich Tasks | Use your knowledge of probability to estimate- A hotel holds a Valentine's Day contest |
| Illustrative Mathematics: | where guests are invited to estimate the percentage of red marbles in a huge clear jar |
| <u>Valentine Marbles</u> | containing both red marbles and white marbles. |
| Games/Tech | Focus only on the sections (Parts A & B) of the task that require inferences to be made |
| Quizizz: <u>Histogram Practice</u> | about the data. If students are not successful initially, point out that there are data points between the values on the scale as well. |
| Khan Academy: Reading | |
| <u>Histograms</u> | |
| | Students will be more comfortable with sorting and analyzing data through the use of |
| <u>Desmos 7.9ab Histograms!</u> | histograms. |
| Desmos 7.9b Histogram Data | Students will be more comfortable with sorting and analyzing data through the use of |
| <u>Displays</u> | histograms, and determining what information a histogram can and cannot provide. |

Other Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - o <u>7.9abc Numbers in a Name</u> (Word) / <u>PDF Version</u>
- VDOE Word Wall Cards: Grade 7 (Word) | (PDF)
 - Histogram
- Desmos Activity
 - Histograms

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). <u>Progressions for the Common Core State Standards for Mathematics</u>. Tucson, AZ: Institute for Mathematics and Education, University of Arizona.

Kader, G.D. & Jacobbe, T. (2013). Developing Essential Understanding of Statistics for Teaching for Grade 6-8. NCTM

Reston VA **ISBN** #, 978-0-87353-672-1.

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)