



Bridging for Math Strength Resources

Standards of Learning Curriculum Framework

Standards of Learning (SOL) K.11

- a) collect, organize, and represent data; and
- b) read and interpret data in object graphs, picture graphs, and tables.



Student Strengths	Bridging Concepts	Standard of Learning
Comfort in asking and answering questions. Use background knowledge and knowledge of the world around them to draw logical conclusions (The grass is wet because it rained last night). Student can sort and organize items into categories.	When given precise answers to a question, those answers can be categorized and analyzed. When students begin to collect data, they recognize the need to categorize, which helps develop the understanding of “things that go together.” Students understand and can use “least” and “greatest” to describe sets of data.	Students can -collect, organize, and represent data; and -read and interpret data in object graphs, picture graphs, and tables.

Understanding the Learning Trajectory

Big Ideas:

- Data are pieces of information collected about people or things. The primary purpose of collecting data is to answer questions. The primary purpose of interpreting data is to inform decisions.
- When data are presented in an organized manner, students can interpret and discuss the results and implications of their investigation.
- Data is collected all around us. Draw attention to the lunch count, the weather graph, or the “How Many Days in School?” chart for a glimpse into data.
- Data can be represented in multiple ways, yet draw the same conclusion (bar graph vs. picture graph).

Formative Assessment:

- VDOE Just in time Quick Check
 - SOL K.11a [PDF](#) / [Google slides](#)
 - SOL K.11b [PDF](#) / [Google slides](#)

Important Assessment Look Fors:

- The first image in the graph is the anchor, NOT a part of the data collection. Children may count it in their data set.
- Student may confuse the words “greatest” and “least”.
- Students may count all of the data points, not just the ones you’ve asked them too.

Purposeful Questions:

- How do you know that category has the (greatest/least) votes?
- How many (more/fewer) votes does ___ have than ___?
- What do you think is the best way to show data?

Bridging Activity to Support Standard	Instructional Tips
Routine Visual Patterns Would You Rather? Math	These images will get students used to seeing images near each other and comparing how they are alike and different. The images are ever so slightly different, so students can begin using vocabulary about how the images have grown or shrunk. They can also discuss how they are easily able to tell the difference (eg: There were 3 dogs in the first picture, and 2 more dogs were added, so I know there are 5 dogs). Create a class graph based on a question.
Rich Tasks Pet Graph We Scream for Ice Cream	Students answer the open ended question of what a graph COULD look like based on some parameters. Students answer questions based off an existing graph.
Games Sorting and Graphing Bears	Could print this slide as a gameboard. Give students a random collection of bears. Have them pull the bears from the bag and create a graph on the gameboard of the bears that they have. Have students complete with multiple sets of random bags.
Other Resources: • VDOE Mathematics Instructional Plans (MIPS) ◦ K.11ab - Our Favorite Things (Word) / PDF Version • VDOE Word Wall Cards: Grade K (Word) (PDF) Learning Trajectory Resources: Charles, R. (2005). Big ideas and understandings as the foundation for elementary and middle school mathematics. <i>Journal of Mathematics Education Leadership</i>, 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/	

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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 \(SOL\)](#)