# Bridging for Math Strength Resources

## Standards of Learning Curriculum Framework

**Standard of Learning (SOL) 2.15a** Collect, organize, and represent data in pictographs and bar graphs.

| Student Strengths | Bridging Concepts | Standard of Learning |
|---|---|---|
| The student can collect, organize, and sort data. | Students can represent data in various forms of data using tables, picture graphs, and object graphs using symbols and numbers.<br><br>Students can skip counting by 2, 5, and 10s | Students can collect, organize, and represent data in pictographs and bar graphs. |

## Understanding the Learning Trajectory

***Big Ideas:***

- Data is information collected used to ask and answer questions
- Some questions can be answered by collecting and analyzing data, and the question to be answered determines the data that needs to be collected and how best to collect it.
- Data can be represented visually using tables, charts, and graphs.
- Data can be represented visually, and the type of data determines the best choice of visual representation.
- Interpretations of data are influenced by the way the data are displayed. (VDOE Curriculum Framework, grade 2)

***Formative Assessment:***

- VDOE Just in time Quick Check SOL 2.15a PDF / Desmos

***Important Assessment Look Fors:***

- Student can represent data in a bar graph with appropriate labels
- Student can represent data in a pictograph with appropriate labels and key
- Student can collect and organize data to create a pictograph with labels and key

***Purposeful Questions:***



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- How do you know how high to make each bar?
- How do the numbers on a bar graph help you read the graph?
- How does a key help you when creating a pictograph?

| Bridging Activity to Support Standard | Instructional Tips |
|---|---|
| **Routine**<br>**Notice and Wonder graphs** | Students are presented with a graph with some information. Once students have had a chance to notice and wonder, more information is added. Students explore how the new information changes what they thought about the graph. Class discussion helps students build understanding of the visual representations of graphs. |
| **Rich Tasks**<br>**Favorite Ice Cream Flavors** | In this task, students represent and interpret categorical data. Students collect data and construct a bar graph. Once the bar graph is complete, students use the graph to interpret the data. Students build communication skills as they respond to questions using the bar graph to justify their responses. |
| **Games**<br>**Fruit Fall**<br><br>**Bar Graph Tool - Online** | Fruit fall allows students to collect and compare data.<br><br>Bar Graph Online tool allows students to translate numeric data in a table into a bar graph. |

**Other Resources:**

- VDOE Mathematics Instructional Plans (MIPS)
  - 2.15ab - Real Data! (Word) / PDF Version
  - 2.15ab - What Does the Data Tell Us? (Word) / PDF Version
- VDOE Word Wall Cards: Grade 2 (Word) | (PDF)

**Learning Trajectory Resources:**


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Richardson, K. (2012). How Children Learn Number Concepts: A Guide to Critical Learning Phases. Bellingham: Math Perspectives Teacher Development Center.

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