

Task Model 1

Response Type:
Hot Spot

DOK Level 2

3.MD.B.3

Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

Evidence Required:

1. The student creates a scaled picture graph and a scaled bar graph to represent a data set with up to four categories.

Tools: None

Accessibility Note:

Hot spot items are not currently able to be Brailled. Minimize the number of items developed to this TM.

Prompt Features: The student is prompted to generate a scaled picture graph or a scaled bar graph.

Stimulus Guidelines:

- Follow any stated guidelines on allowable number ranges.
- Scaled picture graphs and bar graphs should be equally distributed among the following types:
 - generates scaled picture graph or bar graph; includes key of 2, 5, or 10
 - generates scaled picture graph or bar graph; includes key of 3 or 4
- Data categories should be presented and equally distributed in the following types:
 - two, three, or four categories
- Graph orientation of scaled picture graphs and bar graphs should be equally distributed among the following types:
 - Data for each category is entered either vertically or horizontally

TM1a

Stimulus: The student is presented with a data set with two to four categories.

Example Stem 1: Marco and Beth each read the number of books shown.

Student	Number of Books Read
Marco	12
Beth	21

Click in each row to create a picture graph that shows the number of books each student read.

Student	Number of Books Read
Marco	
Beth	

Key
 represents 3 books

Rubric: (1 point) The student creates a picture or a bar graph to show the correct number for each category of data (e.g., shown below).

Student	Number of Books Read
Marco	
Beth	

Key
 represents 3 books

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Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

Evidence Required:

1. The student creates a scaled picture graph and a scaled bar graph to represent a data set with up to four categories.

Tools: None

Accessibility Note:

Hot spot items are not currently able to be Brailled. Minimize the number of items developed to this TM.

Version 3 Update:

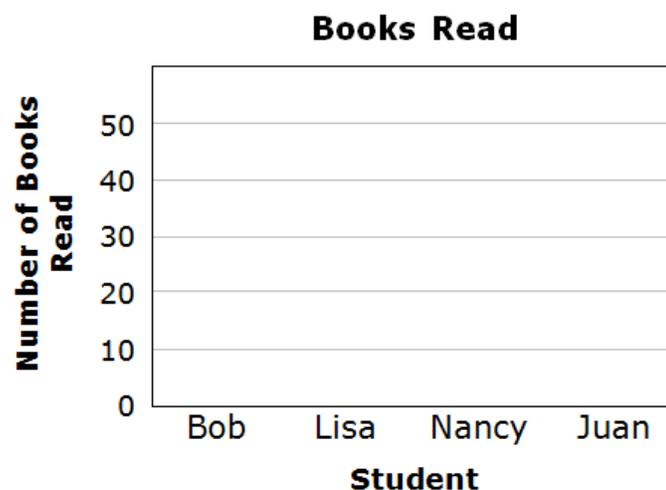
Retired TM1b.

TM1a (continued)

Example Stem 2: Four students read the number of books shown.

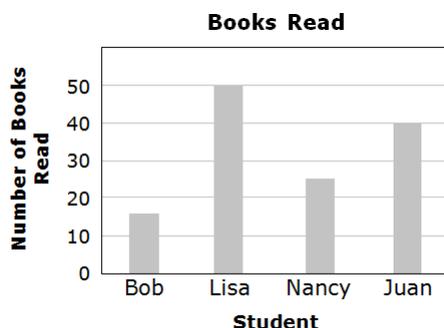
Student	Number of Books Read
Bob	15
Lisa	50
Nancy	25
Juan	40

Click in each column to create a bar graph that shows the number of books that each student read.

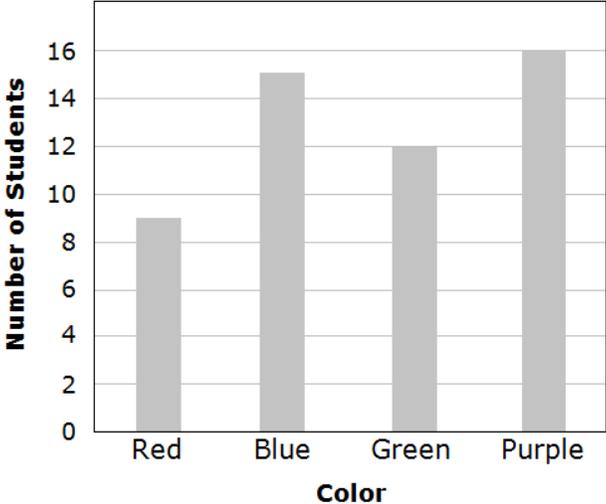


Rubric: (2 points) The student creates a picture or a bar graph to show the correct number for each category of data (e.g., shown below).

(1 point) The student creates a picture or bar graph to show the correct number for all but one category and the single error is in the level of precision (off by one scaled unit), not in understanding.



Response Type: Hot Spot

<p>Task Model 2</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 2</p> <p>3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p> <p>Evidence Required: 2. The student solves one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.</p> <p>Tools: None</p>	<p>Prompt Features: The student is prompted to identify the solution involving “how many less” or “how many more” using information presented in scaled bar graphs.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> • Follow any stated guidelines on allowable number ranges. • Item difficulty can be adjusted via these example methods: <ul style="list-style-type: none"> ○ Solving one- or two-step word problems should be among the following types: <ul style="list-style-type: none"> ▪ one-step “how many less” or “how many more” problems with or without regrouping ▪ two-step “how many less” or “how many more” problems with or without regrouping • Scaled picture graphs and bar graphs should be among the following types: <ul style="list-style-type: none"> ○ scaled bar graph; includes key of 1 ○ scaled bar graph; includes key of 2, 5, or 10 ○ scaled bar graph; includes key of 3 or 4 • Data categories should be presented and equally distributed in the following types: <ul style="list-style-type: none"> ○ two, three, or four categories • Orientation of scaled picture graphs and bar graphs should be equally distributed among the following types: <ul style="list-style-type: none"> ○ Data for each category is displayed either vertically or horizontally <p>TM2 Stimulus: The student is presented with a one- or two-step word problem and is expected to solve by using information displayed in the graph.</p> <p>Example Stem 1: Students voted for their favorite colors. Use the bar graph to answer the question.</p> <div style="text-align: center;"> <p>Favorite Colors</p>  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Color</th> <th>Number of Students</th> </tr> </thead> <tbody> <tr> <td>Red</td> <td>9</td> </tr> <tr> <td>Blue</td> <td>15</td> </tr> <tr> <td>Green</td> <td>12</td> </tr> <tr> <td>Purple</td> <td>16</td> </tr> </tbody> </table> </div> <p>How many more students voted for purple than red?</p>	Color	Number of Students	Red	9	Blue	15	Green	12	Purple	16
Color	Number of Students										
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<p>Task Model 2</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 2</p> <p>3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p> <p>Evidence Required: 2. The student solves one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.</p> <p>Tools: None</p>	<p>TM2 (continued)</p> <p>Example Stem 2: Students voted for their favorite colors. Use the bar graph to answer the question.</p> <p>How many fewer students voted for red than purple?</p> <p>Example Stem 3: Students voted for their favorite colors. Use the bar graph to answer the question.</p> <p>How many more students voted for purple and blue than green?</p> <p>Example Stem 4: Students voted for their favorite colors. Use the bar graph to answer the question.</p> <p>How many fewer students voted for red than purple and blue?</p> <p>Rubric: (1 point) Student enters correct answer for the graph (e.g., 7; 7; 19; 22).</p> <p>Response Type: Equation/Numeric</p>
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Task Model 3

Response Type:
Hot Spot

DOK Level 2

3.MD.B.4

Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Evidence Required:

3. The student generates measurement data by measuring lengths using rulers marked with halves and fourths of an inch and makes a line plot with fractional measurement values.

Tools: None

Accessibility Note:

Hot spot items are not currently able to be Brailled. Minimize the number of items developed to this TM.

Prompt Features: The student is prompted to make a line plot using given measurement data.

Stimulus Guidelines:

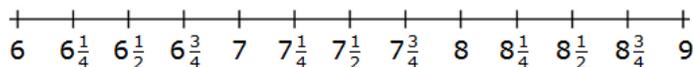
- Follow any stated guidelines on allowable number ranges.
- Tables of measured data should be equally distributed among the following types:
 - 5 measured items on the table in order
 - 5 measured items on the table in random order
- Line plots using measurement data should be equally distributed among the following types:
 - a horizontal scale marked in whole units
 - a horizontal scale marked in half units
 - a horizontal scale marked in quarter units

TM3

Stimulus: The student is presented with a table of measurement data and is expected to create a line plot to represent the data.

Example Stem: A boy measures the length of some items in his desk. This chart shows the length, in inches, of each item.

School Supply	Length (in)
Pencil	$7\frac{1}{4}$
Paper	$8\frac{1}{2}$
Stapler	$6\frac{3}{4}$
Paintbrush	$8\frac{1}{2}$
Marker	$6\frac{1}{2}$

**Length of School Supplies (in)**

Click above the tick marks to complete the line plot that displays the data.

Rubric: (1 point) The student correctly marks all 5 points to create the line plot.

Response Type: Hot Spot