Content Standard	**MAFS.3.MD** *Measurement and Data*
	MAFS.3.MD.2 Represent and interpret data.
	MAFS.3.MD.2.3 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.*
Assessment Limits	Categories are five or fewer and use multiplication and division within 100.
Calculator	No
Acceptable Response Mechanisms	Equation Response Graphic Response – Drag and Drop, Hot Spot Table Response
Context	Required

Example	
Context	John surveys his classmates by asking them to select their favorite foods from a set of 4.
Context easier	Decrease amount of data (2 to 3 categories). Provide partially completed graph.
Context more difficult	Increase amount of data (5 categories). Extend to two-step problems.

Sample Item Stem	Response Mechanism	Notes, Comments
John surveys his classmates about their favorite foods, as shown in the table. **Favorite Food** <table><tr><td>Pizza</td><td>8</td></tr><tr><td>Salad</td><td>5</td></tr><tr><td>Hamburger</td><td>2</td></tr></table> Click on the graph to complete the bar graph. 	Graphic Response – Hot Spot	

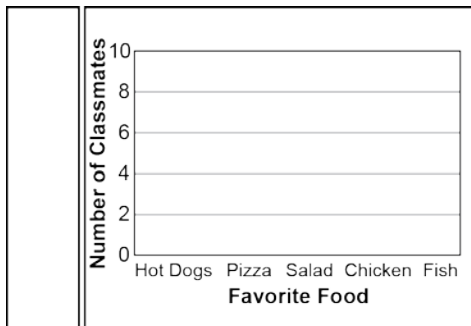|		
John surveys his classmates about their favorite foods, as shown in the bar graph. 8 6 4 2 0 Number of Classmates Hamburger Salad Pizza **Type of Food** How many more classmates prefer pizza over salad?	Equation Response	
John surveys his classmates about their favorite foods, as shown in the table. **Favorite Food** 	Hot Dogs	5
Pizza	9
Salad	6
Chicken	3
Fish	8 | Click on the graph to create a bar graph that represents the data. 10 8 6 4 2 0 Number of Classmates Hot Dogs Pizza Salad Chicken Fish **Favorite Food**	Graphic Response – Hot Spot	
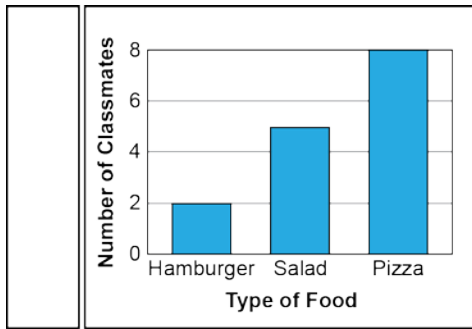
John surveys his classmates about their favorite foods, as shown in the table.	Graphic Response – Hot Spot

Favorite Food	
Hot Dogs	5
Pizza	8
Salad	5
Hamburger	2

Click and drag the food symbols to create a pictograph.

	Hot Dogs	
	Pizza	
	Salad	
	Hamburger	