Grade PK	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Standard 4.0 Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.	**Standard 4.0** Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.
A. Data Displays	**A**. Data Displays	**A**. Data Displays	**A**. Data Displays	**A**. Data Displays	**A**. Data Displays	**A**. Data Displays	**A**. Data Displays	**A**. Data Displays	**A**. Data Displays
1. Explore and display data	**1.** Collect, organize, and display data	**1.** Collect, organize, and display data	**1.** Collect, organize, and display data	**1.** Collect, organize, and display data	**1.** Collect, organize, and display data	**1.** Collect, organize, and display data	**1.** Organize and display data	**1.** Organize and display data	**1.** Organize and display data
a. Explore data by answering a yes/no question	**a.** Collect data by answering a question	**a.** Collect data by conducting surveys	**a.** Collect data by conducting surveys	**a.** Collect data by conducting surveys ***16. Pass the Plants, Please, Enrichment*** ***22. Trees as Habitats, Part B***	**a.** Collect data by conducting surveys to answer a question ***16. Pass the Plants, Please, Enrichment*** ***22. Trees as Habitats, Part B*** ***48. Field, Forest, & Stream***	**a.** Collect data by conducting surveys to answer a question ***16. Pass the Plants, Please, Enrichment*** ***22. Trees as Habitats, Part B*** ***48. Field, Forest, & Stream*** ***95. Did You Notice? Enrichment***	**a.** Organize and display data to make frequency tables **Assessment limit:** • Use no more than 5 categories or ranges of numbers and total frequencies of no more than 25 ***4. Sounds Around***	**a.** Organize and display data using back-to-back stem-and-leaf plots **Assessment limit:** • Use no more than 20 data points using whole numbers (0–99)	**a.** Organize and display data to make circle graphs **Assessment limit:** • Use no more than 5 categories with data in whole number percents
b. Display data on real graphs ***25. Birds and Worms***	**b.** Organize and display data to make real graphs ***25. Birds and Worms***	**b.** Collect data on tally charts ***25. Birds and Worms***	**b.** Collect data in tables ***25. Birds and Worms*** ***36. Pollution Search, Part A***	**b.** Organize and display data to make tables using a variety of categories and sets of data **Assessment limit:** • Use no more than 4	**b.** Organize and display data in line plots and frequency tables using a variety of categories and sets of data **Assessment limit:** • Use line	**b.** Organize and display data in stem-and-leaf plots **Assessment limit:** • Use no more than 20 data points and whole	**b.** Organize and display data to make stem-and-leaf plots **Assessment limit:** • Use no more than 20 data points and whole	**b.** Organize and display data to make circle graphs ***37. Reduce, Reuse, Recycle, Part A***	**b.** Organize and display data to make box-and-whisker plots **Assessment limit:** • Use no more than 12 pieces of

				categories from one set of data and whole numbers (0 – 1000) ***16. Pass the Plants, Please, Enrichment*** ***22. Trees as Habitats, Part B*** ***25. Birds and Worms*** ***36. Pollution Search, Part A***	plots with no more than 20 pieces of unorganized data and a range of no more than 10 and whole numbers (0 – 100)	numbers (0 – 100)	numbers (0–999)		data and whole numbers (0 – 1000)
c. Display data on picture graphs	**c.** Organize and display data to make picture graphs	**c.** Organize and display data to make picture graphs	**c.** Organize and display data to make pictographs using scales of 1:1 and 2:1	**c.** Organize and display data to make pictographs using a variety of scales **Assessment limit:** • Use scales of 2:1, 4:1, or 10:1 and whole numbers (0 – 100)		**c.** Organize and display data in line plots **Assessment limit:** • Use no more than 20 pieces of data with a range of no more than 20 and whole numbers (0 – 200) ***37. Reduce, Reuse, Recycle, Part A***	**c.** Organize and display data using a back-to-back stem-and-leaf plot		**c.** Organize and display data to make a scatter plot **Assessment limit:** • Use no more than 10 points and whole numbers (0 – 1000)
		d. Organize and display data to make single bar graphs ***25. Birds and Worms***	**d.** Organize and display data to make single bar graphs ***25. Birds and Worms***	**d.** Organize and display data to make single bar graphs using a variety of categories and intervals **Assessment**		**d.** Organize and display data in double bar graphs **Assessment limit:** • Use no more			

		36. Pollution Search, Part A	***36. Pollution Search, Part A***	**limit:** • Use no more than 4 categories of data with intervals of 1, 2, 5, or 10 and whole numbers (0 –100) ***16. Pass the Plants, Please, Part B*** ***36. Pollution Search, Part A***		than 4 categories and intervals of 1, 2, 5, or 10 and whole numbers (0 – 100) ***37. Reduce, Reuse, recycle, Part A*** ***41. How Plants Grow, Part A***			
				e. Organize and display data to make line plots using a variety of intervals		**e.** Organize and display data in line graphs **Assessment limit:** • Use y-axis with intervals of 1, 2, 4, 5, or 10 and x-axis with no more than 10 time intervals and whole numbers (0 – 100)			
						f. Determine the appropriate type of graph to effectively display data			
B. Data Analysis	**B**. Data Analysis	**B**. Data Analysis	**B**. Data Analysis	**B**. Data Analysis	**B**. Data Analysis	**B**. Data Analysis	**B**. Data Analysis	**B**. Data Analysis	**B**. Data Analysis

1. Analyze data	**1.** Analyze data	**1.** Analyze data	**1.** Analyze data	**1.** Analyze data	**1.** Analyze data	**1.** Analyze data	**1.** Analyze data	**1.** Analyze data	**1.** Analyze data
a. Talk about data from real graphs to answer a question such as: Which category has the most?	**a.** Compare and describe data from real graphs to answer a question	**a.** Interpret data contained in tables	**a.** Interpret data contained in tables	**a.** Interpret data contained in tables using a variety of categories and intervals **Assessment limit:** • Use no more than 4 categories from one set of data and whole numbers (0 – 1000) ***22. Trees as Habitats, Part B***	**a.** Interpret line plots **Assessment limit:** • Use no more than 20 pieces of data with a range no more than 10 and whole numbers (0 – 100)	**a.** Interpret and compare data in stem & leaf plot **Assessment limit:** • Use no more than 20 data points and whole numbers (0 – 100)	**a.** Interpret frequency tables **Assessment limit:** • Use no more than 5 categories or ranges of numbers and frequencies of no more than 25	**a.** Recognize and analyze faulty interpretation or representation of data **Assessment limit:** • Use the choice of graphical display or the scale as leading to faulty interpretation or representation of data	**a.** Interpret tables **Assessment limit:** • Use no more than 5 categories having no more than 2 quantities per category and whole numbers or decimals with no more than 2 decimal places (0 – 100) ***16. Pass the Plants, Please; Enrichment*** ***22. Trees as Habitats; Part B*** ***37. Reduce, Reuse, Recycle; Part A***
	b. Compare and describe data from a picture graph to answer a question	**b.** Interpret data contained in picture graphs using a variety of categories with 1:1 intervals	**b.** Interpret data contained in pictographs using scales of 1:1 and 2:1	**b.** Interpret data contained in pictographs using a variety of categories and intervals **Assessment limit:** • Use scales of 2:1, 4:1, or	**b.** Interpret line graphs **Assessment limit:** • Use the x-axis representing no more than 6 time	**b.** Interpret and compare data in line plots **Assessment limit:** • Use no more than 20 pieces of data with a	**b.** Read and analyze circle graphs **Assessment limit:** • Use no more than 5 categories using data in whole	**b.** Determine the best choice of a data display **Assessment limit:** • Use a given data set	**b.** Interpret box-and-whisker plots **Assessment limit:** • Use minimum, first (lower) quartile, median

				10:1 and whole numbers (0 – 100)	intervals, the y-axis consisting of no more than 10 intervals with scales as factors of 100 using whole numbers (0 – 100) ***73. Waste Watchers; Enrichment*** ***77. Trees in Trouble; Part B*** ***80. Nothing Succeeds Like Succession; Part C***	range of no more than 20 and whole numbers (0 – 100) ***37. Reduce, Reuse, Recycle; Part A*** ***73. Waste Watchers; Enrichment***	numbers or percents (0 – 1000) ***37. Reduce, Reuse, Recycle; Part A***	***37. Reduce, Reuse, Recycle; Part A*** ***77. Trees in Trouble; Part B***	(middle quartile), third (upper) quartile, or maximum and whole numbers (0 – 100)
		c. Interpret data contained in single bar graphs ***25. Birds and Worms***	**c.** Interpret data contained in single bar graphs using a variety of categories and intervals of 1, 2, 5, and 10 ***25. Birds and Worms***	**c.** Interpret data contained in single bar graphs using a variety of categories and intervals **Assessment limit:** • Use no more than 4 categories of data, intervals of 1, 2, 5, or 10 and whole numbers (0 – 100) ***16. Pass the Plants, Please;***		**c.** Interpret and compare data in double bar graphs **Assessment limit:** • Use no more than 4 categories and intervals of 1, 2, 5, or 10 and whole numbers (0 – 1000) ***37. Reduce, Reuse, Recycle; Part A***	**c.** Interpret data from a stem-and-leaf plot	**c.** Analyze misleading data representation	**c.** Interpret scatter plots **Assessment limit:** • Use no more than 10 points using whole numbers or decimals with no more than 2 decimal places (0 – 100)

				Part B ***25. Birds and Worms***					
				d. Interpret data contained in line plots using a variety of intervals		**d.** Interpret and compare data in double line graphs **Assessment limit:** • Use y-axis with intervals of 1, 2, 5, or 10 and x-axis with no more than 10 time intervals and whole numbers (0 – 100)			**d.** Interpret circle graphs **Assessment limit:** • Use no more than 8 categories (0 – 1000)
						e. Read circle graphs **Assessment limit:** • Use no more than 4 categories and data in whole numbers or percents which are multiples of 5 and whole numbers (0 – 100)			**e.** Analyze multiple box-and-whisker plots using the same scale
					2. Describe a set of data	**2.** Describe a set of data (mean, median, mode)	**2.** Describe a set of data	**2.** Describe a set of data	

					a. Determine median, mode, and range **Assessment limit:** • Use no more than 8 pieces of data and whole numbers (0 – 100)	**a.** Determine the mean of a given data set or data display **Assessment limit:** • Use no more than 8 pieces of data and whole numbers without remainders (0 – 1000) ***37. Reduce, Reuse, Recycle; Part A*** ***73. Waste Watchers*** ***85. In the Driver's Seat; Part A***	**a.** Apply measures of central tendency (mean, median, mode) ***37. Reduce, Reuse, Recycle; Part A***	**a.** Analyze measures of central tendency to determine or apply mean, median, mode **Assessment limit:** • Use no more than 15 pieces of data for the mean or median; or 15 to 30 pieces of data for the mode, using whole numbers or decimals with no more than 2 decimal places (0 – 100) ***37. Reduce, Reuse, Recycle; Part A***	
					b. Model the mean of a set of data	**b.** Apply the range and measures of central tendency to solve a problem or answer a question			

Note: Highlighted assessment limits will be tested in the no calculator section of MSA. In the assessment limit, (0-10) or (-10 to 10) means all numbers in the problem or the answer will fall within the range of 0 to 10 (including endpoints) or -10 to 10 (including endpoints), respectively. All content standards are tested in MSA but not all objectives. Objectives that have an assessment limit are tested on MSA. Objectives without an assessment limit are not tested on MSA.