

# K-12 MAJOR STRAND GLE's ACROSS GRADE LEVELS

*Scope & Sequence*

Revised 5-4-09

## DATA & PROBABILITY

### Probability

K	1	2	3	4	5	6	7	8	ALG	GEO	Adv. ALG
			Discuss events related to students' experiences as likely or unlikely	Describe the likelihood of events using such words as certain, likely, unlikely and impossible (DLE)	Describe the degree of likelihood of events using such words as certain, equally likely, and impossible	Use various models to illustrate possibilities	Theoretical & experimental probability		Identify sample space		List sample space of an event.  Create a probability distribution for a variable  Calculate probabilities of conditional events, independent events, and compound events

## Collect, Organize, Analyze, and Interpret Data

K	1	2	3	4	5	6	7	8	ALG	GEO	Adv. ALG
Sort items according to their attributes	Pose questions and gather data about themselves and their surroundings	Pose questions and gather data about themselves and their surroundings	Pose questions, gather data, and design investigations to address a given question	Collect data using observation surveys, and experiments	Evaluate data-collection methods	Design studies and collect data	Select, create, and use various graphical representations of data (circle graphs, histograms, etc.)	Select, create, and use various graphical representations of data (scatter plots, box and whisker, circle graphs, histograms, etc.)	Identify questions that can be answered from a data set	Create numerical and graphical distributions (bar graph, circle graph, dot plot)	Select the appropriate display for one variable data (bar graph, circle graph, box plot, histogram, ..)
Create graphs using physical objects	Sort and classify items according to their attributes	Sort and classify items according to their attributes and organize data about the items	Sort and classify items according to their attributes and organize data about the items	Sort, classify items and organize data according to their attributes (DLE)	Describe methods to collect, organize, and represent categorical and numerical data	Create and interpret stem and leaf plots	Find, use, interpret measure of center, spread, and ranges (central tendencies)	Find, use interpret measure of center, spread, and ranges (including outliers, interquartile range, central tendencies)	Create numerical and graphical distributions (bar graph, circle graph, dot plot frequency distribution, relative frequency distribution, stem-and-leaf plot)	relative frequency distribution, stem-and-leaf plot)	Describe the shape of a distribution (uniform, symmetric, skew left, skew right)
	Represent one-to-one correspondence data using pictures and bar graphs	Represent one-to-many correspondence data using pictures and bar graphs	Create graphs and represent one-to-one and one-to-many correspondence data using pictures and bar graphs (DLE)	Read, interpret, and create tables, line plots, and line/bar graphs (DLE)	Compare related data sets	Measures of Center (Mean, median, mode, range)	Compare differences and make conjectures about populations (compare multiple samples)	Compare differences and make conjectures about populations (compare multiple samples)	relative frequency distribution, stem-and-leaf plot)	relative frequency distribution, stem-and-leaf plot)	Calculate summary statistics (mean, median, mode, range, minimum, maximum, quartiles)
		Read and interpret information from line plots and graphs (bar, line, pictorial)	Describe the shape of patterns and analyze it for patterns	Create tables or graphs to represent	Given a set of data make and justify conclusions /predictions			Compare different representations of data (select the most appropriate representations of a data set)	Describe shape of a distribution (symmetric, skew left, skew right)		Use measures of center to
					Read and interpret information				Solve		

				<p>categorical and numerical data including line plots</p> <p>Describe important features of the data set</p> <p>Find maximum, minimum, range and mode of a set of data (DLE)</p> <p>Given a set of data, propose and justify conclusions that are based on the data</p>	<p>from line plots and graphs (bar, line, pictorial)</p>			<p>Compare differences and make conjectures about populations (compare multiple samples, scatter plots, best fit lines and predictions)</p>	<p>problems involving mean, median, mode</p> <p>Identify line of best fit for a scatter plot</p> <p>Make conjectures comparing two scatterplots of a common characteristic from two data sets</p>	<p>solve problems</p> <p>Determine the best model for a scatterplot of data</p>
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