Grade	Math Technology Demands
3	Use **tiles/object interaction** to manipulate or create a model for multiplication or division, manipulate the area model, manipulate rectilinear figures and find a number that represents the area, and draw a figure that doesn't belong. Use **placing points interaction** to locate a measurement on a number line or diagram and place a point on a number line that represents a fraction. Use **creating-charts interaction** to generate a graph indicated using the given data table, make a table of values and create a line plot, select defined partitions (pull up bars on graph to height indicated by data in a table). Use **classification tool** to click and select shapes with an indicated property and place them into different category boxes. Use **line tool** to divide a rectangle into appropriate number of equal parts by creating horizontal and vertical lines then shade (partition, select and drop down), draw a rectangle on a grid, create a bar graph, Use an **on-line protractor** and **ruler**. Click on a square of a grid to shade/unshade. Click on an oval in a **tiling tool** to group objects. Click on a **turn button** to rotate a shape. Incorporate "hyperlinked" information in constructed response items. Use tools: Translation tools (dictionaries) should be available to ELL students; text readers should be available to students, calculator, spreadsheet, computer Algebra system, statistical package, dynamic Geometry software, map relationships using tools such as diagrams, two-way tables, graphs, flowcharts and formulas.
4	Use a **drag-and-drop tool** to manipulate or create a model. Use a **drag-and-drop tool**, **turning tool**, or **shading tool** to select or manipulate two-dimensional figures or pictures of objects. Write one or more equations/inequalities using <,>, and = symbols. Create an equivalent fraction and create or manipulate a fraction model (may require shading of a preset model, or re-partitioning a preset model), create a fraction with a given relationship (<, >, or =), drag comparison symbols between an equation or inequality. Select points and ranges on number lines and tiling, generate an expression or create a fraction model and/or shade a fraction model and/or shade a fraction model already created. Manipulate decimal model to create a model of a new decimal number that fits the given relationship (move tiles to a predefined region), create a decimal number with given relationships (<,>, or =), create or manipulate a decimal (move tiles to a predefined region), generate or complete a number line diagram, and then mark location on diagram. Move tiles to a grid or manipulate tiles on a grid to create area model for rectangle. Use tool to drag one ray or both rays of an angle (locked vertex) to create an angle of a specific measure, verify an angle measure using an on-line protractor. Use **drawing tool** to draw an angle or a two-dimensional shape in the drawing space. Use a **keyboard** to **drag-and-drop** to label angle types. Use **drawing tool** to generate and rotate line segments and to generate two-dimensional figures in the drawing space. Use **drag-and-drop tool** for labeling figures or a **drawing tool** to generate non-composite two-dimensional figures in the drawing space. Use **drag-and-drop tool** for labeling figures or a tool that drags the vertices of a polygon to create specified angle sizes, use a tool to draw and rotate line segments to create polygons with specified angle sizes. Use a **drawing tool** to generate two-dimensional figure, draw a line of symmetry, rotate the figure as necessary, and rotate the line of symmetry as necessary. Click on a shape and then click inside a box to place shape in box (**classification TE template**). Draw a line of symmetry through a figure (**single line TE template**). Click on pattern block shapes and isometric graph paper or grid paper to make a picture, create a bar graph with title and labels. Write/type a fraction.

5	Use **graphing tool** to plot points in a coordinate plane (**Pegboard tm grid structures**). Use **selection tool** to shade regions of an area model, move expressions into correct box, place markers (x) on a line plot to signify the correct location of several data points. Use tool to create multiple copies of customary or non-customary unit cubes. Use **drag-and-drop tool** to classify 2 dimensional figures. Use a **drawing tool** to construct two-dimensional figures draw lines of symmetry, and/or rotate figures as necessary. Click on a tile and grid to place tile on grid.
6	Read a table. Use a **spreadsheet** to create a table. Use a **graphing tool** to plot ordered pairs in the coordinate plane and position numbers on a number line, represent the solution to a one-variable inequality on a number line, plot points in coordinate plane and connect points, draw polygons in the coordinate plane with given coordinates or determine one or more missing coordinates to generate a given polygon, construct number lines, dot plots, histograms, or box plots. Use **drawing tool** to draw fraction models, plot points and draw line segments on a grid, or to draw the sides of a polygon based on measurements derived from an **online ruler** and/or **protractor**. Use **calculator** tool, match equations to word problems by clicking on each to draw a line, **click and drag** to classify shapes. Use a **search feature** to call up a formula, use **concrete models**, **ruler, protractor, calculator, spreadsheet, computer Algebra system, statistical package, or dynamic Geometry software**.
7	Use **single line template tool** to graph a line. Use **drawing tool** to plot numbers on a given number line, draw rays, open circles and closed circles on a number line, plot points and draw line segments on a grid. Use a **virtual ruler** and **protractor** to construct a shape. Use **drag-and-drop tool** (with tiling template) to create a three-dimensional figure, clone cubes or right prisms, (with an unspecified tool) create data table, data display, box plot, histogram.
8	Use **Select and Order Template** to **drag and drop** equations into a classification table. Use **number line tool** to plot and label points. Use **graphing tool** to plot points in the coordinate plane and connect points with various curves and straight lines. Use a tool that plots points and draws line segments between points to create a figure, draw lines through points or graph systems of linear equations, type numbers into tables, construct and interpret scatter plots, informally fit a straight line to data in a scatter plot (line of best fit), use a tool that draws a line through the data, possibly by drawing the line through two selected points (the line could have a set slope, a set y-intercept of 0, or both could be allowed to fluctuate). Use **drawing tool** to plot and label points, draw a figure, part of a figure, line, line segments (and label them), angles and parallel lines, line of reflection, vector for translation or angle for rotation in a drawing space after undergoing rotations, reflections and translations. Use a tool to rotate, reflect, translate and dilate two-dimensional figures by given amounts (for example, student chooses figure to dilate, enter the scale factor and the center of the dilation and the tool would dilate the figure based on what the student entered), use a tool to move (translate, rotate, reflect, etc.) a copy of a given figure in the coordinate plane, use a tool to create a triangle and measure the angles of the triangle, use arrow keys and "rotate" menu to rotate a figure. Use **select objects** tool to highlight data in a table, use **calculator tool**, **spreadsheet tool**.
9 10 11	Set the graphing window (including an appropriate scale) for a specific function, equation, or context using a **computer-simulated graphing calculator**, type in a range of values and intervals for x- and y-axes on a coordinate plane, use **select and order TE template**, use a **graphing tool** to plot points representing part of the solution set of the equation and draw line to connect the points, use a graphing tool to type in the range of values for both the x- and y-variables and the scale for a given function (set the graphing window).

Solve a linear inequality and graph the solution-use **a graphing tool** to plot on a number line the set of points representing the solution to a linear inequality, click to draw lines connecting inequalities with their graphs.

Graph the solution set of a linear or nonlinear equation in two variables-use a graphing tool to plot points representing part of the solution set of a system of two equations and draw two separate lines or curves to connect points.

Graph the solution set for a linear inequality-use a graphing tool to draw either a solid line or a dotted line to represent the graph of a linear inequality in two variables and shade (by clicking in an area) the half-plane that represents the solution set to the inequality.

Graph the solution set for a system of linear inequalities-use a graphing tool to draw either a solid line or dotted line to represent the graph of each linear inequality and shade the intersection of the open or closed half-planes that represent the solution set to the system.

Use a **graphing tool** to produce the graph of the function (with specified key features), either by plotting points or deriving a function rule and entering it to produce a graph, generate graphs of linear, quadratic, square root, cube root, piecewise-defined, polynomial, exponential, and/or logarithmic function(s) (from a function equation, written description with or with out key features, or table of values).

Use **graphing tool** to enter data points and/or a function equation and draw either a line or a curve to represent the graph of the function.

Identify parts of the figure(s) that can be used to prove the property or theorem related to lines, angles, triangles(s), parallelogram(s)-**select and drag** the names of the parts of figures to the appropriate spot.

Use **Select and Order template** to put sides or angles in appropriate regions, adjust box plots to represent the relationship between the centers and spreads of given data sets.

Use a tool to **click and drag** and stretch box plots over certain values above a number line, write equations with variables, fractions, and exponents.

Use **Single Line template** to graph a line on an x-y grid by moving a pointer and clicking, create a table of values, enter axis labels, and pairs of independent and dependent variable values into a spreadsheet to create regression plots.

Use **graphing calculator software** and **statistical software** to find minimum value of a function within a set region.

Perform a **web search** to find dimensions of a standard object (like a soda can).

Organize data into a box-plot using **online tools**.

Use **partition** or **single line segment TE template** or **ruler tool** to draw lines.

Enter formulas to calculate costs in a spreadsheet, find a sum of cells in a spreadsheet.

Use a **search tool** to collect data, enter data into a spreadsheet, make charts and graphs, enter formulas (linear and exponential regressions, mean and standard deviations), and make predictions based on graphs.