























Technology-Connected Lesson Plan

Title:	Candy is Dandy
Grade Levels:	☞ 4 th & 5 th Grade
Curriculum Areas:	☞ Math
Measurable Objectives:	<ul style="list-style-type: none"> ☞ TLW record color distribution in a spreadsheet format. ☞ TLW utilize data collected to create a bar graph, line graph, or pie graph. ☞ TLW evaluate the data collected and graphs created to write a brief analysis of their conclusions.
LA Comprehensive Curriculum:	<ul style="list-style-type: none"> ☞ 4th Grade - Math - Unit 1 Data, Graphs, and Numbers Activity 12: Graphing Classroom Data (GLEs: 34, 36, 37) ☞ 5th Grade - Math - Unit 1 Whole Number Review Activity 19: M&M Spreadsheet Math (GLEs: 28, 29, 30)
Grade Level Expectations: (GLEs)	<ul style="list-style-type: none"> ☞ M.4.5.34: Summarize information and relationships revealed by patterns or trends in a graph, and use the information to make predictions (D-1-E) (LA GLEs) ☞ M.4.5.36: Analyze, describe, interpret, and construct various types of charts and graphs using appropriate titles, axis labels, scales, and legends (D-2-E) (D-1-E) (LA GLEs) ☞ M.4.5.37: Determine which type of graph best represents a given set of discrete data (D-2-E) (D-1-E) (LA GLEs) ☞ M.5.5.28: Use various types of charts and graphs, including double bar graphs, to organize, display, and interpret data and discuss patterns verbally and in writing (D-1-M) (D-2-M) (P-3-M) (A-4-M) (LA GLEs) ☞ M.5.5.29: Compare and contrast different scales and labels for bar and line graphs (D-1-M) (LA GLEs) ☞ M.5.5.30: Organize and display data using spreadsheets, with technology (D-1-M) (LA GLEs)
K-12 Educational Technology Standards:	<ul style="list-style-type: none"> ☞ Technology Communication Tools (<i>Communication Foundation Skill</i>) Students use a variety of media and formats to communicate and present information and ideas effectively to multiple audiences. ☞ Technology Productivity Tools (<i>Resource Access and</i>

	<p><i>Utilization Foundation Skill)</i></p> <p>Students use technology tools to enhance learning, increase productivity, and promote creativity.</p> <ul style="list-style-type: none"> ☞ Technology Research Tools (<i>Linking and Generating Knowledge Foundation Skill)</i> <p>Students use appropriate technology to locate, evaluate, and collect information from a variety of sources.</p>
Technology Connection:	<ul style="list-style-type: none"> ☞ Computer ☞ Microsoft Excel ☞ M&Ms PowerPoint ☞ <u>M&Ms Web Page</u> http://www.m-ms.com/ Meet the Minis http://us.mms.com/us/minizone/meet/
Assessment:	<ul style="list-style-type: none"> ☞ Observation and Participation ☞ Data Spreadsheet ☞ Completed Graphs (bar, line, or pie)
Procedures:	<ul style="list-style-type: none"> ☞ Introduce students to the concept of charting and discuss why some data collections are better represented by certain types of graphs. <ul style="list-style-type: none"> <u>Bar Graph</u> - allows for a comparison of values within a category. <u>Line Graph</u> - emphasizes a progression of change. <u>Pie Graph</u> - shows the relationship of a part to the whole. ☞ Explain to the students that they are going to conduct some market research about M&M's. First, you will sort and classify the contents of several bags of M&M's, summarize your findings on a worksheet created in Microsoft Excel, convert the numbers into charts, and make predictions about color distribution in other bags of candy. ☞ Predicting - Show the students a bag of the mini size M&Ms. <ul style="list-style-type: none"> - Students estimate how many M&M's are included in each bag. - They also predict how many of each color M&M's in their bag. - Students record their estimates on their Estimated Data worksheet. ☞ You can use real bags of M&Ms (mini size) for this activity (one bag per student) or students can use the attached M&M PowerPoint to gather their data from. ☞ Students will record their data on the worksheet for the

colors inside each bag.

-  Students will open the Excel Candy is Dandy spreadsheet template. Make sure that the students save this template in their folder before starting to collect their data.
-  Students will record the data from the four different bags of M&Ms. If the students are using real M&Ms candy, they will record their data in the Bag 1 row, and then they will collect the data for Bags 2, 3, and 4 from other classmates.
-  Students will notice as they are collecting their data, the AVERAGE column will automatically average their data (the formula for each row was added to the template for the Average column).
-  Students will use the AutoSum button  located on the Standard Toolbar at the top. Click in the cell of the column you would like to total, and then click the AutoSum button. Double check the data in the dancing lines to make sure that is the data you would like to total and then hit Enter on the keyboard.
-  Now have the students interpret their data. Are some colors more numerous? Do all bags have the same number of candies? Compare your observations with the findings of students in other groups. Are the same colors more numerous from one group to another?
-  Students will use the Chart Wizard  located on the Standard Toolbar to produce a graph or at least two different graphs if time allows.
-  First, student should highlight A2:E8 cells. Click the Chart Wizard button.
 - Click the chart type
 - Click the Next button
 - Click the Data Range tab, and be sure **Rows** is selected next to Series, click Next
 - In step 3 of the Wizard (**Chart Options**), click the Titles tab
 - Add the title for the **chart** w/student's name (ex. Candy is Dandy by Kathy Prine) Also, add for the **Axes** (ex. Color for the X Axis and Number for the Y Axis)
 - Click the gridlines tab and experiment with gridline options.
 - Choose a gridline that makes it easier to understand the data.

	<ul style="list-style-type: none"> - Click the Legend tab and choose a location for the legend. - Click Next - Finally, have Microsoft Excel place the chart as an object on the original worksheet, so that worksheet entries are visible as you examine the chart.  To alter chart size, click the chart to select it. Then select one of the four corner handles and click-drag inwards or outwards on to shrink or expand image size.  To change the colors of each bar, double click on the bar and select the correct color. Repeat this for each color in the legend.  Click the magnifying glass on the Standard toolbar to preview how your work will look when you print the sheet. Click close.  Print out your final data chart and graph/graphs.  Group Discussion <ul style="list-style-type: none"> - Are some colors more numerous? - Do all bags have the same number of candies? - Do bags of equal weight have an identical number of candies? - Compare your observations with the findings of other students in other groups. - Identify the most popular M&M color - Make predictions about that color in larger weight bags of candy.  If time allows, let students visit the following sites; <ul style="list-style-type: none"> <u>M&Ms Web Page</u> http://www.m-ms.com/ Meet the Minis http://us.mms.com/us/minizone/meet/
Materials:	<ul style="list-style-type: none">  Mini Bag of M&Ms for each student OR M&Ms PowerPoint with 4 slides showing different bags of M&Ms  Print out Estimated Data collecting sheet for each student.
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School:	<ul style="list-style-type: none">  D.C. Reeves ES  Martha Vinyard ES