
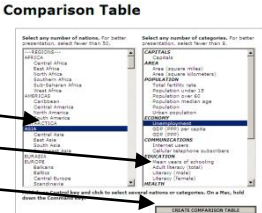
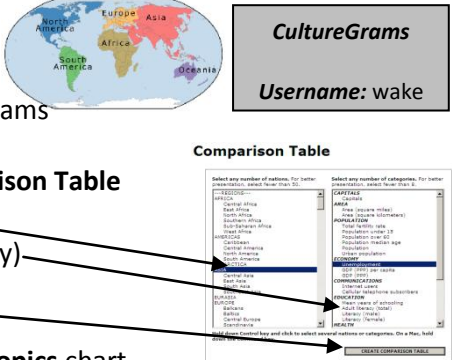
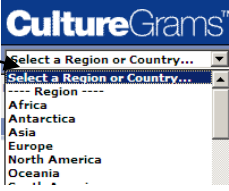


Binomial and Normal Distributions Project – Part 1

<p>OBJECTIVE:</p>	<ul style="list-style-type: none"> – Use a high quality source of information to collect data on one topic as part of the research process to increase global awareness. – Calculate the mean, variance, and standard deviation for the collected data. – Generate a graph to approximate a normal distribution using appropriate labeling techniques in math and information literacy. 																				
<p>PROCEDURES:</p>	<p>In class—</p> <ul style="list-style-type: none"> • Determine your data topic to research: _____ Write on your own paper • Determine the country that you will feature: _____ Write on your own paper <hr/> <p>In the library—</p> <div style="display: flex; align-items: center;">  <div style="border: 1px solid black; padding: 5px; margin-left: 10px;"> <p>CultureGrams</p> <p>Username: wake</p> </div> </div> <ul style="list-style-type: none"> ○ Go to http://millbrookmediacenter.weebly.com ○ Scroll down and click on the world map to access CultureGrams <div style="display: flex; align-items: center; margin-top: 20px;"> <div style="flex: 1;"> <ul style="list-style-type: none"> ○ Click on Graphs and Tables in the top right corner ○ Under Build Your Own on the left column, click on Comparison Table ○ In the right column under Regions, select Asia ○ In the left column, select your data topic ○ Click on Create Comparison Table </div> <div style="flex: 1;">  </div> </div> <ul style="list-style-type: none"> ○ Click on Download Table as CSV file ○ Click on Open to access file <div style="margin-top: 10px;"> <p style="text-align: center;">Comparison Table</p> <p style="text-align: center;">Print window Download table as CSV file Close window</p> <p style="text-align: center; font-size: small;">Click on a category heading to sort the table by that category, lowest to highest. Click on the heading again to sort highest to lowest.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Nation</th> <th>Region</th> <th>Unemployment rate</th> </tr> </thead> <tbody> <tr> <td>Afghanistan</td> <td></td> <td>Asia (South Asia)</td> <td>35%</td> </tr> <tr> <td>Bangladesh</td> <td></td> <td>Asia (South Asia)</td> <td>5%</td> </tr> <tr> <td>Brunei</td> <td></td> <td>Asia (East Asia)</td> <td>4%</td> </tr> <tr> <td></td> <td></td> <td>Asia (Southeast Asia)</td> <td>4%</td> </tr> </tbody> </table> </div>	Nation		Region	Unemployment rate	Afghanistan		Asia (South Asia)	35%	Bangladesh		Asia (South Asia)	5%	Brunei		Asia (East Asia)	4%			Asia (Southeast Asia)	4%
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	<p>In Excel, calculate the mean, standard deviation, and variance:</p> <ul style="list-style-type: none"> • MEAN <ul style="list-style-type: none"> ○ Find a blank cell on the right side of the spreadsheet and type \rightarrow =average(○ Use your mouse and click and drag all of the cells that need to be calculated ○ Enter and record your number on your own paper • STANDARD DEVIATION <ul style="list-style-type: none"> ○ Find a blank cell on the right side of the spreadsheet and type \rightarrow =stdev(○ Use your mouse and click and drag all of the cells that need to be calculated ○ Enter and record your number on your own paper • VARIANCE <ul style="list-style-type: none"> ○ Find a blank cell on the right side of the spreadsheet and type \rightarrow =var(○ Use your mouse and click and drag all of the cells that need to be calculated ○ Enter and record your number on your own paper <hr/> <p>Exit Ticket—</p> <p>Create one graph that approximates a normal distribution for your data on a 8.5" x 11" sheet of graph paper and mounted on construction paper.</p> <ul style="list-style-type: none"> • Title your graph Asia's _____ Data Topic • At the bottom of your graph, identify the data's source of information (Hint: For this information, look at the bottom of the table generated by CultureGrams) • Clearly label the graph with the following information: <ul style="list-style-type: none"> ○ Value of the Mean ○ Values for 																				

OBJECTIVE:	– Collaborate with peers in order to increase global awareness and understanding of Asia as a whole.																																																																																																			
PROCEDURES:	<p><i>In class—</i></p> <p>Collaborate with your peers to identify the mean for each of the data topics. You will complete the column Your Country when you return to the library or lab.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 60%;">CULTUREGRAMS DATA TOPICS</th> <th style="width: 20%;">ASIA MEAN</th> <th style="width: 20%;">YOUR COUNTRY</th> </tr> </thead> <tbody> <tr style="background-color: #cccccc;"> <td colspan="3">POPULATION</td> </tr> <tr> <td>• Total fertility rate</td> <td></td> <td></td> </tr> <tr> <td>• Population under 15 years old</td> <td></td> <td></td> </tr> <tr> <td>• Population over 60 years old</td> <td></td> <td></td> </tr> <tr> <td>• Population median age</td> <td></td> <td></td> </tr> <tr> <td>• Population</td> <td></td> <td></td> </tr> <tr> <td>• Urban population</td> <td></td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td colspan="3">ECONOMY</td> </tr> <tr> <td>• Unemployment</td> <td></td> <td></td> </tr> <tr> <td>• GDP per capita</td> <td></td> <td></td> </tr> <tr> <td>• GDP in billions</td> <td></td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td colspan="3">COMMUNICATIONS</td> </tr> <tr> <td>• Internet users (per 1,000 people)</td> <td></td> <td></td> </tr> <tr> <td>• Cellular telephone subscribers (per 1,000 people)</td> <td></td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td colspan="3">EDUCATION/LITERACY</td> </tr> <tr> <td>• Mean years of schooling</td> <td></td> <td></td> </tr> <tr> <td>• Adult literacy</td> <td></td> <td></td> </tr> <tr> <td>• Literacy (male)</td> <td></td> <td></td> </tr> <tr> <td>• Literacy (female)</td> <td></td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td colspan="3">HEALTH/MORTALITY RATES/DOCTORS/LIFE EXPECTANCY</td> </tr> <tr> <td>• Underweight Children—Percent of children (age 0-4) underweight</td> <td></td> <td></td> </tr> <tr> <td>• Infant mortality (per 1,000 births)</td> <td></td> <td></td> </tr> <tr> <td>• Life expectancy (male)</td> <td></td> <td></td> </tr> <tr> <td>• Life expectancy (female)</td> <td></td> <td></td> </tr> <tr> <td>• Doctors (per 1,000)</td> <td></td> <td></td> </tr> <tr> <td>• Maternal mortality (per 100, live births)</td> <td></td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td colspan="3">ENERGY</td> </tr> <tr> <td>• Electricity consumption (kilowatt-hours/ capita)</td> <td></td> <td></td> </tr> <tr> <td>• Carbon dioxide emissions (metric tons/capita)</td> <td></td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td colspan="3">DEVELOPMENT</td> </tr> <tr> <td>• Human Development Index rang (of 187 countries)</td> <td></td> <td></td> </tr> <tr> <td>• Gender Inequality Index rank (of 146 countries)</td> <td></td> <td></td> </tr> </tbody> </table> <hr style="border-top: 1px dashed black;"/> <p><i>Exit Ticket—</i> List 6 or 7 data topics that you are curious about exploring:</p>	CULTUREGRAMS DATA TOPICS	ASIA MEAN	YOUR COUNTRY	POPULATION			• Total fertility rate			• Population under 15 years old			• Population over 60 years old			• Population median age			• Population			• Urban population			ECONOMY			• Unemployment			• GDP per capita			• GDP in billions			COMMUNICATIONS			• Internet users (per 1,000 people)			• Cellular telephone subscribers (per 1,000 people)			EDUCATION/LITERACY			• Mean years of schooling			• Adult literacy			• Literacy (male)			• Literacy (female)			HEALTH/MORTALITY RATES/DOCTORS/LIFE EXPECTANCY			• Underweight Children—Percent of children (age 0-4) underweight			• Infant mortality (per 1,000 births)			• Life expectancy (male)			• Life expectancy (female)			• Doctors (per 1,000)			• Maternal mortality (per 100, live births)			ENERGY			• Electricity consumption (kilowatt-hours/ capita)			• Carbon dioxide emissions (metric tons/capita)			DEVELOPMENT			• Human Development Index rang (of 187 countries)			• Gender Inequality Index rank (of 146 countries)		
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Binomial and Normal Distributions Project – Part 3

<p>OBJECTIVE:</p>	<ul style="list-style-type: none"> – Make comparisons between data topics. – Collect and read research information. – Think creatively and critically to make inferences and explain data. – Be an ethical researcher and use appropriate citation techniques.
<p>PROCEDURES:</p>	<p>In the library—</p> <ul style="list-style-type: none"> ○ Go to http://millbrookmediacenter.weebly.com ○ Scroll down and click on the world map to access CultureGrams ○ Click on Graphs and Tables in the top right corner ○ Under Build Your Own on the left column, click on Comparison Table ○ In the right column, scroll down and find your country ○ In the left column, select data topics (hold down the Ctrl key) ○ Click on Create Comparison Table  <ul style="list-style-type: none"> ○ Use this information to complete the CultureGrams Data Topics chart —complete the column Your Country ○ On the CultureGrams Data Topics chart, highlight the data topics that reveal your country to be significantly different (or significantly similar) to the Asian mean or alarmingly high or low. <hr/> <ul style="list-style-type: none"> ○ In the top left corner, use the drop-down box Select a Region or Country... and scroll down to find your country ● In the left column, click and read the explanations under <i>Background, The People, Customs and Courtesies, Lifestyle, and Society</i>. ● <u>On your own paper</u>, write down information about your country that explains your country's data: <ul style="list-style-type: none"> ● For example, ready this direct quote, <i>"In some regions of rural China, it is common for people to spit in public after clearing their throat. Since poor health conditions make this necessary, government fines have failed to curb the behavior."</i> This information may help explain China's life expectancy rate. <hr/> <ul style="list-style-type: none"> ● In the top right corner, click on Generate Citation ● <u>On your own paper</u>, write down the MLA citation 
<p>FINAL PROJECT OBJECTIVE:</p>	<ul style="list-style-type: none"> – Synthesize knowledge, exercise and communicate sound reasoning, and understand connections. – Use research information to create an informed point of view on sensitive global issues. – Communicate new knowledge through writing and using appropriate and ethical techniques.
<p>PROCEDURES:</p>	<p>Write a one-page, typed paper explaining the information you have collected. Follow these requirements:</p> <ul style="list-style-type: none"> ● Write at least a half-page comparing the data from your featured country to the data from Asia ● Write at least a half-page explaining why your featured country is significantly different (or significantly similar) to the Asian mean or why it is alarmingly high or low. ● Include at least 2-3 direct quotations from CultureGrams. (Each quote should be no more than 1-2 sentences.) ● Include a citation for CultureGrams

