

## USD 469 Lesson Plan

<b>Lesson Title</b>	What's your Problem? I have an answer.
<b>Created by</b>	Rhonda Lang
<b>Building</b>	Lansing Middle School
<b>Grade Level</b>	7 <sup>th</sup> Grade
<b>Subject Area</b>	Math II and Math III
<b>Time</b> <i>(Time frame for the lesson)</i>	3 Days
<b>State Standards Addressed</b>	<p>7.4.2K1a-g organizes, displays, and reads quantitative and qualitative data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays</p> <p>b. bar, line, and circle graphs d. charts and tables</p> <p>7.4.2A3a-b recognizes and explains</p> <p>a. misleading representations of data b. effects of scale or interval changes on graphs of data sets.</p>
<b>Technology Equipment</b> <i>(list the equipment needed and what needs to be connected before the lesson begins. Also any instructions on connecting)</i>	<ul style="list-style-type: none"> <li>• Computer Lab—internet</li> <li>• Microsoft excel</li> </ul>
<b>Tips</b> <i>(Special instructions or information that will help the instructor be successful using the equipment. What the students need to know BEFORE the lesson? What do the teachers need to know before the lesson?)</i>	<p>Students need to know:</p> <ul style="list-style-type: none"> <li>• how to use excel</li> <li>• how to use a search engine</li> </ul> <p>Teachers need to know:</p> <ul style="list-style-type: none"> <li>• how to use excel</li> <li>• how to use a search engine</li> </ul>
<b>Activity Type</b> <i>(list all that apply- Group activity, Cooperative learning, Research, Hands on, etc...)</i>	Group Activity Research
<b>Activity Context</b> <i>(Briefly describe how the activity fits into the context of the lesson. What will precede the activity? What will follow the activity? What do you want to accomplish by using the activity in your classroom)</i>	<p>Students work in groups of 2 or 3 and come up with a question or problem they want solved. They should have a hypothesis and then at the end a conclusion with graphs and data to support their conclusion. They then survey people/students or do research to come up with data to support their question or problem.</p> <p><b>USE EXCEL</b> to create 2 types of graphs with their data.</p>

	i.e. line graph, bar graph, circle graph
<b>Additional Materials/Resources</b> <i>(Handouts)</i>	Handouts: Rubric Outline of project
<b>Extension Activities/Follow up</b> <i>(What do you do next? How do you know it was successful? Other activities to do. )</i>	Students could present their data to the class. <u>Extension:</u> Students could adjust graphs by changing the intervals to make the data be misleading to be more supportive of their findings or hypothesis.

## Math Project Ideas

1. What is the average weight of a backpack that a 7<sup>th</sup> grade student at LMS carries home?
2. What is the average weight of a backpack that a student at LMS carries home? (different population and sample)
3. What is the experimental probability that a student at LMS is wearing a red, blue, white, gray, black or other color shirt?
4. What is the average walking time to school for students who walk to LMS?
5. How many students on the average are absent from LMS each day? (This can be broken down for each grade and the whole school).
6. What is the experimental probability of getting each color M&M in 20 fun size bags? (Find the probability of each bag and then the total probability of all bags together.)
7. How many M&M are there in a fun size bag of M&M. (find the mean median, mode and range)
8. Find the experimental probabilities of one of the following:
  - a. different shoe styles
  - b. different hair colors
  - c. different backpack colors
9. What types of television shows do 7<sup>th</sup> grades like to watch? (survey 7<sup>th</sup> graders)
10. What type of soda do LMS students like best?
11. What lunch entrée, do the students at LMS like the best?
12. Your group creates an idea-----

## Math Project

Name: \_\_\_\_\_

Name	Points Possible	Points
<b>Title</b>	2	
<b>Purpose:</b> How well is the question stated, and is it a new question? (0) no question (1) incomplete question (2) complete question, and well written (3) complete, well-written and new idea for the student	3	
<b>Hypothesis:</b> To what degree is this a testable prediction? (0) no hypothesis (1) incomplete hypothesis (2) hypothesis present, but not completely testable (3) well-written, testable hypothesis	3	
<b>Materials:</b> What materials were utilized? (0) no materials identified (1) materials not appropriately identified (2) materials appropriately identified	2	
<b>Experiment Design:</b> How well is the plan developed to validate the hypothesis? (0) lacks overall plan to validate or confirm the hypothesis (1-2) partial plan to validate or confirm the hypothesis (3-4) sufficient plan to validate for confirm the hypothesis (5) exemplary plan to validate or confirm the hypothesis	5	
<b>Experimental Procedures:</b> To what degree does the sequential experimental process connect the hypothesis, data and results? (0) experimental procedures are not listed (1-2) experimental procedures are incomplete and/or not listed step by step (3-4) experimental procedures are complete and listed step-by-step (5) experimental procedures are complete and listed step-by-step in an exemplary fashion	5	
<b>Analysis:</b> How well are the results interpreted? (0) no interpretation of data (1-2) partial interpretation of data (3-4) correct and appropriate interpretation of data (5) comprehensive and significant interpretation of data	5	
<b>Graph / Table #1:</b> How well are the results interpreted? (Title, axis labeled, appropriate scale, neatness) (0) no graph or table (1-4) incomplete graph or table (5-8) sufficient graph or table (9-10) exemplary graph or table	10	
<b>Graph / Table #2:</b> same as above	10	
<b>Conclusion:</b> How well is the conclusion identified and/or interpreted? (0) no conclusions (1-2) incomplete conclusion (3-4) conclusion appropriately described (5) conclusion carefully described	5	

# Math Project

Names of group members:

- 1.
- 2.
- 3.

<b>Title:</b>
<b>Purpose:</b>
<b>Hypothesis:</b>
<b>Materials:</b>
<b>Experiment</b>

**Results/Analysis**

**Conclusion:**