Graphing Pockets
Math
Second Grade
Cindy M. Morden

PURPOSE:

The students count the number of pockets on their clothes. Use Microsoft Excel to enter the data create a class graph. The culminating task is for each student to create an individual graph to display their data collection. The students are using technology to process data and display the results in a finished format.

STANDARDS:

Michigan Mathematics
III. Data Analysis and Statistics
Elementary
1. Collect and explore data through counting, measuring and conducting surveys and experiments.
2. Organize data using concrete objects, pictures, tallies, tables, charts, diagrams and graphs.
3. Present data using a variety of appropriate representations and explain the meaning of the data.

National Educational Technology Standards for Students
3. Technology Productivity Tools
Students will use technology resources for problem solving, communication, and illustration of thoughts, ideas and stories.
4. Technology Communication Tools
Students will gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners.

ACTIVITIES:

Class Demonstration: Creating a Chart with Microsoft Excel

1. Guide students in counting the number of pockets on their clothing.
2. Using an LCD projector or presentation software, model the steps for entering data into a Microsoft Excel spreadsheet.
3. Follow the help sheet that I have created to assist in using the Chart Wizard to complete the process for making a chart. Create a column graph.
4. Model the steps for changing the color of the columns.
5. Print out a copy of the class graph--- using my HP Printer I was able to print out a poster size print, the students enjoyed seeing the graph in printed form.

6. As homework: the students were instructed to pick five people, count the number of pockets that each person's clothing has and then complete a table to record the data. There is space on the worksheet for creating a bar graph.
7. The students brought their homework back to school and I collected the worksheets to be used at the next computer lab session.

Computer Lab; Independent Work
1. Students use their pocket data from home to use Microsoft Excel to create a chart.
2. If you have presentation software or com-web in your computer lab, it will be helpful for modeling the steps for this lesson. Another option is to set up an LCD projector and have the students follow along with you. An advantage to using com-web or presentation software is that you "control" the student computers, you are able to toggle between demonstrating and allowing the students to work. This helps keep the students on task.
3. Model the steps for creating a chart with Microsoft Excel.
    1. Enter data into cells
    2. Use the chart wizard to create a column graph
    3. If there is time... model the steps to change the color of the columns
4. Allow students to save and print their work.
5. Assess the completed graphs for accuracy in data entry.

TOOLS AND RESOURCES:

- Smart Board, TTI laptop computer in classroom
- individual computers in the computer lab—one per student

Software:

- **Microsoft Excel**
- **Presenter Software for computer lab**

ASSESSMENT:
Have the students self-assess their work. Compare the data from the homework sheet to the printed chart from the computer. Students may also compare their chart to others in the classroom. As this is my students' first experience with creating their own graph, I am not assessing their ability to use Microsoft Excel, although many of the students were very independent in using the program. With good modeling, the students are very capable of creating charts. Maybe later in the year, if we were to do the activity again, I would provide a rubric for assessing their work.

CREDITS:

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www.westbloomfield.k12.mi.us/roosevelt/second02/index.html

Everyday Math Second Grade Teacher's Lesson Guide, The University of Chicago School Mathematics Project, Second Edition 2001
www.everydaylearning.com

COMMENTS:

I am always amazed at the way young children are able to utilize "adult" software. When children are shown the simple tricks to using software programs, they are able to produce awesome results! Never underestimate the abilities of young children!!!