Create Charts and Graphs with Excel
By Lorrie Jackson

WHY A TECHTORIAL?

What will I learn today?
You will learn how to teach students in grades 3-12 to use Excel to create charts and graphs.

What hardware and/or software does the techtorial apply to?
The techtorial applies to users of Microsoft Excel (PC or Mac)

Which National Educational Technology Standards for Teachers does the techtorial address?
The techtorial will help teachers accomplish standard IV.A. in particular.

[The International Society for Technology in Education (ISTE) has developed a set of National Educational Technology Standards for Teachers. Standards or Performance Indicators are included for each techtorial to help teachers and administrators improve technology proficiency. For a complete description of the standards indicated, go to NETS for Teachers.

AN EXCEL-ENT REVIEW

Excel is a software program that allows users to enter, manipulate, and view data. Students in grades 3-12 -- and their teachers -- can learn to use Excel successfully. The step-by-step instructions in this techtorial will help you teach your students how to use Excel to create a chart or graph of their TV viewing habits.

In the techtorial Teaching Excel, students learned how to

* open a new spreadsheet;

* enter data;

* use formulas;

* change cell size;

* sort data; and

* format borders.

In this follow-up techtorial, you will teach students to:

* format numbers;

* add and delete rows in a spreadsheet;

* align data; and finally

* create a chart or graph.

Note: To use this techtorial successfully, first complete the spreadsheet described in the Teaching Excel techtorial.

FORMAT NUMBERS

Write a variety of number formats on the chalkboard. (For example, 3:30, 87%, 304-567-8900, $43.99, 67.33, 3/13/2003, and so on.) Discuss with students what each format shows -- time, percent, a phone number, money, decimal, date -- and how those formats are distinguishable from one another.

Explain to students that they have to correctly format the numbers in their Excel document. To do that, they:

Highlight all the cells containing a numeral indicating the number of TV hours a student watches daily. (That should be cells B2 through B20 or above.)
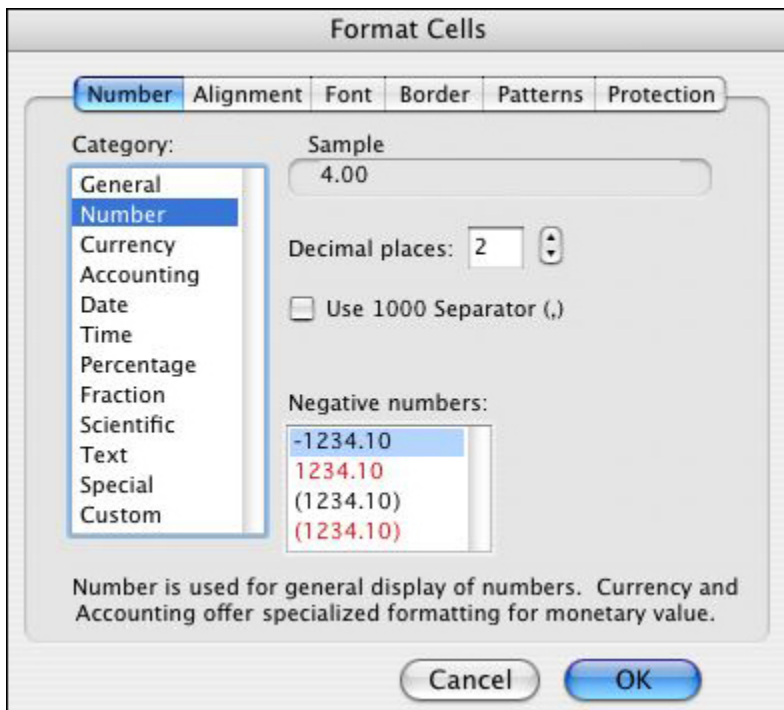
Click Number in the Category window. (Or, you might encourage students to explore some of the possible categories and select the correct one.)

Choose 2 in the Decimal places window. (That will ensure that your average is not rounded to the next highest whole number.)

Click OK.

Ask if any students think they actually might watch a little more or a little less TV than they mentioned when the data was collected. Ask those students who want to revise their estimates of how many hours of TV they watch to raise their hands and provide the new number. Have all students make the necessary changes on their spreadsheets. Remind students that because their spreadsheets now show numbers in decimal format, they need to enter the revised TV times in decimals too. (The challenge will be translating minutes into decimals!)

Point out to students that all the numbers in a spreadsheet can be formatted at the same time by clicking Format>Style>Modify>Number, selecting the desired format, and clicking OK.

ADD, DELETE, OR ALIGN DATA!

Explain to students that rows and columns can be added to -- or deleted from -- a spreadsheet at any time.

Demonstrate how to add rows and columns by having them add your name and TV viewing time to their spreadsheets. To add data, provide students with the following directions:

On the spreadsheet, click the number 2 (for Row 2) just to the left of the first student's name. The whole second row now should be highlighted.

Click Insert in the menu bar, and then click Rows. The first student's name and data now should be on the third row, with a blank row above it.

	NAMES	TV Time
1		
2		
3	Patrick	4.00
4	Mario	3.00
5	Thomas R.	3.00
6	Amelia	2.00
7	Jaylyn	2.00
8	Donald	2.00
9	Thomas W.	2.00
10	Charity	2.00
11	Sarah	1.00
12	Anna	0.00
13		
14		

Type your teacher's name into cell A2, and type his or her average daily TV-viewing hours into cell B2.

Explain to students that to delete a column or row, they click the number of the row or the letter of the column they want to delete, and then click Edit>Delete.

Explain to students that data in a spreadsheet automatically is aligned to the right of the cells. Explain that they can realign spreadsheet data the same way they realign text in Microsoft Word. To demonstrate, have students highlight cells B2:B21 and click one of the alignment icons (Align Left, Center, or Justify) in the menu bar.

CREATE A CHART OR GRAPH

Point out to students that charts and graphs provide an easy way to show relationships between numbers. Explain that Excel makes it easy to create several different kinds of charts and graphs. Provide students with the following directions for creating a chart or graph showing the TV viewing habits of their class:

Highlight cells A2:A21 and B2:B21.

Go to Insert>Chart, or click the Chart button.

On Step 1 of the Chart Wizard, choose Column as the Chart type, and then click Next. (For beginners, just click Next on Step 2 of the Chart Wizard.)

On Step Three, type Student TV Viewing as the title; Names as the Category (X) axis; and Hours as the Value (Y) axis, and then click Next.

Click As New Sheet. (If you don't, the graph will appear on top of the numbers in the spreadsheet.)

Click Finish.

Students' graphs should resemble the graph below.
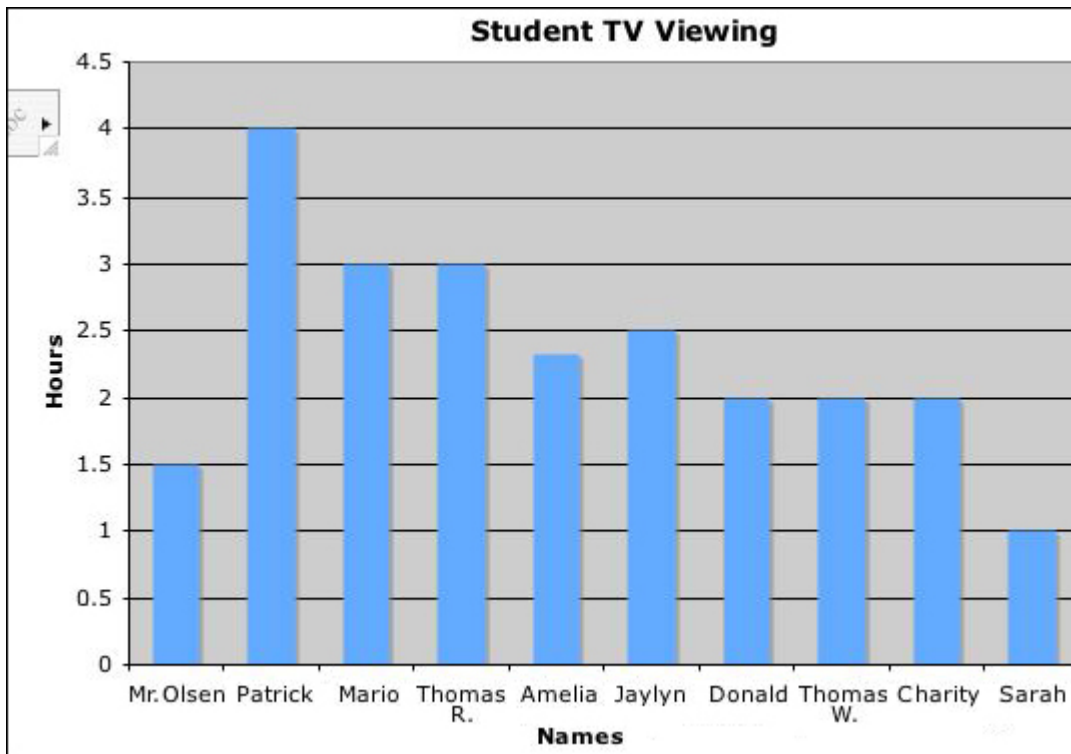
Encourage students to change some of the information in their spreadsheets -- to insert or delete a row, add a name, or change the number of hours of TV viewing, for example. Ask: "What happens to the graph when information in the spreadsheet is changed?"

TELL ME MORE!

Where can I find more information?

If your students are eager for more activities using Excel, be sure to check Education World's other Excel techtorials.