The Spreadsheet—Absolutely Elementary!

Elementary teachers and teacher trainers can use these activities to teach themselves and their students (ages 5–12) about spreadsheets and how they can illustrate complex math concepts. The spreadsheet templates are then placed in electronic “posters” to create wonderful interactive activities to help students visualize and communicate mathematical concepts.
Spreadsheets. The word conjures images of scientists, accountants, bankers, and business people busily manipulating mouse-driven stacks of figures with electronic accuracy. The image we have of the spreadsheet as a complex tool that requires sophisticated skills frequently discourages elementary teachers from attempting to use it with their students. The truth is, however, that spreadsheets can often illustrate difficult mathematical concepts better than many other tools, and because they are part of almost any integrated software package, such as Microsoft Works or ClarisWorks, they are readily accessible to almost any classroom teacher.

What Is a Spreadsheet, Anyway?

A spreadsheet is a computer application included in most integrated software packages alongside a word processor, database, and some basic drawing or painting tools. The spreadsheet software simply provides an electronic grid of columns and rows that allows the user to unfold, stretch, or “spread” out data for manipulation, analysis, and reflection.

Applications such as the spreadsheet allow students to shift from the rote drill-and-practice software commonly used in mathematics classrooms into an environment that allows students to gather, display, and change data while seeking reasonable solutions to a problem. Once relevant information is displayed on the grid, the spreadsheet offers tools that allow you to perform calculations ranging from very simple to extremely complex. The spreadsheet allows elementary students to follow simple computing steps that build operations and algorithms sequentially. This unique feature—the spreadsheet’s ability to adjust to differing degrees of simplicity or difficulty—makes it a useful tool for elementary students conceptualizing the big ideas in mathematics.

Another compelling feature of the spreadsheet is its capacity to build graphics that visually represent the data entered. The opportunity to see data presented in a variety of ways enables students to make meaningful and important mathematical connections. The spreadsheets featured in this article were created in ClarisWorks, but they could easily be reproduced in other popular productivity packages such as Microsoft Works or Microsoft Excel.

Introductory Spreadsheet Activities for Teachers and Students

The activities presented are samples of spreadsheet activities I prepared for technology training sessions with elementary teachers. Focusing on the Curriculum and Evaluation Standards for School Mathematics (National Council of Teachers of Mathematics, NCTM, 1989) and the Professional Standards for Teaching Mathematics (NCTM, 1991), I created each activity to emphasize reasoning, problem solving, making connections, and communicating mathematical ideas through the use of technology.

I originally developed these lessons to introduce teachers to the basic concepts involved in using spreadsheets in the classroom. After receiving feedback from teachers who adapted these activities for their own elementary-age students, however, I realized they are also effective for helping students learn problem solving. These simple activities can help take some of the tedium out of using spreadsheets in mathematics and, at the same time, illustrate some fairly complex mathematical concepts.

Simple Spreadsheets

The first activity is designed to familiarize teachers with the spreadsheet and provide a vision for the power of its tools. The activity is grounded in an age-old problem posed by Mother Goose in the rhyme “As I Was Going to St. Ives.”

As I Was Going to St. Ives
As I was going to St. Ives,
I met a man with seven wives;
Every wife had seven sacks,
Every sack had seven cats,
Every cat had seven kits;
Kits, cats, sacks, and wives,
How many were going to St. Ives?

The first step in problem solving with a spreadsheet is to spread out the problem within the columns and rows of the spreadsheet. Teachers (or students) should brainstorm in small groups, break down the elements of the problem, and enter the parts of the problem into the spreadsheet as illustrated in Figure 1. Teachers experience the power of the spreadsheet as they enter data from the problem, create formulas for subtotals and totals, and easily discover the rhyme’s solution.

Figure 1. The spreadsheet and the pie chart for the St. Ives problem.
After constructing the spreadsheet, teachers learn that Mother Goose envisioned 2,802 travelers on that road to St. Ives—a far cry from the illustrations that generally accompany the rhyme when it appears in nursery-rhyme books! A pie graph of the traveling troupe is added to depict the solution graphically, an extension that helps construct visual meaning for the facts and figures in the spreadsheet. Detailed step-by-step instructions for creating the St. Ives spreadsheet and poster template in ClarisWorks are available on the ISTE Web site (http://www.iste.org). Go to the publications main page, click on Learning & Leading With Technology and then Supplements, and scroll until you find the May 1997 supplements section.

### I Can Do This!

Success with a single spreadsheet is often enough to impress teachers with the value of spreadsheets in the classroom. One positive experience with the spreadsheet can help enthusiastic educators consider the possibilities of new interdisciplinary projects that link mathematics to science, social studies, health, and P.E.! They will begin to visualize using spreadsheets to solve money problems and measurement problems, to conduct surveys, to chart data, and more. Because most teachers will want to take their “St. Ives” spreadsheets back to their classrooms to share with students, we added some additional activities, including a method of preserving the “problem” so it can be used repeatedly by many students.

Figure 2. The St. Ives electronic poster for students includes several study questions in addition to the interactive spreadsheet and pie chart.

Figure 3 shows how the pie chart changes as students enter new data into the spreadsheet.

Figure 4 shows how the traveler and the man “disappear” from the pie chart as the cats and kits are added to the spreadsheet.
When the kits are added to the problem, as in Figure 4, a curious thing happens to the graph and to the percentages. The percentages for “I” and the “man” are reduced to 0.0%! Did they disappear statistically as they did on the pie graph? Where are they? Can they be counted as travelers to St. Ives?

The electronic poster encourages students to formulate a reasonable explanation by suggesting the use of a calculator to total the percentages displayed in the chart. What is the total? The calculator confirms that 99.8% of the travelers are displayed on the graph. The missing .2% are the two travelers who simply became too small to be visible among all those cats and kits! Yet they are accounted for mathematically—and that makes sense!

Finally, the electronic poster helps students communicate the mathematical ideas discovered and the connections made during the project by directing them to retell the story using numbers. This written reflection will offer insight into the depth and accuracy of the student’s understanding and into the connections made between parts of a whole, ratios, proportion, and computation.

Other Examples for Development

After teachers work with the St. Ives poster, they always get so excited and ask me what’s next and how they can make more. The following examples showcase other spreadsheet templates designed to meet curricular needs across the elementary grade levels.

I Can Count the Puzzle Pieces

“I Can Count the Puzzle Pieces” was designed for kindergarten and first-grade students. The colorful puzzle, chart of data, and the interactive bar graph make the template a fun activity for students learning the concepts of shape, color, and numeration. Just as the “St. Ives” graph changed with each entry, the bar graph for “I Can Count the Puzzle Pieces” grows each time a student enters a numeric symbol into the data chart.
Feature

What’s Your Favorite Food?

The template “What’s Your Favorite Food” is designed for second graders to collect and analyze survey data. Students poll classmates about their favorite foods. They enter the data into a chart and interpret the graphic results displayed on the pie graph. This fun-filled activity, which introduces students to the basics of statistical data collection, is extended by using the survey results as material for writing word problems for mathematics study. Problems might include scenarios like the following teacher-generated idea: “All of the boys and girls in the survey were going to have a pizza party. The pizza lovers were very happy! Now find out how many children would not get to eat their favorite food at the party.”

The natural curiosity of second graders makes elaboration on this project natural. Eight-year-old learners are fascinated when encouraged to speculate about the potential results of the same survey in other second-grade classrooms. Further research data is easily collected by placing the electronic poster on a computer in another classroom or on the network to make it available to the entire school!

How Many Ways Can You Make a Gallon?

Third- and fourth-grade students explore the problem “How Many Ways Can You Make a Gallon?” Students make valuable connections between units of liquid measurement and the percentage of a gallon that each unit represents. The trial-and-error quality of the activity allows students to “play” with combinations that total 100%, or one gallon. The strategies employed by users of this template are varied and deeply rooted in the individual’s previous knowledge and ability to make mathematical connections between the units of measurements of liquids and their percentages of the whole. Students with strong back-grounds in computation can “make gallons” by adding the percentages, and other students may choose other methods based on their own base knowledge of the subject. In this way, students use their previous mathematical knowledge to make valuable connections between units of liquid measurement and the actual size of a gallon. Once the template is completed, students can print their results and create a poster that illustrates all of the combinations they used to make a gallon.
How High Will the Ping-Pong Ball Bounce?

This template can be used to collect data, analyze the results, and make predictions in response to the problem “How High Will the Ping-Pong Ball Bounce?” The problem itself is an example of the many interesting questions that can be posed to students using spreadsheet tools. The calculating power of the spreadsheet allows students to discover complex scientific phenomena while applying mathematical skills.

The problem parameters require students to suspend a ping-pong ball at heights of increasing increments and collect data on the height of the first bounce of the ball. Text questions included on the template encourage students to hypothesize about the anticipated results and state the anticipated outcome. As they continue to collect data, students see a pattern in the line graph that may challenge their initial assumptions. The first few drops appear to support the notion that the height of the ball will always result in a proportional increase in the height of the bounce. Higher and higher drops demonstrate that the bounce (response variable) eventually responds less to the height of the drop (manipulated variable). Why?

This is the “teachable moment” teachers dream of. The decline in proportionate “bounce” can be attributed to the principle of terminal velocity—a concept that is challenging to teach, but fairly easy to grasp when conducting an experiment of this kind. The free-falling ping-pong ball reaches terminal velocity as the upward force of air resistance becomes stronger and the ball’s downward speed increases. This upward force eventually stops the ball from accelerating downward. The point when the ball stops accelerating is its terminal velocity, or maximum speed. Once terminal velocity affects the drop, the resulting bounce heights are relatively consistent. The effects of terminal velocity can be seen on the line graph and in the data. When you present the concept of terminal velocity in this fash-
Body Maps-Body Math

This activity is designed to allow fourth- and fifth-grade students to construct knowledge about the proportions of the human body using data collected through measurement. For example, height is proportionately equal to a person’s arm span. The addition of the bar graph to the template visually reinforces the proportional relationships between the sizes of certain parts of the human body. Although the data shown in our template focuses on a small number of body measurements taken from one student, the spreadsheet is capable of generating any number of graphic displays on any selected portion of the spreadsheet. Once the spreadsheet has been completed by all members of the class, students can generalize based on the graphic and numeric data drawn from the graph. The interdisciplinary focus of the activity makes this template a winner for health and science classes and provides plenty of data to explore during mathematics lessons.

Note: The skeleton graphic on the template was taken from MECC’s BodyScope program.

Conclusion

Teacher and student reactions to the spreadsheet templates presented in this article suggest that the spreadsheet is a powerful tool for the development of mathematical habits of mind in the elementary school. The emphasis on data collection and a sensible, strategic migration toward solving a problem increases the authenticity and effectiveness of matching school tasks to the competencies needed in the world of work. The place to begin building these skills is in the elementary school. Why not begin with these easy-to-use spreadsheet templates?

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References


Resources


Margaret Niess is the editor of the L&L Mathematics column in addition to this month’s feature. You can contact her at Oregon State University, Department of Science and Mathematics Education, Corvallis, OR 97331; niessm@ucs.orst.edu.
The Spreadsheet
Absolutely Elementary!

By Elizabeth Dudley Holmes

Elizabeth explains how teacher trainers and elementary-level classroom teachers can use spreadsheets to teach mathematical concepts.

The following set of instructions illustrates how teachers can create a spreadsheet template using ClarisWorks Draw. The spreadsheet in this case is a survey template that tallies the types and numbers of pets owned by the families of students in a classroom. After you have created this template and used it with your class, your students can extend the amount of data they collect by posting the template on the school’s network or intranet, or by interviewing other students in the school and entering the data themselves.

Also see a list of step-by-step instructions for creating the spreadsheet used as the main example in “The Spreadsheet-Absolutely Elementary!” This spreadsheet helps students calculate total number of travelers in Mother Goose rhyme “As I Was Going to St. Ives.”

Creating Spreadsheet Templates in ClarisWorks Draw

1. At the ClarisWorks New Document dialog box, click once to highlight Drawing. Click OK.

2. Choose Options, Hide Graphics Grid from the top menu bar to remove the grid lines.

3. Choose Options from the top menu bar. Drag to Turn Autogrid Off.

4. Select the Spreadsheet Tool from the Drawing Toolbar.

5. Click and hold the mouse button down. Drag diagonally toward the lower right to draw a spreadsheet on the workspace.

6. Enter data into the spreadsheet.

7. Use the Arrow Tool to select the completed spreadsheet.
   - Size the spreadsheet to show only the columns and rows needed for the activity (Columns A1-B4).

8. Click the space in the upper left corner of the spreadsheet to select all cells. All cells will become highlighted.
   - Choose Format from the top menu bar. Drag to Alignment. Change the cell alignment to Center.
Choose **Format** from the top menu bar. Drag to **Size**. Change the font size to 12.

Choose **Format** from the top menu bar. Drag to **Text Color**. Change the text color to blue.

Choose **Options** from the top menu bar. Drag to **Display**. In the Display dialog box:
- Click to place an X before Cell grid.
- Click to place an X before Solid lines.
- Remove the X from other options.
- Click **OK**. The spreadsheet looks like a data chart, with column and row headings removed.

9. Click , hold and drag across all cells to select, or highlight, all cells.
   - Choose **Options** from the top menu bar. Drag to **Make a Chart**.
   - In the **Chart Options** dialog box click the **Bar** icon from the **Gallery** of chart icons.
   - Select **Axes** from the **Modify** options.
     - Click the circle by **Y axis**. Type **Number** for the Y Axis label.
     - Click the circle by **X axis**. Type **Pets** for the X Axis label.
     - Type 0 as a Minimum number.
     - Type 12 as a Maximum number.
     - Type 2 as the Step size.
   - Select **Labels** from the **Modify** options.
     - Type "Pets in Our Class" as the **Title** label.
     - Click the box to the left of **Legend** to remove the X, as no legend is needed for this graph.
     - Click **OK** to apply all options to the chart

*Note:* Double-click the chart to return to the Chart Options dialog box to make changes or corrections.

10. Letís reposition the spreadsheet and chart on the workspace.
    - Click the Arrow Tool.
    - Click the spreadsheet. Click, hold and drag the spreadsheet toward the bottom.
    - Click the chart. Click, hold and drag it toward the top. Position the chart slightly above the spreadsheet.

11. Now, select the spreadsheet with the spreadsheet tool. To remove the spreadsheet data and clear the chart data follow these steps:
    - Click cells B2, hold the mouse button down and drag to cell B4 to highlight all numbers.
    - Choose **Edit** from the top menu bar. Drag to **Clear**.
    - All number data disappears. The blank spreadsheet and chart remain.
    - New data can be added. The chart will build with the data.

12. Letís create a text field to title the template.
    - Click the Text Tool (A) on the toolbar.
    - Place the I beam cursor near the top of the workspace. Click, hold and drag the cursor diagonally from upper left to lower right to draw a text field.
    - Type "I Can Count the Pets in Our Class" for the template title.

13. To change the text attributes in the title text field, follow these steps:
    - Click the Arrow Tool on the toolbar. Click the text field to select it. (Look for handles around the text field.)
Choose Format from the top menu bar. Drag to Alignment. Change the alignment to Center.

Choose Format from the top menu bar. Drag to Font. Change the font to New York.

Choose Format from the top menu bar. Drag to Size. Change the font size to 24.

Choose Format from the top menu bar. Drag to Style. Change the style to Bold.

Choose Format from the top menu bar. Drag to Text Color. Change the Text Color to the color of your choice.

14. Adding clip art will make the template attractive and add interest for students. To add clip art follow these steps:

- Click the Arrow, or Selector Tool on the toolbar. This action ensures that the clip art will enter as a graphic object.
- Choose File, Library from the top menu bar. Scroll through the clip art categories. Select Animals.
- The Animals window appears.
- Highlight Dog. Click Use.
- The clip art appears in the spreadsheet with handles.
- Size the clip art by clicking handles and stretching the image.
- Move the clip art by dragging the image from the middle.
- Delete the clip art by selecting it with the arrow tool. Press the delete key.
- Add more clip art by returning to Animals window. Select Cat. Click Use.
- Close the clip art window by clicking the close box in the upper left corner of the title bar.

Note: It may be necessary to reposition the spreadsheet and the chart to arrange clip art on the workspace. To move any object, select the arrow tool and click the object. When handles appear, click, hold and drag the object to a new position.

15. Add directions or questions to the template by drawing text fields as outlined in Step 13.

16. The template now looks like this:
17. To save the template as a stationery pad follow these steps:

Go to File on the top menu bar. Drag to Save. In the Save dialog box, click to put an X in the circle beside Stationery. Type "Pets Template" to name the template. Click Desktop as the save location. Click Save.

The template is ready to be used by students!

Take a poll to find out about the pets of your classmates. Type in data into the spreadsheet. Watch a bar graph of your data.
The Spreadsheet

Absolutely Elementary!

By Elizabeth Dudley Holmes

Elizabeth explains how teacher trainers and elementary-level classroom teachers can use spreadsheets to teach mathematical concepts.

The following is a set of step-by-step instructions for creating the spreadsheet used as the main example in “The Spreadsheet-Absolutely Elementary!” This spreadsheet helps students calculate the total number of travelers in the Mother Goose rhyme “As I Was Going to St. Ives.”

The other supplemental Web page for Holmes’ article is for a spreadsheet template using ClarisWorks Draw. The spreadsheet in this case is a survey template that tallies the types and numbers of pets owned by the families of students in a classroom. After you have created this template and used it with your class, your students can extend the amount of data they collect by posting the template on the school’s network or intranet, or by interviewing other students in the school and entering the data themselves.

How Many Are Going to St. Ives?

As I was going to St. Ives,
I met a man
with seven wives;
Every wife had seven sacks,
Every sack
had seven cats,
Every cat had seven kits;
Kits, cats, sacks, and wives, How many were going
to St. Ives?

This poem was written by Mother Goose. Everyone knows her name but no one actually knows who she was. Her true identity is a mystery. Mother Goose leaves us another mystery in this rhyme. We can solve the mystery of St. Ives using a spreadsheet. Here are the steps:

1. At the ClarisWorks New Document dialog box, click once to highlight Spreadsheet. Click OK.

2. Choose Format, Insert Header from the top menu bar.
   ○ A cursor appears.
   ○ Type How Many Are Going to St. Ives?
3. Highlight the title.
   - Choose **Font** from the top menu bar. Change the font size to **18**.
   - Choose **Style** from the top menu bar. Change the style to **Bold**.
   - Choose **Style** from the top menu bar. Change the **Text Color** to the color of your choice.

4. Save the spreadsheet. Choose **File, Save** from the top menu bar.
   - Type “St. Ives” to title the spreadsheet.
   - Click **Desktop** to save the document to the desktop.
   - Click Save.

5. Point and click cell A1 to select the cell. Note that “A1” appears on the left side of the entry bar. Type “Characters.” Press the Tab key.

6. **Tab** moves the cursor to cell B1. Type in “How Many?” Press the Tab key.


10. Point to cell A2 and click to select the cell. List the characters in the poem in this way:
11. Type “I” for the character who speaks in the poem.
   - Press the Return key. The return key moves the cursor down one cell.


15. In cell A6 type “cats.” Press the Return key.


17. In cell A8 type “Total.” Press the Return key to enter the entry.

18. Point and click cell B2 to select the first cell in the “How Many” column.

19. Respond to “How Many” “Iís” were in the poem. Type 1. Press Return.

20. In cell B3 respond to “How Many” “men” were in the poem. Type 1. Press Tab to move to cell C3.

21. Cell C3 is in the “Character Had:” column. The man had wives. Type **wives** in cell C3. Press Tab to move to cell D3.

22. Cell D3 is in the “How Many” column. The man had 7 wives. Type “7” in cell D3. Press Tab to move to cell E3.

23. Cell E3 is in the “Subtotals” column. A formula will be entered to calculate a subtotal.
   - Type an = (equal sign) to start the formula. It appears in the entry bar.
   - Click cell B3. The data in cell B3 is added to the formula. The formula in
the entry bar now reads

- \( B3 \)
- Type the multiplication symbol (*). The formula now reads
  - \( B3 \times \)
- Click cell D3. The data in cell D3 is added to the formula. The formula now reads
  - \( B3 \times D3 \).

Press the Return key.
- The subtotal appears in cell E3.

24. Copy the formula which will be used to calculate all of the subtotals by following these steps:
- Click and hold in cell E3.
- Drag to cell E7 and release the mouse button.
- All cells between E3 and E7 are highlighted.
- Choose Calculate, Fill Down from the top menu bar. This action copies the formula to selected cells. Zeros appear in rows with no data for computation.

25. Click to select cell B4.
- How many wives are in the poem? Type “7.” Press Tab to move to C4.
- What did the wives have? Type “sacks.” Press Tab to move to D4.
- How many sacks did each wife have? Type “7.” Press Return.
- The number of sacks (49) appears in cell E4, the Subtotal column.

26. Click to select cell B5.
- How many sacks are in the poem? Type “49.” Press Tab to move to C5.
- What did the sacks have? Type “cats.” Press Tab to move to D5.
- How many cats did each sack have? Type “7.” Press Return.
- The number of cats (343) appears in cell E5, the Subtotal column.

27. Click to select cell B6.
- How many cats are in the poem? Type “343.” Press Tab to move to C6.
- What did the sacks have? Type “kits.” Press Tab to move to D6.
- How many kits did each cat have? Type “7.” Press Return.
- The number of kits (2401) appears in cell E6, the Subtotal column.

28. Click to select cell B7.
- How many kits are in the poem? Type “2401.”
- The kits did not have anything, as the poem reads, so the subtotals are complete.

29. Click cell B8 to enter a formula which will total those in route to St. Ives.
- Type an = (equal sign) to start the formula. It appears in the entry bar.
- Click cell B2. The data in cell B2 is added to the formula. The formula in the entry bar now reads: = B2
- Click cell B3. The data in cell B3 is added to the formula. The formula in the entry bar now reads: = B2+B3
- Click cell B4. The data in cell B4 is added to the formula. The formula in the entry bar now reads: = B2+B3+B4
- Click cell B5. The data in cell B5 is added to the formula. The formula in the entry bar now reads: = B2+B3+B4+B5
- Click cell B6. The formula in the entry bar now reads: = B2+B3+B4+B5+B6
- Click cell B7. The final formula is: = B2+B3+B4+B5+B6+B7
Press **Return**.

How many went to St. Ives? The total appears in cell B8. **2802**

30. To check for accuracy, choose **Calculator** from the **Apple Menu Items**. The calculator will appear on the spreadsheet. Use the calculator to recompute each step in the problem.

   - To close the calculator, click the close box in the upper left corner of the calculator.

31. The spreadsheet can be “prettyed up” in a few simple steps. First select the entire spreadsheet by clicking the box at top of the Row Headings and to the left of Column Headings. The spreadsheet will be highlighted, or selected.

   - Go to **Format, Font** on the top menu bar. Select a favorite font.
   - Go to **Format, Style** on the top menu bar. Select a favorite style.
   - Go to **Format, Text Color** on the top menu bar. Select a favorite color.
   - Go to **Format, Alignment** on the top menu bar. Select **Center**.
   - Go to **Format, Size** on the top menu bar. Select a 12 point size.

32. These changes may have caused the cells to become too small for your text. Adjust cell height and width in this way:

   - Select the entire spreadsheet (Step 31).
   - Go to **Format, Column width** on the top menu bar. Type in the desired point size.
   - Go to **Format, Row height** on the top menu bar. Type in the desired point size.
   - Minor changes to column width can be made by manually adjusting the grid lines between column names.

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**How Many Are Going To St. Ives?**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Characters</td>
<td>How Many?</td>
<td>Character Had:</td>
<td>How Many?</td>
<td>Subtotals</td>
</tr>
<tr>
<td>2</td>
<td>man</td>
<td>1</td>
<td>wives</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

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**Add A Chart to the Spreadsheet**

1. Let’s create a pie graph to show all of those who traveled to St. Ives.

   - Click and hold in cell A2. Drag from upper left to lower right to highlight through cell B7.
   - Go to **Options, Make Chart** on the top menu bar.
   - At the Chart Options dialog box, click the pie graph icon.
   - Click **OK**. A chart of the selected data appears. Note: The data for “I” and “man” is too small to viewed in this display.
   - To make modifications to the chart, or to change the display, double-click the chart. The Chart Options dialog box reappears.
Add Clip Art to the Spreadsheet

1. Click the Arrow, or Selector Tool on the toolbar. This action will remove the cursor from the workspace.
2. Choose File, Library from the top menu bar. Scroll through the clip art categories. Select Animals.
3. The Animals window appears.
4. Highlight Cat. Click Use.
5. The clip art appears in the spreadsheet with edit handles.
   - Size the clip art by clicking handles and stretching the image.
   - Move the clip art by dragging the image from the middle.
   - Delete the clip art by selecting it with the arrow tool. Press the delete key.

Print the Spreadsheet

1. Choose File, Print from the top menu bar.
2. The Print dialog box appears.
3. To eliminate column headings, row headings, or grid lines from the spreadsheet in the printed copy, click to place an X in the boxes for each option in the lower left corner of the Print dialog box.
4. Click Print from the main menu.