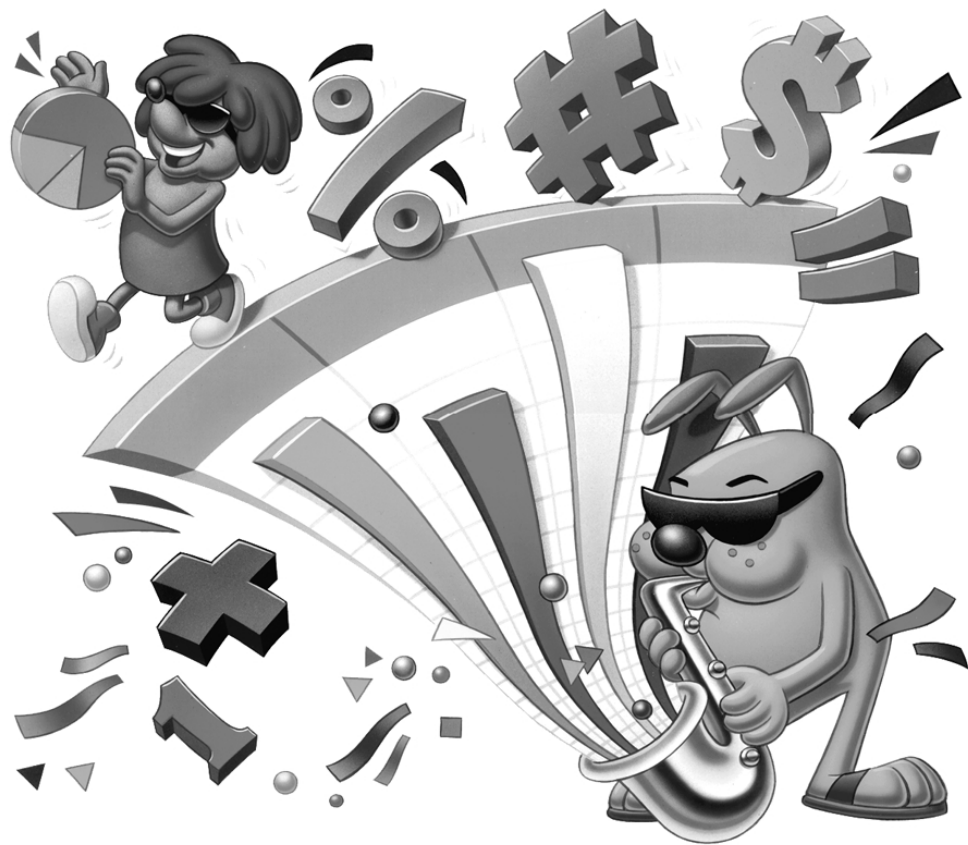


THE CRUNCHER™ 2.0



USER'S MANUAL

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TABLE OF CONTENTS

THE CRUNCHER 2.0 INSTALLATION MANUAL 5–37

- Installing *The Cruncher 2.0* 5
- Diagram 6
- Welcome 7
- Where Do I Begin? 8
- Using the Spreadsheet 9–28
- Using the Tutorials 29–30

APPENDICES i–xii

INSTALLING THE CRUNCHER™ 2.0

Minimum System Requirements

Windows®

- 486/66 MHz or faster
- Windows 95/98
- 16 MB of RAM
- Hard drive w/20 MB free
- 640x480, 256-color
- 4X CD-ROM drive
- Windows-compatible sound card
- Internet connection (optional)

Installing and Running with Windows® 95 and 98

- Insert *The Cruncher 2.0* CD into your CD-ROM drive.
- Setup begins automatically (for systems that support AutoPlay only). Click Install, then follow the prompts. When prompted to install Quick Time, click Yes.
- Note: If AutoPlay is not enabled, select Start and then Run from the Windows taskbar. Type d:\setup and press ENTER. (If your CD drive is not D, type the appropriate letter.)
- To run the program, insert The Cruncher 2.0 CD into your drive. The program will run automatically if AutoPlay is enabled. If AutoPlay is not enabled, select Start, then Programs, then *Cruncher 2.0*.

Macintosh®

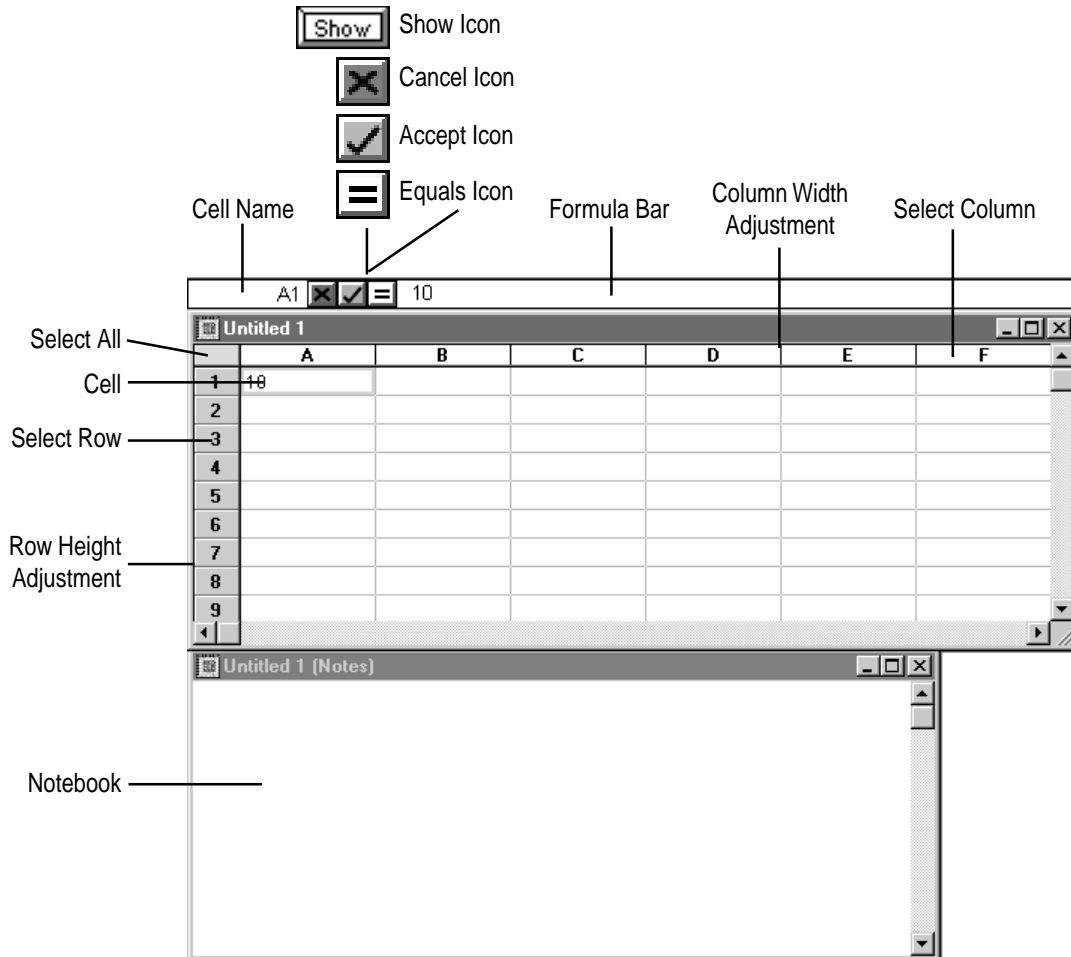
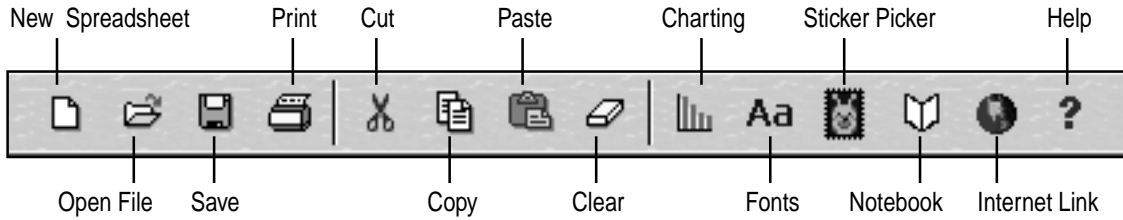
- Power Mac™ only
- System 7.5.1 or higher
- 16 MB RAM
- 13", 256-color monitor
- 4X CD-ROM drive
- Hard drive w/30 MB free
- Internet connection (optional)

Installing and Running on a Power Macintosh®

- Insert *The Cruncher 2.0* CD into your CD-ROM drive.
- Double-click *The Cruncher 2.0 Installer* icon. Follow the prompts.
- After setup is complete, double-click *The Cruncher 2.0* icon to run the program.



DIAGRAM



See *The Cruncher 2.0* Quick Reference Diagram on pages xi–xii for more information.

WELCOME TO THE CRUNCHER 2.0!

The Cruncher 2.0 is more than just a spreadsheet program that's fun and easy to use. With *The Cruncher 2.0*, a first-time spreadsheet user can become familiar with one of the most useful types of software tools in an interesting and meaningful way. Don't be fooled by how simple this spreadsheet program is to use; underneath its friendly interface is a powerful tool capable of meeting the needs of almost any spreadsheet user.



Here are some of the unique features of *The Cruncher 2.0*:

- Step-by-step tutorials to introduce you to using a spreadsheet and the special features of *The Cruncher 2.0*
- 20 classroom projects: predesigned templates for cross-curricular spreadsheet activities to make you immediately productive
- An on-screen notebook for your notes, reports, instructions, etc.
- Colorful stickers that can include sound, animations, and text
- A helpful Show feature that breaks down each step of the problem-solving process to show how the computer calculates each formula
- Easy-to-use charting that displays your data graphically
- An Internet feature lets you add links to Web sites in your spreadsheet
- A snapshot feature that lets you save a picture of your spreadsheet for easy import into HyperStudio and other multimedia programs
- On-screen Help: available anytime from within the program
- Easy importing and exporting between other spreadsheet programs (with SYLK and text formats)

WHERE DO I BEGIN?

The Cruncher 2.0 Teacher's Guide is divided into three main sections:

Using the Spreadsheet

Refer to this section for specific information about the spreadsheet and notebook functionality. All spreadsheet features are outlined and explained in this section. Refer to the Table of Contents on page 3 to find a topic you want to know more about. You can also select the Help icon from the toolbar or the Help Index Menu from within the program.

Using the Tutorials

Unless you are already an experienced spreadsheet user, we recommend that you start with the tutorials, which will teach you everything from the basics to using some of the more powerful features of the spreadsheet. The skills taught by each tutorial are outlined in this section on pages 28–29.

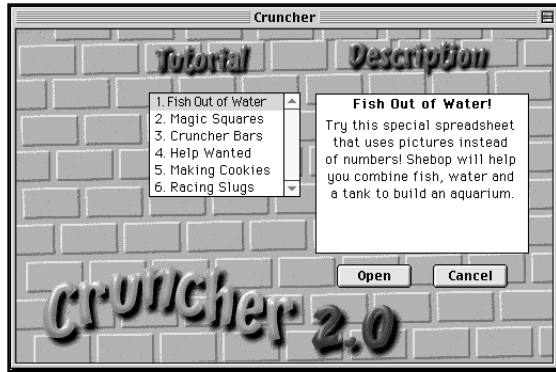
Using the Projects

Once you are comfortable using *The Cruncher 2.0*, take a look at the 20 cross-curricular classroom applications. Each project has a complete lesson plan along with a predesigned template within the program. A Cross-Curricular Chart for the 20 Projects is on page 34, and brief project summaries are on pages 35–36.

THE CRUNCHER 2.0 MAIN SCREEN

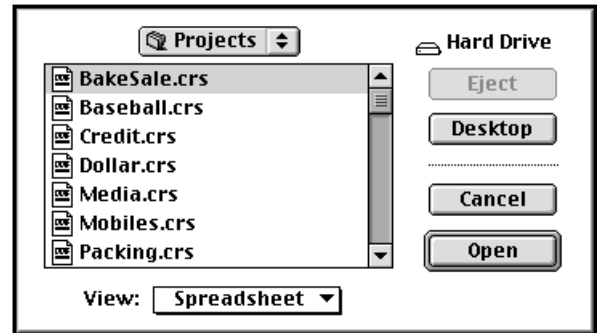


When the program begins, select Spreadsheet, Tutorials, or Projects from the Main screen.

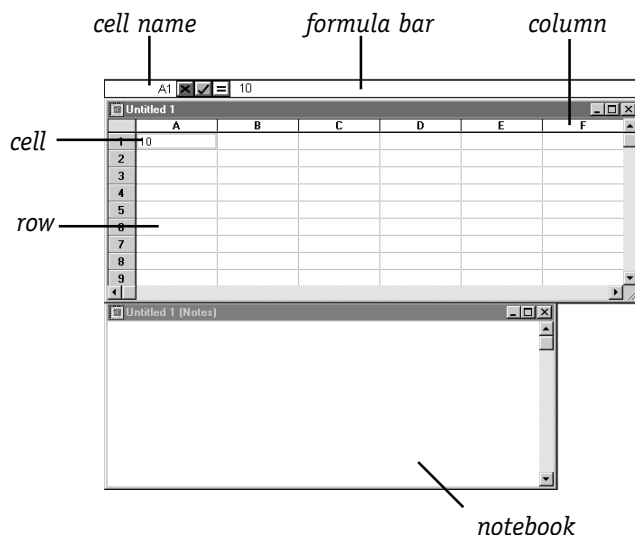


If you select Tutorials, you can choose the file you wish to open from the Tutorial selection menu.




If you select Projects, the 20 premade project templates will appear in the open window.



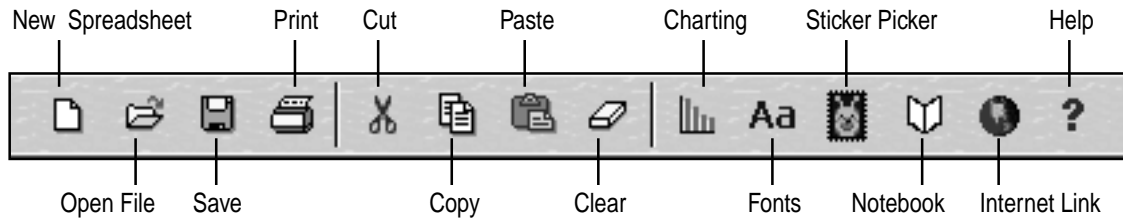
USING THE SPREADSHEET



A spreadsheet is organized in a grid made up of many *rows* and *columns*. Rows are horizontal and are numbered along the left side. Columns are vertical and are labeled across the top of the screen. Each small rectangle is called a *cell*; you will enter information in these cells. Cells are created by the intersection of rows and columns. Each cell has a unique name that begins with its column letter followed by its row number. Therefore, the cell in the upper left corner of the spreadsheet is A1, and the one to its right is B1. The cell below A1 is A2.

The *formula bar* at the top of the screen is where you type information that is to go into a particular cell. At the far left of the formula bar is the active cell's name. Three buttons will appear once you click in the formula bar. Click the  button to begin a formula. All formulas must begin with an equal (=) sign. The  button cancels what you have typed into the formula bar, and the  button accepts it by putting it into the cell. You can edit any previous entry you have made by clicking the cell and then revising the text in the formula bar.


The toolbar will allow you quick access to features without having to go to the menu bar.

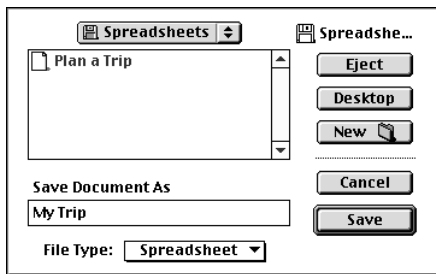


The *notebook* is a miniature word processor attached to your spreadsheet. It can hold anything you want: comments about your spreadsheet, stickers, or a written project or report.


CREATE, SAVE, OPEN, CLOSE, AND EXIT

Creating a New Spreadsheet

- Select **New Spreadsheet** from the File menu or click  on the toolbar. A new spreadsheet and notebook will open.



Saving a Spreadsheet

- Select **Save** from the File menu or click  on the toolbar. Type in a name for your document if you haven't already named it. (Save will not be available until you have made changes to your spreadsheet.)
- To save your spreadsheet under a new name, select **Save As** from the File menu. A dialog box will appear, allowing you to rename your document and designate where to save it.

- To save your spreadsheet in order to import it into another spreadsheet application, select **SYLK** or **text** from the file type pull-down list.


Note: Before saving a spreadsheet in text format, be sure to select **Show Formulas** from the Options menu.

Saving a Snapshot

- Select **Save a Snapshot** from the file menu, then use your cursor to select the area of your spreadsheet you would like to capture. Enter a name for your bitmap in the Save Dialog box.

Note: The snapshot feature is very useful for importing *Cruncher* graphics into *HyperStudio*.

Opening a Spreadsheet

Select **Open** from the File menu or click the  on the toolbar. A dialog box will appear where you can specify the location and document you wish to open.

Note: You can open files from other applications if you have saved them in either SYLK or text file format. Select the appropriate file type from the file type pull-down list in the Open dialog box, then select the file you wish to open.

Opening *The Cruncher* (1.0) Files

If you wish to open a file from the original *The Cruncher* program, you must open your file in the original *The Cruncher*, select **Show Formulas**, then select **Save As** to save it in a text file format. You can import this text file into *The Cruncher 2.0*.

Opening *The Cruncher 2.0* Files Between Macintosh and Windows Platforms

Your *Cruncher 2.0* spreadsheets are cross-compatible, so you can open them on both Macintosh and Windows platforms. From the Open file dialog box, select **All Files** from the file type pull-down list. Select and open your *Cruncher 2.0* spreadsheet file. You may need to adjust the formatting due to differences in font sizes.

Closing a Spreadsheet

Select **Close Window** from the File menu. You can also click the close window box in the upper left corner of the spreadsheet window.



Exiting the Program

Select **Exit** or **Quit** from the File menu. If you haven't saved your spreadsheet, you will be given a chance to save it.

ENTERING INFORMATION INTO THE SPREADSHEET

Enter information into the spreadsheet by clicking a cell and typing a number, a label, or a formula. Whatever you type will appear on the formula bar.

To enter information into the spreadsheet:




- Click a cell.
- Type what you want to appear in the cell. Valid entries are any text, numbers, or formulas.
- To enter your data, click the formula bar then , press TAB, or press RETURN. To cancel the entry and clear the formula bar, click .

COMPOSING A FORMULA

Formulas *always* begin with an equal sign (=). Following the equal sign can be any combination of numbers, cell references, functions, and arithmetic operators. For example, the following are all valid formulas:

=2+3 adds 2 and 3
=A1+B1 adds the contents of cells A1 and B1
=10*C5 multiplies 10 times the contents of cell C5

To enter a formula in a cell:

- Select a cell.
- Click in the formula, then click the  button.
- Enter your formula.
- To finish your entry, click  or press RETURN. To cancel the entry and clear the formula bar, click .


(If you entered a valid formula, the result of the calculation will appear in the cell. If the cell displays the formula you entered instead of a value, that means *The Cruncher 2.0* cannot understand your formula and you should check it for errors.)

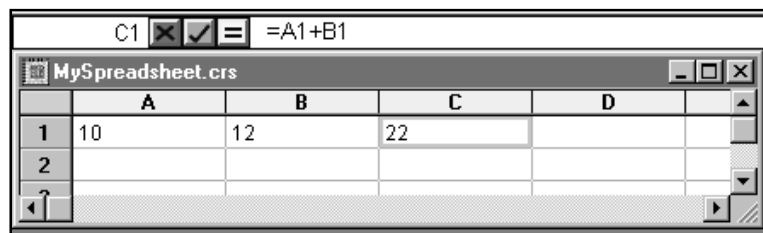
You can specify a *range* in order to include a group of cells in a formula. A range can be any row or column of cells. Ranges are defined by the coordinates of two cells separated by a colon. For example, C1:C4 is a range that includes cells C1, C2, C3, and C4. Functions in *The Cruncher 2.0* only operate on ranges of cells that fall within a single row or column. Here are some examples of ranges used in formulas:

=MAX(A1:A8) finds the largest value in cells A1 through A8
=SUM(C3:C10) adds all the cells from C3 to C10

Shortcut for Entering Cell References in Formulas

There is a powerful point-and-click shortcut built into *The Cruncher 2.0*.

- Select a cell.
- Click the formula bar, then click  to begin the formula.
- Click a cell, and its name will appear in the formula bar.
- To select a range of cells, click and drag horizontally or vertically, and the cell reference will appear in the formula bar. (For example, if you drag over A1, B1, and C1, you will see **A1:C1** appear in the formula bar. Remember to select or type a function first.)
- Continue typing to complete the formula.



(Windows Version)

Arithmetic Operators and Functions in Formulas


Not only does *The Cruncher 2.0* handle all of the common arithmetic operators, but it also has more advanced operators and built-in functions. The following are the arithmetic operators that *The Cruncher 2.0* understands:

+	Addition	-	Subtraction
*	Multiplication	/	Division
^	Raise a number to a power (e.g., 3 squared would appear as 3^2)		

Functions are used in formulas just like arithmetic operators. See pages 22–26 for a description of functions and how to use them.

EDITING YOUR WORK

To change the contents of a cell:


- Click it to select it. (The contents of the selected cell will appear in the formula bar.)
- Type your changes into the cell and click  or press RETURN.

Undo

To reverse the last action taken, select **Undo** from the Edit menu. If the action cannot be undone, the command will be unavailable (dimmed).


Cut

To remove anything and save it to the Clipboard:

- Click and drag to select the cells or any item that you want to cut.
- Select **Cut** from the Edit menu or click  on the toolbar. The Clipboard holds only one cut at a time, so paste before you make another cut.


Copy

To make a copy of anything and save it to the Clipboard:

- Click and drag to select the items you want to copy.
- Select **Copy** from the Edit menu or click  on the toolbar. The Clipboard holds only one copy at a time, so paste before you make another copy.


Paste

Paste lets you finish what you started with Cut and Copy by inserting the contents of the Clipboard wherever you indicate, such as another location in the spreadsheet, in the notebook, or in a different document.

- Click to select the place where you want to paste.
- Select **Paste** from the Edit menu or click  on the toolbar, and your information will appear in this new location.

Clear

Clear removes the contents of a cell or group of cells, a sticker, or a chart. Use it to delete completely items you no longer want.


- Select the cell(s) or other item(s) that you wish to empty or remove.
- Select **Clear** from the Edit menu or click  on the toolbar.

Select All

Select All selects the entire contents of the spreadsheet.

- Choose **Select All** from the Edit menu, or click in the upper left corner of the spreadsheet (where the row headers meet the column headers). Note: Select All will not include charts and stickers.

Erase

- Highlight what you want to erase in the formula bar; press `DELETE`, then click  or press `RETURN`.

Insert Row, Insert Column

The Insert Row and Insert Column commands let you add a row or a column, or multiple rows and columns, of blank cells anywhere you want in your spreadsheet. To insert a new row or column:

- Select the row below or the column to the right of where you want to place your new row or column. To select a row or column, click the number or letter in the row or column header.
- Go to the Edit menu and choose **Insert Row** or **Insert Column**. You will get a new row or column in your spreadsheet and all cell references will be updated.

Delete Row, Delete Column

Delete Row and Delete Column remove an entire row or column, or multiple rows and columns, from your spreadsheet. To delete a row or column:

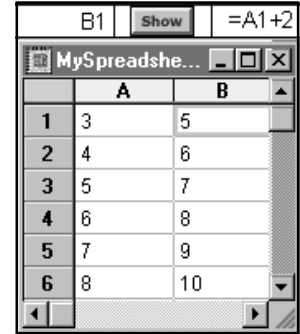
- Select the row or column you want to erase by clicking the number or letter in the row or column header.
- Go to the Edit menu and choose **Delete Row** or **Delete Column**. The row or column will be erased and cell references will be adjusted to their new locations.

Fill Down, Fill Right

Fill Down and Fill Right are quick ways to copy the contents of a cell to a range of cells without pasting again and again. Any type of cell data can be copied. Formulas contained in cells are automatically adjusted. For example, if you select cells B1 through B6 and the formula in cell B1 is `=A1+2`, then, after you fill down, cell B2 will show the result of `=A2+2`, cell B3 will show the result of `=A3+2`, etc.

To Fill Down or Fill Right:

- Click the cell you want to copy and drag over the cells you want to fill. The entire range of cells should appear highlighted.
- Go to the Edit menu and choose either **Fill Down** or **Fill Right**. The contents of the first cell will be copied into each of the other cells selected. If cell references are included in what is to be copied, they will change to reflect their new location.



FORMATTING

Use these formatting options to change the style and appearance of data in a cell, a range of cells, or the entire spreadsheet.

Cell Attributes

Set Cell Attributes to indicate preferences for the layout of numerical information.

To set Cell Attributes:

- First, select the cell or range of cells you want to format. If you want to format the entire spreadsheet, go to the Edit menu and choose **Select All**.

Note: Changing the attributes of the entire spreadsheet may take several minutes.

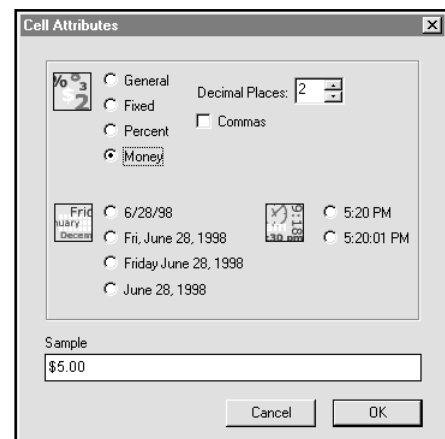
- Next, go to the Format menu and choose **Cell Attributes**. For a single cell, double-click the cell, and the Cell Attributes dialog box will appear.

To select an attribute: number, time, or date:

- Select a number format.
A new spreadsheet always begins with the General number format selected.
 - General – 45.93
 - Fixed – 45.9 (the decimal place is set to 1)
 - Percent – 4600% (the decimal place is set to 0)
 - Money – \$45.93 (the decimal place is set to 2)

Note: Be sure to use Cell Attributes when entering money or percents. Typing the \$ or % symbol does not format the number in a cell.

- Select a time format.
Time can be displayed by hour:minute (11:31) or by hour:minute:second (11:31:45).
- Select a date format.
Dates can be displayed four ways: with slashes (8/5/99), abbreviated (Thu, Aug 5, 1999), or written out in two ways (August 5, 1999 or Thursday, August 5, 1999).
- Click **OK** to make the change. Click **Cancel** to close the dialog box without making a change.



Font, Size, Style, and Color

In order to change your font, font size, font style, or font color in the Windows version, access the **Font & Color** submenu under the Format menu. A dialog box will appear where you can make any of these changes.

In the Macintosh version, the Format menu contains Font, Font Size, Font Style, and Font Color submenus from which to make your choices without a dialog box appearing.

Align Text

The Align Text submenu lets you determine the position of the text (e.g., words, numbers, formulas) in a cell. Text can be aligned to the left margin, right margin, or center (e.g., left justified, right justified, or centered). The default alignment is left justified.

To change the alignment of text within a cell:

- Select the cell or range of cells you want to format.
- In the Format menu, go to the **Align Text** submenu and select a text alignment (for example, centered).

Cell Borders

The Add Border submenu lets you draw horizontal or vertical lines, or make borders for cells or blocks of cells in your spreadsheet. The choices are **Outline**, **Top**, **Left**, **Bottom**, **Right**, and **None**.



To add a border around a cell or range of cells:

- Select the cell or range of cells.
- Select a border type from the **Add Border** submenu of the Format menu.

Row and Column Dimensions

You can use drag bars in row and column headers to change the dimensions of individual columns and rows. If you want more precise control over your changes or want to change a number of rows or columns at one time, you can use the **Row Height** and **Column Width** menu choices on the Format menu.

To change row height or column width using the drag bars:

- Move the cursor to the bottom of the row heading or to the right of the column heading you want to resize; it will change into .
- Click and drag  to make the row or column smaller or larger. Release the mouse button when you are done.

To change row height or column width over a larger area of the spreadsheet:


- Select the columns or rows to be changed by clicking and dragging on their headings. The selected cells will be highlighted.
- Choose **Row Height** or **Column Width** from the Format menu. A dialog box will appear.
- Enter the dimension you desire and click **OK**.

INTERNET LINK FEATURE

You can now add Internet Links (Bookmarks) to your spreadsheet cells. The text in your cell becomes a Hyperlink to the URL (Universal Resource Locator) address that you enter.

To add an Internet Link to a cell:



- Click on a cell, then click , or select **Internet Link** from the Format menu.
- Enter the URL address in the text box, then click **OK** to add the link.
- If there is text in the cell, it will become an underlined blue hyperlink. If there is no text, the URL address will be entered into the cell as the hyperlink.

To open a link:

- Your cursor will change to a hand pointer when it is over a linked cell.
- Double-click on the cell, then click **Connect**.

To modify a URL address:

- Click on the linked cell that you want to modify.
- Click the Internet Link button, change the address, then click **OK**.

VIEWING AND EDITING OPTIONS

Hide Grid

You can choose whether or not to have the grid lines show in your spreadsheet. To hide grid lines, simply select **Hide Grid** from the Options menu. The grid will no longer be visible and the menu option will change to **Show Grid**. To show the grid again, select **Show Grid**.

Show Formulas

If you wish, you can show the formulas instead of the calculated values in your spreadsheet.

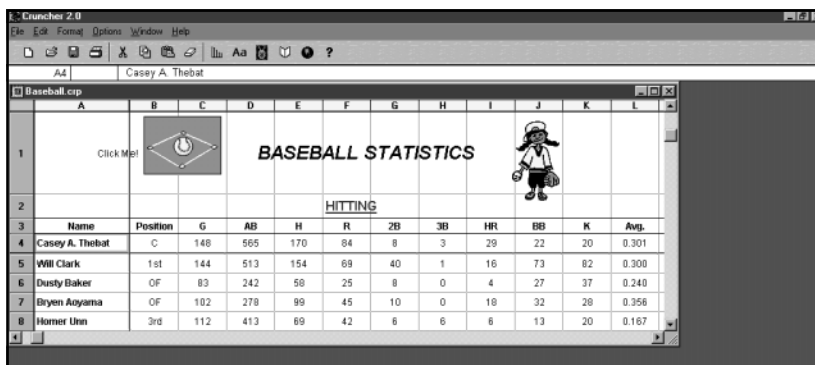
- Select **Show Formulas** from the Options menu and the formulas will appear in the cells. The Menu option changes to **Hide Formulas**, which you can select to hide them.

Freeze Row and Column Headings

If you have a large spreadsheet with more than one full screen of information, you may want to keep rows at the top or columns at the left of your spreadsheet fixed for reference. For example, you might have a spreadsheet with a list of names in the first column and information about each name across the spreadsheet. By freezing the first row, you can ensure that the name will always remain visible when you scroll across the spreadsheet. That way you never lose track of who the information is about.

To freeze rows or columns:

- Scroll within your spreadsheet so that the rows or columns you want to see all the time are visible at the top left of your screen.
- Click the cell that is to be at the intersection of the frozen rows and columns. If you wish to have only rows or only columns frozen, then click the row or column header.
- Select **Freeze** from the Options menu.
- Now scroll in your spreadsheet, and notice that the top row or left column stays fixed.



To unfreeze rows or columns that have previously been frozen, select **Unfreeze** from the Options menu. (**Note:** When freeze is in effect, you cannot create, resize, or move stickers or charts. Turn off **Freeze** in order to make changes to stickers or charts, then turn **Freeze** back on.)

WORKING WITH MULTIPLE DOCUMENTS

The *Cruncher 2.0* can open more than one document at a time. A document includes the contents of the spreadsheet and its associated notebook. Only one document can be active at any one time. The active document is always the one whose spreadsheet or notebook window is active and on top.

Note: A maximum of ten documents can be opened at one time.

There are two ways to make a spreadsheet active: by clicking one of its windows or by selecting its name from the Windows menu. The Windows menu lists all open windows. To make a document active, select either its spreadsheet window or its notebook window from the menu.

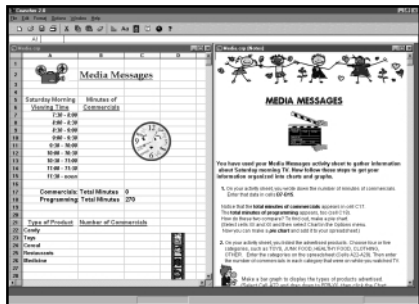
ARRANGING WINDOWS ON THE SCREEN

Windows can be arranged on the screen either by using standard window manipulation (dragging them by their drag bar or title bar) or by using the **Tile Windows** menu choice. Tile Windows will automatically align your documents either horizontally or vertically, spacing them evenly so that they fill the whole screen.



To use Tile Windows to arrange windows on the screen:

- Select either **Tile Vertically** or **Tile Horizontally** from the Windows menu.
- Your document windows will all be rearranged to match your selection.
- Select **Cascade** from the Windows menu to arrange all open windows diagonally down the screen.

HIDING AND SHOWING THE NOTEBOOK WINDOW




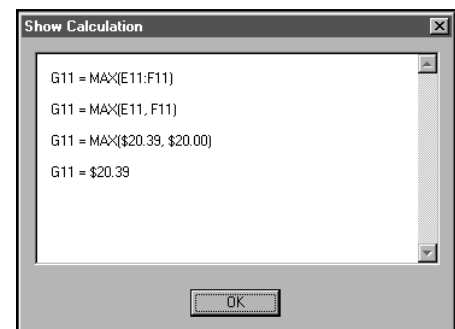
To save space on the screen, you can temporarily close the notebook window and reopen it later.

- Click the **Close** box in the upper left corner of the window, select **Hide Notebook** from the Windows menu, or click  on the toolbar.
- To reopen the notebook window, click  on the toolbar or select **Show Notebook** from the Windows menu.

USING THE SHOW FEATURE

The Show feature explains step-by-step how the computer is solving your formula. You can only use Show on a cell that has a formula in it.

- Click the desired cell.
- Click  on the formula bar. You will see the calculations used to solve your formula.
- When you finish, click **OK** to close the window.



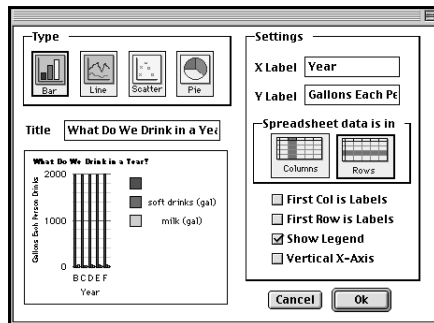
CHARTING

Charts can be a powerful way to present your data. You can create any number of charts that display right on your spreadsheet and update automatically as your data changes.

To create a chart:

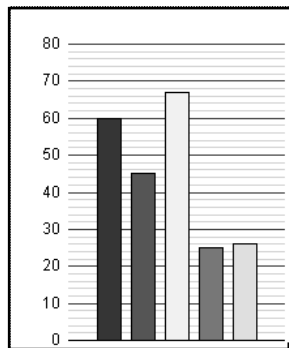
- Select the cells to be included in the chart. Include the rows or columns that have labels for your data.
- Select **Chart** from the Options menu. The Chart dialog box will appear on your screen.

	A	B
18		Supplies
19	Item	Quantity
20	Candles	100
21	Blankets	6
22	Pots	2
23	Books	15



Select these options:

- **Type:** Select **Bar**, **Line**, **Scatter**, or **Pie**.
- **Title:** Type a title for your chart.
- **X label:** Enter a label for the X-axis.
- **Y label:** Enter a label for the Y-axis.
- **Spreadsheet data is in:** Check whether the data is arranged in rows or columns. The default is for data to be in columns.
- **First column is labels:** Click the box to use the first column as labels instead of data.
- **First row is labels:** Click the box to use the first row as labels instead of data.
- **Show Legend:** Click the box to display a legend in your chart. If the chart is to be small, checking this box saves space in the display.
- **Vertical X-Axis:** Click the box to rotate the chart display 90 degrees.



To edit an existing chart:

- Double-click the chart in your document. The Chart Dialog box will appear.
- Make any changes to your chart and click **OK**.

To move a chart:

- Make a chart in the spreadsheet.
- Click the chart and hold down the mouse button for a moment. (A marquee or "marching ants" will appear.)
- Click near the middle of the chart; then you can drag it anywhere in your spreadsheet.
- To move your chart to the notebook, use **Cut** or **Copy**, and then **Paste**.

To delete a chart:


- Click and hold to select the chart, then press **DELETE** or select **Clear** from the Edit menu.

To change the size of a chart:

- Click the chart and hold down the mouse button for a moment. (A marquee will appear around the chart.)
- Click and drag the tiny square in the chart's lower right corner.

PRINTING

You may print the entire spreadsheet or just a portion of it. To print your entire spreadsheet:

- Make sure the Spreadsheet window is active (not the Notebook window).
- Select Print from the File menu or click  on the toolbar.
- Choose any other options you desire and click **Print**.


To print only a portion of your spreadsheet:

- Click and drag to highlight the area to print.
- Select **Set Print Area** from the File menu.
- In the dialog box, click the **Selected Cells** button and click **OK**.
- Choose any other options you desire and select **Print**.

To set your Print Orientation to Portrait or Landscape:



- Select **Document Setup** from the File menu, then click **Page Setup**; or in Windows select **Print**, then **Properties**.

Note: When printing the Project Spreadsheets you may want to change the default setting from Portrait to Landscape.

To print your notebook page, make sure the notebook window is active (click on it to activate it), then select **Print** from the File Menu or click  on the toolbar.

USING ONLINE HELP


The Cruncher 2.0 has an extensive online help facility that you can open at any time from within the program.

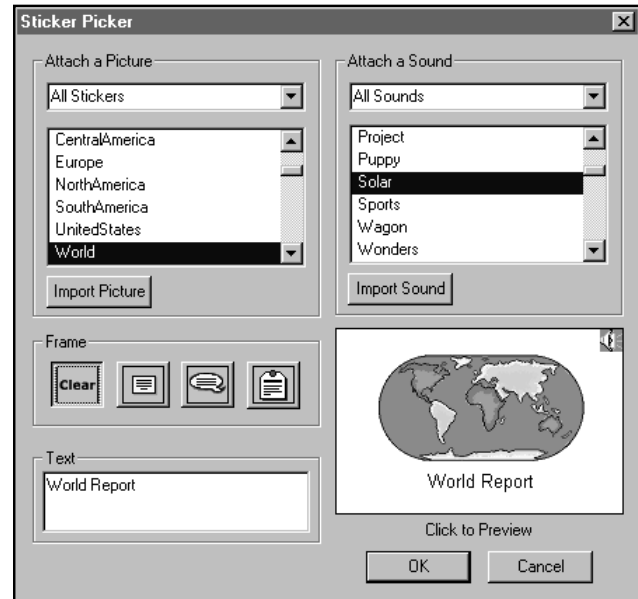
- For Macintosh help, select **Help** from the Apple menu or click  on the toolbar.
- For Windows help, select **Help** from the About menu, press **F1**, or select  on the toolbar.

USING STICKERS

Stickers can be used to point out something important or just make your documents more fun and interesting. You can put them anywhere on your spreadsheet or notebook and customize them in a variety of ways.

Adding a sticker:

- Select **Sticker Picker** from the Options menu or click  on the toolbar.
- Use the drop-down lists and scroll arrows to see all the picture and sound categories. Click a name to select a picture and a sound. Double-click a sound to hear it.
- Click to select a frame and type in text if you wish.
- Your sticker selections will appear in the preview window. Click on the window to preview the sound and animated pictures.
- Click **OK**. Your sticker will appear selected on-screen.



To work with a sticker on your spreadsheet:

- Drag the sticker to where you want it in your document.
- Click the sticker once to play its animation and sound.
- Click and drag the sticker to move it to another location on the spreadsheet or in the notebook.
- Double-click on a sticker to open the Sticker Picker and modify it.

IMPORTING GRAPHICS AND SOUNDS

You can import graphics and sounds from other programs using the Import buttons in the Sticker Picker.

To import pictures and sounds:

- Open the Sticker Picker.
- Click the **Import Picture** or **Import Sound** button.
- Locate the graphic (Win: .bmp; Mac: .pict) or sound (Win: .wav; Mac: .tiff) file you wish to import.

- Click **OK**. A preview of your imported file will appear in the sticker picker preview window. Click the window to hear the sound.
- To add the imported sticker to your spreadsheet, click **OK**. **Note:** Imported files will not permanently be available in the Sticker Picker. You must use the import feature every time you wish to use an imported file.

FUNCTIONS

Functions perform calculations on numbers or formulas automatically. A function can do calculations on many cells at one time very quickly. There are many different kinds of functions. You'll find them in the Options menu under the Function submenus.

To put a function into a cell:

- Select the cell where you want the result of the function placed.
- Choose the function you want from one of the Functions submenus of the Options menu.
- Select the cell or range of cells upon which you want to perform the function. Or type a number with the parentheses in the formula bar.
- Click and your entry will be complete.

Basic Functions

These basic functions are listed on the Basic Functions submenu:

SUM	MODE
AVERAGE (Mean)	MAXIMUM
MEDIAN	MINIMUM

SUM: Use the Sum function to add values in a range of cells you select. For example, in the formula bar, the sum of the contents of cells A1 through A4 will look like this: **=SUM(A1:A4)**.

AVERAGE (Mean): The average is the arithmetic mean of a set of values. The pencil-and-paper way to find the average of a set of values is to add them together and divide by the number of elements in the set. If you took the average of four cells containing 2, 4, 9, and 13, these are the steps you would take: First you would add them to get 28. Since you added four numbers, you would divide 28 by 4. This would give you the average, 7.

For example, in the formula bar, the average of the contents of cells B1 through B5 will look like this: **=AVERAGE(B1:B5)**.

MEDIAN: The median is the middle element in a set of values. The pencil-and-paper way to find the median of an odd number of values is to arrange them in increasing order, such as 3, 8, 12, 15, and 21. The median is 12, the middle value. When there is an even number of values, such as 2, 5, 7, and 9, take the average (mean) of the two middle numbers (5 + 7). Your answer is 6, the median.

For example, in the formula bar, the median of the contents of cells C3 through C7 will look like this: **=MEDIAN(C3:C7)**.

MODE: The mode is the most frequently occurring number in a set of numbers. The mode of the set {1, 2, 5, 5, 5} is 5. In the set {2, 4, 6, 9} there is no one mode because no number occurs more often than any other; therefore the result is multimodal.

For example, in the formula bar, the mode of the contents of cells E2 through E6 will look like this: **=MODE(E2:E6)**.

MAXIMUM: The maximum value in a set of numbers is the value that is greater than the others in the set. In the set of numbers {8, 6, 9, 5}, the maximum value is 9.

For example, in the formula bar, the function for the maximum value in cells B2 through B6 will look like this: **=MAX(B2:B6)**.

MINIMUM: The minimum value in a set of numbers is the number that is less than all the other values in the set. In the set of numbers {7, 3, 9, 4}, the minimum value is 3.

For example, in the formula bar, the function for the minimum value in cells A1 through A10 will look like this: **=MIN(A1:A10)**.

ADVANCED AND TRIGONOMETRIC FUNCTIONS

To have a function operate on a number or formula:

- Click the cell where you want to put your function.
- Select a function from the Function submenu within the Options menu.
- Type the number or the formula you want the function to use between the parentheses.
Example: **(4.75)** To round off 4.75 to an integer, **=ROUND(4.75)** would need to be in the formula bar.
- Finish the entry by clicking or pressing **ENTER**.

To have the function operate on the values in a cell or cells:

- Select the cell where you want the function to appear.
- Select the function you wish to perform from the Function submenu in the Options menu.
- Select the cell(s) you want the function to operate on. (To find the square root of the value in cell B3, select that cell by clicking it. (The cell name, B3, can be typed in instead.)
- In the formula bar you will see **=SQRT(B3)**.
- Finish the entry by clicking .

Note: Described above is the method for setting up a function with a simple single argument. The syntax pattern is `=function name(argument)`, with the argument being either a number, a cell reference, or a function. You can write more complex arguments by writing expressions with more than one term (nesting functions). For example, to round off the square root of the value in cell A6 and then add 10, the formula bar would read `=ROUND(SQRT(A6))+10`.

USING ADVANCED FUNCTIONS

These functions are listed on the Advanced Functions submenu:

ABS	LOG10	SQR	CEILING
LN	SQRT	EXP	POW10
TRUNC	FLOOR	ROUND	

ABS: The ABS function gives you the absolute value of a number.

For example: `=ABS(5)` returns 5
`=ABS(-5)` returns 5

CEILING: The CEILING function returns the next higher whole number from the argument. On a number line, it is the next whole number to the right.

For example: `=CEILING(3.3)` returns 4
`=CEILING(5.8)` returns 6
`=CEILING(-5.8)` returns -5

EXP: The EXP function gives you e raised to the power of the number between the parentheses, where e is 2.7182818..., the base of the natural logarithm. EXP is the inverse of the LN function.

For example: `=EXP(1)` returns 2.7182818 (the value of e)
`=EXP(2)` returns 7.389056 (the value of e squared)

FLOOR: The FLOOR function returns the next lower whole number from the argument. On a number line, it is the next whole number to the left.

For example: `=FLOOR(3.3)` returns 3
`=FLOOR(5.8)` returns 5
`=FLOOR(-5.8)` returns -6

LOG10: The LOG10 function gives you the base 10 logarithm of the number between the parentheses. The number must be positive.

For example: `=LOG10(10)` returns 1
`=LOG10(100)` returns 2

LN: The LN function gives you the natural logarithm of the number between the parentheses. The base of natural logarithms is e, 2.7182818.... The number must be positive. LN is the inverse of the EXP function (see above).

For example: **=LN(2.7182818)** returns .9999993 or 1

POW10: The POW10 function raises the number between the parentheses to the power of 10.

For example: **=POW10(2)** returns 1024 (2 raised to the 10th power)

ROUND: The ROUND function rounds off the number between the parentheses to an integer.

For example: **=ROUND(3.68)** returns 4

=ROUND(3.29) returns 3

SQR: The SQR function gives you the square of the number between the parentheses.

For example: **=SQR(4)** returns 16

=SQR(2.5) returns 6.25

SQRT: The SQRT function calculates the square root of the number between the parentheses. The number must be greater than or equal to zero.

For example: **=SQRT(25)** returns 5

=SQRT(7.25) returns 2.6925824

TRUNC: The TRUNC function truncates the number between the parentheses.

For example: **=TRUNC(12.993)** returns 12

=TRUNC(4.12) returns 4

=TRUNC(-8.555) returns -8

TRIGONOMETRIC FUNCTIONS

These functions are listed on the Trigonometric Functions submenu:

SIN
COS

TAN
ASIN

ACOS
ATAN

SIN: The SIN function gives the sine of the number between the parentheses. The number is an angle in radians.

For example: **=SIN(30)** returns -0.9880316

=SIN(45) returns 0.8509035

COS: The COS function gives the cosine of the number between the parentheses. The number is an angle in radians.

For example: **=COS(60)** returns -0.9524130
=COS(30) returns 0.1542514

TAN: The TAN function gives the tangent of the number between the parentheses. The number is an angle in radians.

For example: **=TAN(45)** returns 1.6197752
=TAN(60) returns 0.3200404

ASIN: The ASIN function gives the degree of the angle whose number is between the parentheses. The arcsine is the angle in radians whose sine is the number between the parentheses. The number must be in the range -1 to 1.

For example: **=ASIN(0.5)** returns 0.5235988
=ASIN(0.7071068) returns 0.7853982

ACOS: The ACOS function gives the degree of the angle whose number is between the parentheses. The arccosine is the angle in radians whose cosine is the number between the parentheses. The number must be in the range -1 to 1.

For example: **=ACOS(0.8660254)** returns 0.5235988
=ACOS(0.5) returns 1.0471976

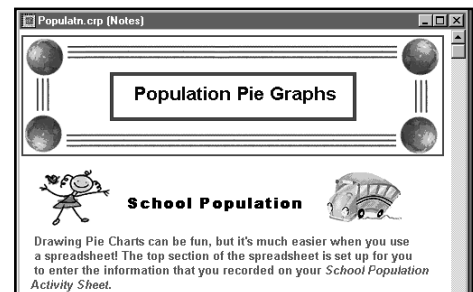
ATAN: The ATAN function gives the degree of the angle whose number is between the parentheses. The arctangent is the angle in radians whose tangent is the number between the parentheses.

For example: **=ATAN(1)** returns 0.7853982
=ATAN(0.5773503) returns 0.5235988


USING THE NOTEBOOK

The notebook is a separate area for holding text and stickers that pertain to your spreadsheet. It is a convenient place to write notes, reports, or any information related to the spreadsheet. Just as in a full-featured word processing program, you can type in text with any font style; edit the text; move it around with Cut, Copy and Paste; and print it.


The notebook window is visible, but not active, on a new spreadsheet. It is titled with the same name as the spreadsheet, followed by *(Notes)*. Its name is always visible in the title bar when the window is active. Since it is a part of the spreadsheet document, it is saved with the spreadsheet.



There are three ways to show and activate the notebook window:

- Click anywhere in the notebook window.
- Click  on the toolbar.
- If the notebook is hidden, go to the Windows menu and select **Show Notebook**.

There are four ways to hide the notebook temporarily:

- From the Windows menu, select **Hide Notebook**.
- With the notebook active, click the **Close** box on the title bar.
- Click the minimize button in the upper right corner of the notebook window.
- Click  on the toolbar.

Editing Within the Notebook

Undo, Cut, Copy, Paste, Clear, and **Select All** are commands on the Edit menu that can be used to change the contents of the notebook. These commands function the same way they do in the spreadsheet. (See pages 12–13.)

To erase text:

- Click and drag the cursor over the text to highlight it.
- Press `DELETE` or type in new text to replace what was highlighted.

To delete a sticker or chart:


- Double-click to select the item and then press `DELETE`.

You can also copy and paste text from other text files into your notebook.

Formatting the Notebook

The font, font size, font style, and font color choices available from the Format menu can be used to change the appearance of the notebook. They work the same way as in the spreadsheet. (See page 14–15.) Emphasize and decorate the notebook by pasting in stickers and charts. See the Options menu and pages 21–22.

Printing the Notebook

Click in the notebook to make sure it is the active window then click , or select **Print** from the File Menu.

USING THE TUTORIALS

The online tutorials are designed to introduce your students (and you!) to *The Cruncher 2.0*. Each tutorial is briefly described in *About the Tutorials* in the section below. Before using these tutorials, consider the following suggestions:

Read the description with your class, then allow time for students to explore and complete the first tutorial before going on to the next one.

Students should complete all the tutorials, beginning with Tutorial #1. However, if computer time is limited, guide students through Tutorials #3 and #4 before going on to one of the introductory level projects. Later, students can return to Tutorials #5 and #6 to practice higher level spreadsheet skills.

A class discussion about the spreadsheet concepts and functions learned in each tutorial is recommended after students have completed a tutorial.

Do a class demonstration on how to use the **Chart** (page 18–19) and **Sticker Picker** (page 21–22) features. Show students how to use spreadsheet data to make charts and how to make a sticker with text, a sound, and a frame.

ABOUT THE TUTORIALS

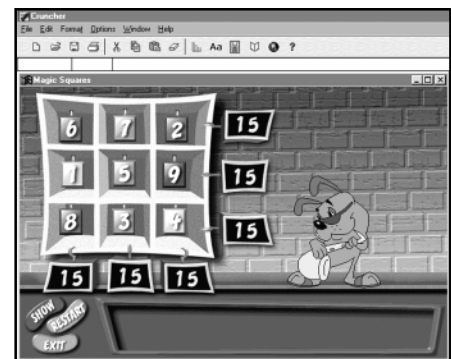


Tutorial #1: Fish Out of Water

SheBop uses pictures to show how the contents of cells are combined on a spreadsheet. She asks you to fill each cell with an item to make an aquarium. Place the items into each cell, and the rows and columns will immediately add up to show you the totals. When all the cells are filled, the final spreadsheet equation is displayed.

Tutorial #2: Magic Square

JazzDog invites you to drag the numbers 1 through 9 into cells so that the total of each row and each column equals 15. There is more than one solution. (The illustration shows a solution that not only totals 15 across and down, but also diagonally.) This activity builds on the concepts demonstrated in *Fish Out of Water* by using numbers instead of pictures in the cells.





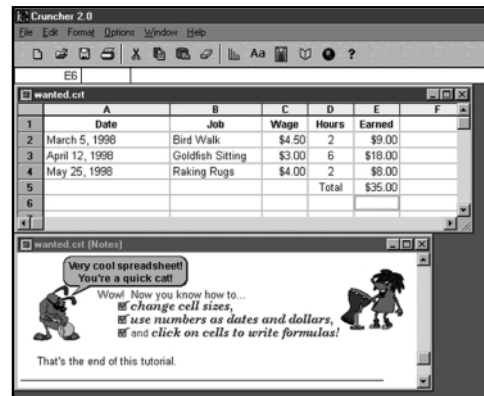
Tutorial #3: Cruncher Bars

In this tutorial you enter numbers, text, and formulas in the cells of a spreadsheet as you track the sale of candy bars. Then make a pie chart representing the sales and watch the chart update as the data changes.

Tutorial #4: Help Wanted

A friend has earned money doing odd jobs. She has quickly and carelessly recorded the data about her earnings on this spreadsheet. You'll help her make sense out of her data by

- changing the size of cells
- formatting numbers to read as money or as dates
- using the point-and-click method to select cells for an addition formula
- formatting cells



Tutorial #5: Making Cookies

You use a spreadsheet to adapt a cookie recipe to serve hundreds of people. In the process you will learn to

- hide or show the spreadsheet grid
- insert a column
- use the **Fill Down** feature
- write and display formulas

Tutorial #6: Racing Slugs

As you help your friends use a spreadsheet to compare arcade game scores, you'll learn to do the following:

- use built-in functions—**Average** (Mean), **Sum**, and **Maximum Value**
- insert and delete rows
- **Hide Formulas**



APPENDIX A - MENUS

File	
New Spreadsheet	Ctrl+N
Open...	Ctrl+O
Close	Ctrl+F4
Save	Ctrl+S
Save As...	
Save a Snapshot...	
Document Setup...	
Set Print Area...	
Print Preview...	
Print...	Ctrl+P
Exit	Ctrl+Q

New Spreadsheet – Start a new spreadsheet

Open – Open an existing spreadsheet, project, or tutorial

Close – Close the current window

Save – Save a spreadsheet to a disk

Save As – Save a spreadsheet under a new name

Save a Snapshot – Save a selection of your spreadsheet as a bitmap

Document Setup – Change page setup options for printing

Set Print Area – Select a portion of your spreadsheet to print

Print Preview – Preview your spreadsheet or notebook before printing

Print – Print a spreadsheet or notebook

Exit – Quit *The Cruncher 2.0*

Edit	
Undo	Ctrl+Z
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Clear	
Select All	Ctrl+A
Insert Row	F5
Insert Column	F6
Delete Row	
Delete Column	
Fill Right	Ctrl+R
Fill Down	Ctrl+D

Undo – Undo the last action

Cut – Cut items to the Clipboard

Copy – Copy items to the Clipboard

Paste – Paste an item from the Clipboard

Clear – Delete a selected item

Select All – Select the whole spreadsheet

Insert Row – Insert a row in the spreadsheet

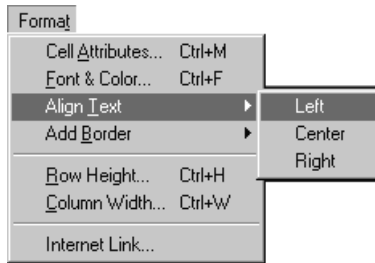
Insert Column – Insert a column in the spreadsheet

Delete Row – Delete row(s) in the spreadsheet

Delete Column – Delete column(s) in the spreadsheet

Fill Right – Copy contents of the selected cell to the highlighted cells to the right

Fill Down – Copy contents of the selected cell to the highlighted cells below



Cell Attributes – Define the format for data within a cell

Font & Color – Select font attributes

Align Text – Select the alignment of the text

Add Border – Select a border

Row Height – Change a row’s height

Column Width – Change a column’s width

Internet Link – Add a URL address to a cell

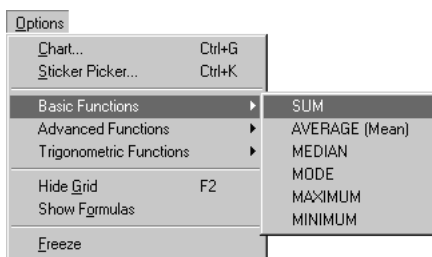


Chart – Create a chart for the spreadsheet

Sticker Picker – Select a sticker

Basic Functions – Select from functions listed

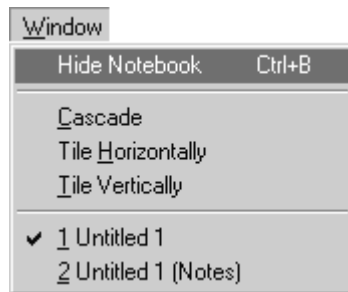
Advanced Functions – Select from functions listed

Trigonometric Functions – Select from functions listed

Hide Grid – Don’t show grid on-screen

Show Formulas – Show the formulas in the cells

Freeze – Freeze spreadsheet rows or columns



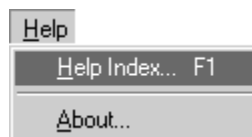
Hide Notebook – Don’t show the notebook on-screen

Cascade – Arrange windows as cascading layers

Tile Horizontally – Arrange windows as horizontal tiles

Tile Vertically – Arrange windows as vertical tiles

Currently opened spreadsheets and their notebooks are listed here.



Help Index – Access on-screen program help

About... – Lists *The Cruncher 2.0* development team

APPENDIX B - TROUBLESHOOTING

GENERAL

I keep getting an out-of-memory message. What can I do? (Macintosh Only)

Before running the program, you must first install it to the hard drive. To increase the amount of memory allocated to the program, go to the Finder, select *The Cruncher 2.0* icon, choose **Get Info** from the File menu, and increase the preferred memory size.

The program is installed but it will not start.

Your virus-checking software may be interfering with the installation. Disable the virus checker. Then delete *The Cruncher 2.0* directory and reinstall.

I'm getting low-memory messages.

Free up all available memory by making sure no other Windows applications are running. Also make sure your computer meets the minimum memory requirements.

My font doesn't display correctly.

Some very large or very small fonts will not display consistently. Use an 8-point to 14-point font size for the best results.

The printed Spreadsheet or Notebook looks different than it does on my screen.

Some printers (for example, HP LaserJet® printers) do not recognize certain Windows fonts and will substitute a printer font instead. Check to see that your printer supports the font choices in your resume.

SPREADSHEET

I pressed the PAGE UP or PAGE DOWN key and was taken to the top or bottom of the spreadsheet, but the current cell did not change.

Within the spreadsheet, the PAGE UP and PAGE DOWN keys (HOME and END keys in the Macintosh version) change the area of the spreadsheet currently in view, not the current cell. To change the current cell, just click the cell you wish to edit.

Show does not display any details about advanced or trigonometric functions.

Show only displays details for the simpler functions.

I have made a chart based on only one column or row of data, and when I select Line or Scatter, nothing is displayed.

You are asking for a chart type that requires two data points but is only being supplied with one. Add more data and your chart will appear correctly.

When I enter a number with the \$ or % symbol, the symbol does not appear in the cell.

If you want a number to appear in the percent or money format, first enter the number into the cell, then select **Cell Attributes** from the Format Menu. Choose money or percent in the dialog box.

NOTEBOOK

When I pasted text from the notebook to the spreadsheet, my text formatting was gone.

Text formatting (e.g., font, size, style, or color) cannot be retained between the notebook and the spreadsheet when you cut and paste text between the notebook and the spreadsheet.

I can't see my cursor in the notebook.

The cursor may be underneath a sticker and thus not visible.

I want to know where the end of a notebook page will be when I print.

The notebook has no end-of-page marker. The only way to tell where the end of the page will be is to print the notebook.

FORMULAS

There is a little "e" in my number.

The number is being shown in scientific notation. It may be too large or small to display completely.

My formula is not calculating. All I get is the formula as text in the cell.

This means the formula is not written correctly. See pages 7–8, 27, and 29–30 of the manual for formula syntax information.

I copied cells from one part of my spreadsheet to another, and now the formulas are not correct.



What happened?

Whenever you copy cells that have functions with cell references in them, the cell references will change.

I made a change in my spreadsheet, and now the cell says "CIRCULAR."

In a circular reference, the formula in a cell uses its own result to complete its calculation. *The Cruncher 2.0* does not solve this kind of problem. Make sure you are not using a reference to the current cell in your formula, even indirectly.

Even though I am not trying to, I keep adding unwanted cells in my formula.

Without meaning to, you are using the shortcut way to enter cells into a formula. Just click  on the formula bar to delete the information in a selected cell. Make sure that you finish editing a cell (by clicking , or pressing ENTER OR TAB) before selecting another cell.

The text I put in a cell extends beyond the edge of the formula bar so that now I can't see every thing I put into the cell. How do I edit it?

To edit long entries in the formula bar, use the four arrow keys to move right, left, up, or down.

My formula doesn't seem to be rounding correctly.

Rounding errors may occur in calculations involving very large or very small floating point numbers.

ROWS AND COLUMNS

I have cleared a row or a column in my spreadsheet, and my chart now has one less data element.

If you clear numbers from your spreadsheet in a region that is being charted, the chart will have a gap where that data once was. If you later put numbers back into the chart, they will be displayed as they are entered.

I have changed the row heights and/or column widths in a part of my spreadsheet. When I try to copy this part elsewhere, the row heights and column widths are not preserved.

Since row height and column width changes affect the entire spreadsheet, you will need to change the settings of any specific row and/or column yourself to fit the format of your data.

I can't resize the last row or column using the cursor.

The last row and last column cannot be resized using the cursor. You must select **Row Height** or **Column Width** from the Format menu and change them in the dialog box.

STICKERS

When I choose Select All and then perform another operation, my stickers are not affected.

Operations such as Cut, Copy, Paste, and Clear do not affect both stickers and spreadsheet or notebook data at the same time. In order to execute an operation on stickers, you must select them individually.

I can't drag stickers when Freeze is in effect.

Turn Freeze off in order to drag stickers or place them in your spreadsheet.

Undo doesn't work on my sticker.

You can't undo operations on stickers.

DATE AND TIME

I entered a date or time, but when I use it in a calculation, I get an error in my calculated cell. (It displays as text.) What is wrong?

You cannot perform calculations on cells with Date or Time formatting.

PRINTING

I have lined up text into columns within the notebook, but when I print them they are no longer perfectly aligned.

Text will not retain its exact alignment within the notebook when printed. If you want to print aligned text, put it into the spreadsheet. If you print text when Hide Grid is in effect, you will get much the same result as if the text were in the notebook.

When I freeze a row or column and then print my spreadsheet, it prints as if I hadn't frozen anything.

When Freeze is turned on, printing still displays the spreadsheet normally (as it appears without the freeze).

My printouts are unclear or choppy.

For best results when printing, turn off "Faster Bitmap Printing" and "Graphics Smoothing" in the Page Setup dialog. You will also get much higher-quality output by selecting "Color/Grayscale" in the Print dialog if it is available. If you continue to get poor results, contact the manufacturer of your printer and make sure you have the most current printer driver.

When I print a Project Spreadsheet, some of the text and stickers are cut off on the printout.

Many of the Projects' Spreadsheets should be printed in Landscape orientation. To change the print setting, either select **Document Setup** from the File Menu, then click **Page Setup**, or (in Windows) select **Print** from the File Menu, then click **Properties**. The default setting is always the Portrait orientation. Click Landscape to change it.

IMPORT AND EXPORT

I am trying to import a text file, but I can't get it into the notebook.

Text file importing allows you to import data into your spreadsheet only. To import text into the notebook, you must use the **Copy** and **Paste** functions.

When I open a text or SYLK file to import data, the name of the file that appears is "Untitled 1."

Because your file is a text file and not a regular spreadsheet document, *The Cruncher 2.0* protects you from overwriting the file. Select **Save As** from the File menu and give your new spreadsheet document a name.

SPECIFICATIONS

Maximum number of documents open at a time

Macintosh: 10

Windows: 10

Spreadsheet

Maximum rows: 100

Maximum columns: 100

APPENDIX C - GLOSSARY

ABS: Absolute value is the value of a number without regard to its sign.

ACOS: The ACOS function gives the degree of the angle whose number is between parentheses. The arccosine is the angle in radians whose cosine is the number (in the range -1 to 1) between the parentheses.

argument: The information used by a function to calculate its result. The argument to a function is always put inside parentheses after the name of the function.

ASIN: The ASIN function gives the degree of the angle whose number is between parentheses. The arcsine is the angle in radians whose sine is the number between the parentheses. The number must be in the range -1 to 1.

ATAN: The ATAN function gives the degree of the angle whose number is between parentheses. The arctangent is the angle in radians whose tangent is the number between the parentheses. The number must be in the range -1 to 1.

automatic recalc (Auto calc): The process of computing the results of formulas each time you confirm an entry in a cell.

axes: The straight lines used to measure and compare data. Values are usually arrayed along the Y (vertical) axis of the chart. Divisions, or categories, are usually arrayed along the X (horizontal) axis. Pie charts have no real axis.

bar chart: A chart that represents spreadsheet data as bars, side by side or stacked horizontally. Often used to illustrate relative quantities.

calculation: The process of computing the results of formulas.

CEILING: The CEILING function returns the next higher whole number from the argument. On a number line, it is the next whole number to the right.

cell: The box formed at the intersection of a column and a row.

cell address: The combined designation of column letter and row number that identifies a cell. The address of a cell in column B, row 10 is B10.

cell attribute

(fixed): A format that rounds numeric entries to a fixed number of decimal places.

(general): A format that causes a number to fill a cell with a floating number of decimal places to the right of the decimal point.

(money): A format that adds a dollar (\$) symbol to a number.

(percent): A format that multiplies a number by 100 and displays the number in a fixed decimal format with a percent sign.

(scientific): A format that displays entries as exponential powers of 10.

cell range: A group of selected cells in a row or a column.

cell reference: A cell address used in a formula.

chart: A graphic representation of the data in a spreadsheet used to illustrate relationships among sets of data. A chart is a graphic object that can be pasted into another type of document.

circular reference: A formula reference that directly or indirectly refers back to the formula cell.

column: The vertical arrangement of cells identified by a letter designation at the top. The **column header** runs across the top of a spreadsheet and contains letters that are column labels.

COS: The COS function gives the cosine of the number between parentheses. The number is an angle in radians.

current cell: The active cell. What you type into the formula bar goes into the active cell.

document: In *The Cruncher 2.0*, a spreadsheet with its corresponding notebook.

EXP: The EXP function gives you e raised to the power of the number between parentheses, where e is 2.7182818..., the base of the natural logarithm. EXP is the inverse of the LN function.

fill down: The process of pasting data from the top selected cell into a range of cells directly below.

fill right: The process of pasting data from the left-most selected cell into a range of cells to the right.

FLOOR: The FLOOR function returns the next lower whole number from the argument. On a number line, it is the next whole number to the left.

formula: A calculation you want *The Cruncher 2.0* to perform. It can include any combination of numbers, cell references, arithmetic operators, or functions. A formula always begins with the equal sign (=).

formula bar: The box below the menu used to view, enter or edit data or formulas.

function: A predefined formula that performs mathematical or logical calculations acting on values you specify or supply.

gridlines: A matrix of dotted lines used to indicate columns and rows.

legends: The labels for the data series and divisions on the chart.

line chart: A chart that represents spreadsheet data as lines; often used to show trends over time.

LN: The LN function gives you the natural logarithm of the number between parentheses. The base of the natural logarithm is e , which equals 2.7182818.... The number must be positive. LN is the inverse of the EXP function.

LOG10: The LOG10 function gives you the base 10 logarithm of the number between the parentheses. The number must be positive.

maximum: The maximum value in a set of numbers is the value that is greater than the others in the set.

mean: The arithmetic mean is the average of a set of values.

median: The median is the middle element in a set of values.

minimum: The minimum value in a set of numbers is the number that is less than all the other values in the set.

mode: The mode is the most frequently occurring number in a set of numbers.

notebook: A separate area of your *Cruncher* document that acts as a miniature word processor for writing notes or other information outside your spreadsheet.

operators: Symbols used in a formula to define the action to be performed.

pie chart: A circular chart that represents spreadsheet data as “slices” of a pie. It is often used to show the relative contribution of values to a total.

POW10: The POW10 function raises the number between parentheses to the power of ten.

ROUND: The ROUND function rounds off the number between parentheses to an integer.

row: The horizontal arrangement of cells identified by a number designation on the left.
The row header runs down the left side of a spreadsheet and has the row numbers on it.

scatter chart: A chart that represents spreadsheet data as unconnected points; often used to show how points group around a value.

show: A feature that illustrates the steps taken by *The Cruncher* to calculate a formula.

SIN: The SIN function gives the sine of the number between parentheses.
The number is an angle in radians.

spreadsheet: A document arranged in columns and rows, usually used to work with numerical data. A spreadsheet can contain formulas that allow complex “what-if” analyses of data.

SQR: The SQR function gives you the square of the number between parentheses.

SQRT: The SQRT function calculates the square root of the number between parentheses.
The number must be greater than or equal to zero.

Sticker: A graphic, which may have sound or text, that you can put into your spreadsheet or notebook.

TAN: The TAN function gives the tangent of the number between parentheses.
The number is an angle in radians.

Tile Windows: The uniform rearranging and resizing of windows on the screen in order to better view open documents.

TRUNC: The TRUNC function truncates the number between parentheses to the nearest whole number.

THE CRUNCHER 2.0 QUICK REFERENCE

Action	Spreadsheet		Notebook	
	(Win)	(Mac)	(Win)	(Mac)
Accept entry in formula bar	ENTER or click <input checked="" type="checkbox"/>	RETURN or click <input checked="" type="checkbox"/>		
Activate formula bar for cell	Click a cell	Click a cell		
Cancel entry in formula bar	Click <input type="checkbox"/>	Click <input type="checkbox"/>		
Close window	CTRL + F4	⌘ W	CTRL + F4	⌘ W
Copy	CTRL + C	⌘ C	CTRL + C	⌘ C
Cut	CTRL + X	⌘ X	CTRL + X	⌘ X
Delete previous character	BACKSPACE	DELETE OR BACKSPACE	BACKSPACE	DELETE OR BACKSPACE
Exit/Quit	CTRL + Q	⌘ Q	CTRL + Q	⌘ Q
Fill down	CTRL + D	⌘ D		
Fill right	CTRL + R	⌘ R		
Help	F1		F1	
Move down one cell	ENTER OR ↓	RETURN OR ↓		
Move left one cell	←	←		
Move right one cell	TAB OR →	TAB OR →		
Move view to bottom of doc.	END	END		END
Move to next field in most dialog boxes	TAB	TAB	TAB	TAB
Move view to top of doc.	HOME	HOME		HOME
Move up one cell	↑	↑		
Move to left edge			HOME	
Move to right edge			END	
New spreadsheet	CTRL + N	⌘ N	CTRL + N	⌘ N

Action	Spreadsheet		Notebook	
	(Win)	(Mac)	(Win)	(Mac)
Open a spreadsheet, project, or tutorial	CTRL + O	⌘O	CTRL + O	⌘O
Paste	CTRL + V	⌘V	CTRL + V	⌘V
Print	CTRL + P	⌘P	CTRL + P	⌘P
Save (as)	CTRL + S	⌘S	CTRL + S	⌘S
Scroll down one screen	PAGE DOWN	PAGE DOWN	PAGE DOWN	PAGE DOWN
Scroll up one screen	PAGE UP	PAGE UP	PAGE UP	PAGE UP
Select all	CTRL + A	⌘A	CTRL + A	⌘A
Select a line			Click line 3x	Click line 3x
Select a range of cells	Click and drag	Click and drag		
Select text	Click and drag	Click and drag	Click and drag	Click and drag
Set cell attributes	Dbl-click a cell	Dbl-click a cell		
Undo	CTRL + Z	⌘Z		
Cell attributes	CTRL + M			
Chart	CTRL + G			
Column width	CTRL + W			
Font and color	CTRL + F			
Hide grid	F2			
Hide notebook	CTRL + B			
Insert column	F6			
Insert row	F5			
Row height	CTRL + H			
Show formulas	F3			
Sticker Picker	CTRL + K		CTRL + K	