**FLORIDA CENTER FOR INSTRUCTIONAL TECHNOLOGY**

Numbers is Apple's new spreadsheet application. It is installed as part of the iWork suite, which also includes the word processing program Pages and the presentation program Keynote. Numbers supports the familiar formulas and functions included in other spreadsheet programs, but it also includes new features such as: customizable checkboxes and sliders for easier data entry, an interactive print view that lets you print your data exactly the way you want it to look, a number of professionally designed templates for education, and beautiful 2D and 3D charts.
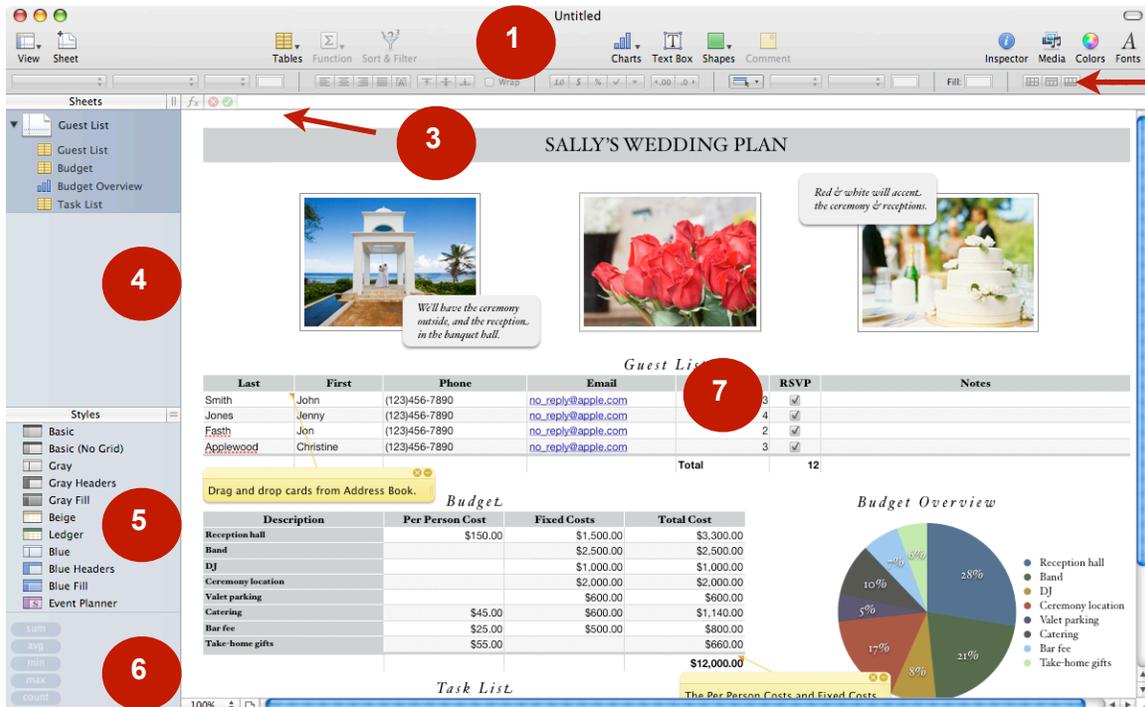
The Numbers Interface

1. The Toolbar
Includes the tools you use most often and allows you to quickly add shapes, text boxes and charts.

2. The Format Bar
Includes options for formatting the currently selected object. These options can also be accessed by opening the Inspector.

3. The Formula Bar
Allows you to create and edit formulas in cells.

4. The Sheets Pane
Shows all the tables and charts on the sheets in your spreadsheet.

5. The Styles Pane
Allows to quickly format a table using predefined styles.

6. Instant Calculations
Shows the results of automatic calculations performed by Numbers when you select a range of cells.

7. The Sheet Canvas
The main work area in Numbers.

Creating a New Spreadsheet

To create a new spreadsheet:
1. Launch Numbers by clicking on its icon in the Dock or in the Applications folder.
2. When the Template Chooser opens, select a category from the column on the left and then click on the template you want to use on the right.
3. Click on Choose.

To save your spreasheet:
1. Choose File > Save As.
2. Enter a name for your file and choose the location where you want to save it.
3. Click on Save.

To open an existing spreadsheet and edit it:
- click on Open an Existing File in the Template Chooser.
- choose File > Open and find the file you want to open on your computer.
- choose File > Open recent and choose a file from the list.

Sheets

Sheets can be used to separate different sets of data within a single spreadsheet.

To create a new sheet:
1. Click on the Sheet button in the toolbar. The new sheet will appear on the Sheets Pane on the left side of the window. By default it will be named Sheet followed by a sequential number.
2. Name your sheet by double-clicking on the sheet's name and entering your own name.

3. To delete a sheet, click on it once and press the Delete key on your keyboard. Click on Delete when the pop-up window comes up to delete the sheet.
4. To reorder your sheets, click and drag the sheet you want to move to a new spot in the Sheets Pane.

Each sheet will list all the tables and charts you create under that sheet. You can change the order of these objects in the Sheets Pane without changing the layout of the actual sheet.
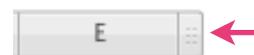
Tables and Styles

To add a table to a sheet:
1. Click on the Tables button in the toolbar and choose the type of table you want to add (you can add tables that include checklists, headers, or sums).
2. You can manipulate a table in a number of ways once you click on it to show its handles:
   - To move it: click on the square in the upper left corner (it has dots inside) and drag the table to another location in the sheet.
   - Add a row: click on the handle on the lower left corner and drag to add rows.
   - Add a column: click on the handle on the upper right corner and drag to add columns.
   - Add rows and columns at the same time: drag on the lower

right corner and move your pointer down to add rows or to the right to add columns.

3. To add values to your table, click on each cell and type in the value you want to add.
4. To delete a table, click on the square in the upper left corner to select it and press the Delete key on your keyboard (or click to select it in the Sheets list and press Delete).

To add a header or footer to a table, select the table and click on one of the buttons in the toolbar.

The Styles Pane makes it easy to quickly format a table.

To apply a style to a table:
1. Click on the table's name in the Sheets Pane to select it.
2. Click on one of the styles listed in the Styles Pane.
3. Make any manual formatting changes you want to fit the style to your needs. These changes are called overrides and by default they are kept even if you choose a different style in the Styles Pane.
4. To get rid of all overrides for a table and apply a base style, click on the triangle to the right of a style's name in the Styles Pane and choose Clear and Apply Style.
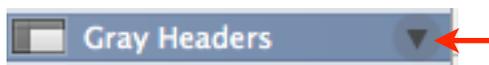
To create your own style:
1. Assign a base style to start with.

2. Make the formatting changes you want in your new style.
3. Click on the triangle to the right of any of the styles listed in the Styles Pane and choose Create a New Style.
4. Enter a name for the new style and click on OK. The new style will be listed at the bottom of the Styles Pane. To rename it or delete it, click on the triangle to the right of its name and choose Rename Style or Delete Style. A pop-up window will let you replace the style with another style if it's already being used in one of your sheets.

Formatting Cells
Once you've entered data into your cells, you can copy, cut and paste and perform other editing:
- To cut and paste the contents of a cell, click once on the cell to select it and then drag its contents to the new cell (make sure you drag from the center of the cell - you'll see a hand icon).
- To copy a cell's contents, hold down the Option key on your keyboard as you drag the cell's contents.
- To fill adjacent cells with the contents of a cell, click and drag on the lower right corner of the cell when you get the black crosshairs. As you drag the contents of the cell you selected will automatically fill a range of adjacent cells.

To format a range of cells:
1. Click on the first cell in the range and drag with the white crosshairs to select adjacent cells.
2. Choose your formatting options using the Format Bar (click on the View button and choose Show

Format Bar if it's not visible). The Format Bar changes depending on the contents of the cells you have selected.

Numbers includes special cell formats to make data entry easier, including sliders, steppers and check boxes. To use one of these cell formats:
1. Click on the Inspector button.
2. Choose the Cells Inspector.
3. Pick a cell format using the pulldown menu.
4. Choose your options for that cell type (increment size, minimum and maximum values, etc.)

The Inspector is the main area where you change settings in Numbers. Many of the Format Bar options are duplicated in the Inspector.

To split a cell into multiple cells, select the cell you want to split and click on the Split button in the Table Inspector. To merge cells, select the cells you want to merge and click on the Merge button in the Table Inspector.
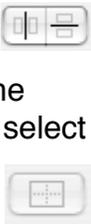
Formulas and Functions
There are two places where you can enter formulas to perform calculations with Numbers: the Formula Bar which is right below the toolbar, and the Formula Editor which appears when you type the equals sign as the first value in a cell.

To create a simple formula:
1. Click on the cell where you want to insert the formula.
2. Enter an equals sign (=) to open the Formula Editor or type an equals sign in the Formula Bar.

3. Enter the location of the cell with the first value as a column-row pair (i.e. A1, C3, etc.).
4. Enter the operator you want to use (+, -, *, /).
5. Enter the location of the cell with the second value as a column-row pair.
6. Press Enter on your keyboard or click on the Accept button (the check mark) to perform the calculation.
7. To edit the formula, click in the cell that has the formula to bring up the Formula Editor, make your changes and click on the Accept button.
8. To delete the formula, click on the cell with the formula and press Delete on your keyboard.

Functions are more advanced formulas. When you select a range of cells, Numbers automatically performs a few functions (such as Sum and Average) for you and lists the results in the area below the Styles Pane.
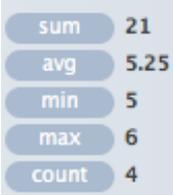
To use other functions:
1. Click on the cell where you want to insert the function.
2. Click on Function in the toolbar and choose the function you want to use. For more advanced functions, choose More Functions... to open the Function Browser.
3. Once the Function Browser opens, choose a function category from the list on the left and then choose the function you want to use on the

right. A brief description of the function is displayed at the bottom of the popup window.

4. Click on Insert. The function will be added to the cell you had selected, with argument placeholders in parentheses.
5. To edit the function, click on the cell with the function to display the Formula Editor, replace each argument with a value or cell reference and press Enter on your keyboard.
6. To remove the function, select the cell with the function and press Delete on your keyboard.

When you apply a function to a selected cell range, Numbers will place the result in the next empty cell:
- at the bottom if you select a range in a column
- to the right if you select a range in a row)
- in a footer row if you select a column using its reference tab.

Numbers supports many ways to reference cells when you use their values in a formula:
- to reference a range of cells enter the location of the first cell, followed by a colon and the location of the last cell (i.e. A1:A5 for a range in a column or A1:C1 for a range in a row).
- to reference an entire column or row type the column's letter or the row number as the starting and end value of the range (i.e. A:A to reference the first column or 1:1 to reference the first row).

Sorting and Filtering
To sort the contents of a column, click on the disclosure triangle on its right. A brief description of the function is displayed at the bottom of the popup window.

reference tab, then choose a sort option (Sort Ascending or Sort Descending).
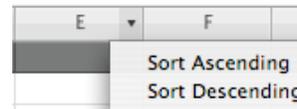
To sort by more than one column:
1. Click on the Sort & Filter button in the toolbar.
2. In the Sort area, choose the name of the column you want to sort by using the first pulldown menu, then choose ascending or descending using the second pulldown menu.
3. To add another column to sort by, click on the plus button to the right, then choose the column name and sort option as described in step 3.
4. Click on Refresh to see the changes in the spreadsheet.

A filter can be used to show only the rows that contain the values you specify. To apply a filter:
1. Select the table by clicking on its name in the Sheets pane.
2. Click on the Sort & Filter button in the toolbar.
3. Check the box next to "Show rows that match". This will activate the filter.
4. Choose a column to filter by using the first pulldown menu, a condition using the second pulldown menu, and the value you want to use for the filter using the third pulldown menu.
5. To add more conditions to the filter, click on the plus button on the right side of the popup window and repeat step 4. You can determine whether all conditions must be met using the All or Any pulldown menu.

6. To turn off the filter and show the entire table, uncheck the box next to "Show rows that match".

Text Boxes

In addition to being able to insert and format text in columns and rows inside a table, Numbers allows you add text using text boxes that can be positioned anywhere on a sheet. To add a text box:

1. Choose Insert > Text Box or click the Text Box button in the toolbar.
2. To edit the text, click once on the text box to select it then double-click inside of it to select the placeholder text and replace it with your own text.
3. To move the text box, click once on it to select it and drag it to another location.
4. To change the width of the text box, drag on the handles that appear when you select it.
5. To add columns to a text box, click on the Columns button in the Format Bar while the text box is selected and choose the number of columns you want.
6. To delete a text box, click once on it to select it and press Delete on your keyboard.

To change the appearance of the text inside a text box:

1. Click once on the text box to select it.
2. Use the buttons in the Format Bar to change the font family, font style, font size, and color. You can also change the line spacing, fill color and other options.
3. To change other text options such as the character spacing, open the Inspector by clicking on its button in the toolbar and choose the Text Inspector.
4. To access more font options, click on the Fonts button in the toolbar.

Images

There are several ways to add images to a Numbers spreadsheet:

- Drag and drop an image from a Finder window into the spreadsheet.
- Choose Insert > Choose and navigate to the location where the image is stored on your hard drive, then click on Insert.
- Click on the Media button in the toolbar, select Photos, and choose an image from your iPhoto library or from one of your iPhoto albums (you can also use photos taken with Photo Booth). Drag the image into the spreadsheet to add it.

If you add the image to a cell it will be used as the cell's background image. If you would rather have a floating image in your spreadsheet, you should drag the image to a blank area of the spreadsheet. Once you have added the image as a floating image, you can drag it to a different location or use the handles that appear around it to resize it.

The Graphic Inspector can be used to customize the appearance of an image:

- Check the box next to Shadow to add a drop shadow. Use the controls to change the angle, offset, and set other options for the drop shadow.
- Check the box next to Reflection to create a reflection effect. Use the slider to change the opacity of the reflection.

- Use the Opacity slider to increase the level of transparency in the image.

The Metrics Inspector also has options that apply to images:
- Use the flip buttons to flip the image vertically or horizontally.
- Use the Angle wheel to rotate your image.

Numbers allows you to edit your images without having to open iPhoto:
1. Select the image you want to edit and choose View > Show Adjust Image.
2. Use the sliders and controls in the Adjust Image window to adjust the sharpness, brightness and contrast, colors, and other properties of the image.
3. To perform an automatic adjustment, click on the Enhance button. If you're not happy with the results, click on Reset Image to start over.

To mask or hide part of an image:
1. Click on the image to select it.
2. Choose Format > Mask (or Mask with Shape if you want to use a shape as the mask).
3. Drag the handles to adjust the size of the mask. The grayed out area of the image will be hidden when you apply the mask.
4. Press Enter on your keyboard to set the mask.
5. To edit a mask, select the image that has the mask applied to it and click on Edit Mask. Use the slider to adjust the zoom level of the image inside the mask.
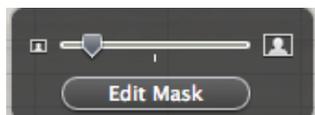
Shapes
To add a premade shape to your spreadsheet:
1. Click on Shapes in the toolbar and choose one of the premade shapes included with Numbers.

2. Drag to position the shape where you want it in the spreadsheet, or use the handles to resize it.
3. Use the options in the Format Bar to change options such as the flll and border colors.
4. To include text inside the shape, double-click inside of it and start typing. Use the options in the Format Bar to change the font, the text color, and other options.

To draw a custom shape:
1. Click on Shapes in the toolbar and choose the last option (draw a freeform shape).
2. Click to set the first point of your shape, then continue clicking to set additional points.
3. Click on the first point to close the shape. You can move and resize the shape as you would any of the premade shapes.

To group two objects (shapes or images) together:
1. Click once on the first object to select it.
2. Hold down the shift key on your keyboard and click on the second object.
3. With both objects selected, choose Arrange > Group. This will create a new object based on the two objects you selected. This new object can be moved and resized as if it were a single object.

To change the stacking order of objects, choose Arrange > Send Backward and Arrange > Send Forward. To delete an object, select it and press Delete on your keyboard.

Charts

To add a chart:

1. Select the cells you want to base the chart on (they can be adjacent or non-adjacent). You can also select the entire table in the Sheets pane.
2. Click on Charts in the toolbar and choose a chart type from the popup menu (or choose Insert > Chart).
3. Use the handles to resize the chart or drag it to another location to reposition it.
4. Open the Inspector and choose the Chart Inspector to change the chart type, the chart colors, whether a title or legend is displayed or not, and other options. The 3D tab allows you create a 3D effect, while the Axis and Series tabs allow you to customize how the data is displayed in the chart.
5. To edit the text displayed in the title or legend, double-click on it and replace it with the text you want.
6. To change whether the rows or columns are used for the series, click on the orientation button in the upper left corner of the cell range while the chart is selected.
7. To add values to the chart, make sure it is selected and then either Shift-click (if they are adjacent) or Command-click (if they are not adjacent) on the values you want to add.

8. To delete a chart, make sure it is selected and press Delete.

Adding Hyperlinks

To add a hyperlink:

1. Double-click inside a cell to select the text.
2. Open the Inspector, choose the Hyperlink Inspector, then select "Enable as a hyperlink".
3. Choose an option from the Link To pop-up menu (Web Page or Email Message).

Working with Addresses

You can create a table based on your addresses stored in Address Book:

1. Select one or more contacts in Address Book (you can also select a group).
2. Drag the selected contacts into the Numbers canvas. A column will be created for each field in the Address Book entry.
3. Only the Last name, First name, Phone, and Email fields are visible by default. To view the other fields, choose Table > Unhide All Columns. You can then delete columns or rows as needed.

Adding Comments

To add a comment to a cell:

1. With the cell selected, click on the Comment button in the toolbar.
2. Enter the text you want to use in the comment box.
3. To hide the comment box, click on the minimize button (it looks like a minus sign). You will know a cell has a comment because it will have an orange triangle in the upper right corner.

4. To open up the comment after you have minimized it, click on the corner of the cell.
5. To delete a comment, open up the comment box and then click on the X.

Printing
Print View also allows you to change the layout of each page before you print it or save it as a PDF, and to add page headers and footers.

To use Print View:
1. Choose View > Show Print View or click on the Page View icon next to the zoom controls.
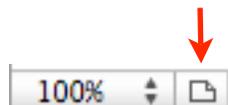
2. To change the orientation of the page, click on one of the orientation buttons next to the Print View button.

3. To change the number of pages, drag the Content Scale slider to the right until the layout is split into multiple pages.
4. To add a header or footer, hover your cursor over the bottom or top portion of the page until the box appears then type in the text you want to appear in the header or footer.
5. To add a page number, click inside the footer and choose Insert > Page Number (you can also add the Date & Time or the Page Count).
6. Reposition objects by dragging and dropping and resize them by selecting them and using the handles.

When you have your layout the way the want it, you can print it:
1. Choose File > Print.
2. Select a printer (either a printer connected to your computer or one on the network) and choose the number of pages and other options.
3. Click on Print to print out your Numbers document, or on PDF > Save as PDF if you want to create a PDF version.

Exporting and Sharing with iWeb
To open a Numbers document with Microsoft Excel or another spreadsheet program, you must first export it:
1. Choose File > Export.
2. Click on one of the tabs (PDF, Excel, or CSV) to choose a format for your exported file.
3. Set your options for the format you selected.
4. Click on Next..
5. Choose a save location and click on Export.

You can also include a link to a Numbers spreadsheet in a web page created with iWeb (only if you have iWeb '08 installed):
1. Choose File > Send to iWeb and choose a format (PDF or Numbers Document).
2. Choose a blog or podcast when iWeb opens (if you have multiple blogs on your website).
3. iWeb will add a thumbnail of the spreadsheet on the page with a link to the actual PDF or Numbers file. Select the thumbnail and use the handles to resize the thumbnail, or move it to another location on the iWeb page.