Apple Pro Training Series

Pages, Numbers, and Keynote

Mark Wood

Apple Certified

Certification Exam Preparation for:
Apple Certified Pro – Pages
Apple Certified Pro – Numbers
Apple Certified Pro – Keynote

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For meritocracy, family, and friends,
Let Reason shine.

—Mark Wood

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Lesson Files APTS Pages Numbers Keynote > Lesson_04 > 2009_report.pages

Time This lesson takes approximately 60 minutes to complete.

Goals

Use tables to calculate and compare values

Add charts to present data

Create bulleted and numbered lists

Review a document

Add footnotes and endnotes

Lesson **4**

Working with Charts and Data

Pages, like Numbers and Keynote, can handle data intelligently: Tables can be used to run calculations, and charts can display and readily update statistical information. What you learn about tables and charts in this lesson can be applied to Numbers and Keynote, though Numbers does have some extra table formatting control not found in Pages or Keynote.

In this lesson, you'll also look at how you can review a document to check spelling and grammar, and look up word definitions.

You'll work with a single document that was created using the version of Pages found in iWork '09—updating that document before adding a list, table, or chart.

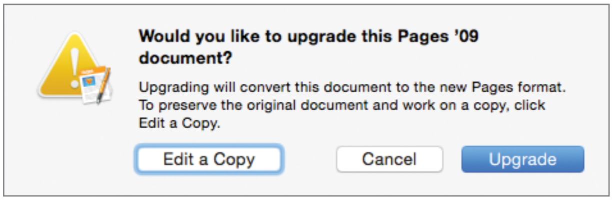
Opening a Pages '09 Document

The current version of Pages maintains backward compatibility with the previous release, Pages '09. When opening a Pages '09 document, you have two options for converting the document to the latest version of Pages.

1 In the Finder, locate the APTS Pages Numbers Keynote > Lesson_04 folder.

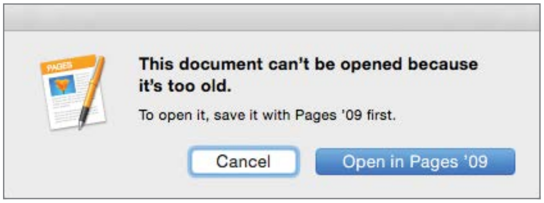
2 Double-click **2009_report.pages** to open it in Pages without any warnings that it was created in Pages '09.

3 Choose File > Save, and click Upgrade.



Alternatively, to preserve the original Pages '09 document, click Edit a Copy. Pages will duplicate the original document and upgrade it before opening it in Pages.

NOTE ► To open a Pages '08 document, you must first open it in Pages '09.

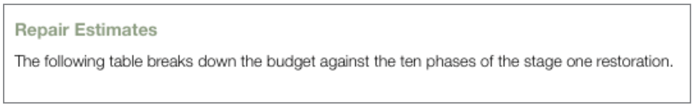


Using a Table to Add Data

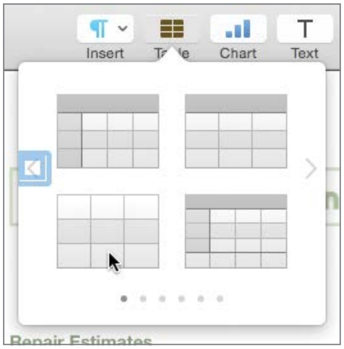
Tables are a great way to organize information, such as work schedules or action plans. In Pages, Numbers, and Keynote, tables automatically detect the format of the data being added. In this exercise, you'll investigate the power of automatic data detection.

1 Go to page 5 of **2009_report.pages**, titled "budget."

2 Click at the end of the line that ends with the word "restoration," and press Return.

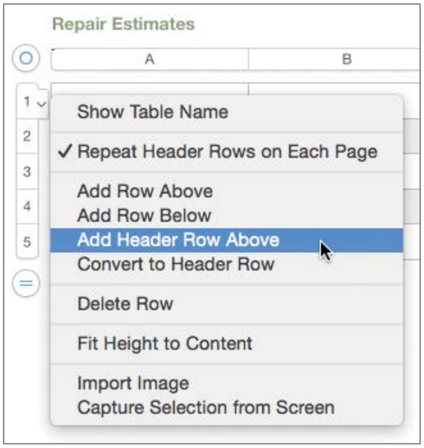


3 In the toolbar, click the Table icon. In the dialog that opens, click the table in the lower left.

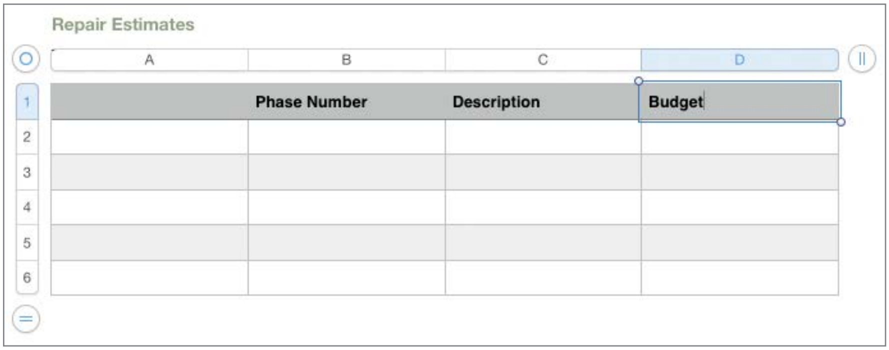


A simple table is added to the page. Now you'll format it.

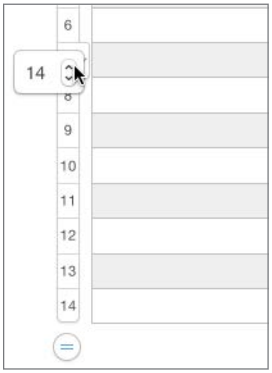
4 Click row header 1 to open a pop-up menu. Choose Add Header Row Above.



5 Click cell B1, type *Phase Number*, and press Tab to move to cell C1. In cell C1, type *Description*, and press Tab again to move to the next cell; and in cell D1, type *Budget*.



6 In the row reference column, click the symbol beneath the number 6 to open a control.

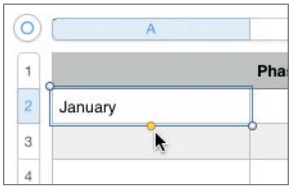


7 Click the arrows to change the number of rows to 14.

NOTE ► Alternatively, you can double-click the number 6, type *14*, and then press Return.

8 Click cell A2, and type *January*.

9 Move the pointer over the lower border of cell A2. A yellow handle appears, intersecting the cell border.



10 Drag the yellow handle down to row 13. All the months of the year appear.

11 Click cell B2, and type *Phase 1*. Move your pointer so that the yellow handle intersecting the cell border appears.

12 Drag the yellow handle down to row 13. A sequence is created from Phase 1 to Phase 12.

The table automatically detects the numeral 1 after the text component in the cell, which causes the auto-sequence.

NOTE ► If you typed *1 Phase*, placing the number before the text, the auto-sequence is not created.

13 Click cell C2. Type *Blurb*. Repeat the steps described previously to drag the contents of cell C2 down to cell C13.

This time the only the word “Blurb” was repeated. No special data format was detected because the cell contains only text.

14 Click cell D2, and type $7000. Drag the yellow handle to repeat $7000 in column D down to row 13.

By typing the dollar sign, you are setting the data format to currency.

15 Click cell D2, and type *5000*. Click cell D4, and type *12000*.

	A	B	C	D
1		**Phase Number**	**Description**	**Budget**
2	January	Phase 1	Blurb	5000
3	February	Phase 2	Blurb	$7000
4	March	Phase 3	Blurb	12000
5	April	Phase 4	Blurb	$7000
6	May	Phase 5	Blurb	$7000
7	June	Phase 6	Blurb	$7000
8	July	Phase 7	Blurb	$7000
9	August	Phase 8	Blurb	$7000
10	September	Phase 9	Blurb	$7000
11	October	Phase 10	Blurb	$7000
12	November	Phase 11	Blurb	$7000
13	December	Phase 12	Blurb	$7000
14				

You now need to let Pages know that the values 5000 and 12000 are also meant to be dollar amounts.

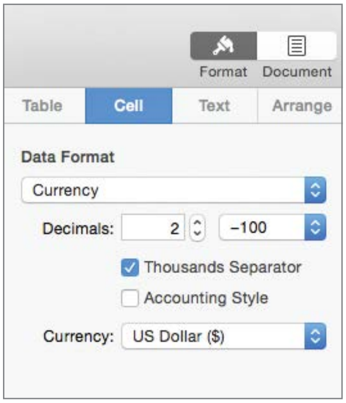
16 Click cell D2, and Shift-click cell D13 to select all the number values in column D.

17 In the Cell inspector, change the data format to Currency. Select the Thousands Separator checkbox, and set the Decimals value to 2.

The values in column D are set to dollars with two decimal points.

TIP In the Currency menu, you can choose a different currency.

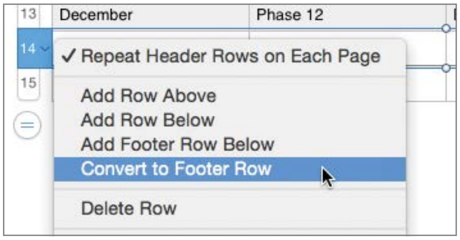
NOTE ▶ Tables in Pages, Numbers, and Keynote are set to detect data automatically; but to manually format cells, select them and in the Cell inspector choose another data format.



Formatting Tables

You're currently working with a simple table containing a variety of data formats. You will now create a formula to add up the budget figures in column D.

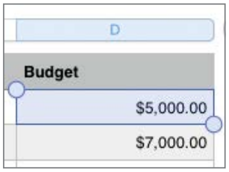
1 Click the cell reference bar for row 14, and from the pop-up menu, choose Convert to Footer Row.



Footer rows are often used to total columns in accountancy style spreadsheets. You'll now add a totalizer in the footer row.

2 Double-click cell D14. Press the = (equals) key. The Formula Editor appears.

3 Click cell D2

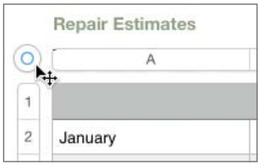


The cell is now highlighted with two handles in opposite corners.

4 Click the handle in the lower right of the cell, and drag it down to cell D13 to quickly place all the figures into a formula. Click the checkmark to run the calculation.

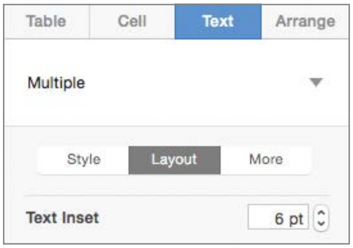
TIP Another way to set this calculation would be to double-click cell D14, type the formula =*sum(d2:d13)*, and then press Return.

5 Click the table handle icon at the top left of the table.

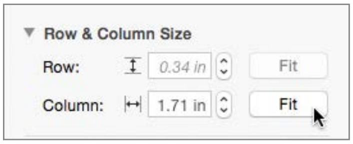


How and where you click a table affects which edits you can perform.

6 In the Layout tab of the Text inspector, change the Text Inset to 6 pt.



7 In the Table inspector, locate Row & Column Size. Click the Fit button for Column.



The table shrinks to fit the cell contents. Graphically the table is too narrow, so let's stretch it out a little.

Where you click a table affects the available editing options. If a table is first selected by carefully clicking its outside edge, selection handles appear. Doing this can be tricky. If a cell is selected, the table selection handles won't be available. To make selection handles appear, click the table handle icon.

8 With the table selection handles active, drag the side of the table to the right. The whole table stretches, giving the cell contents more space.

	Phase Number	Description	Budget
January	Phase 1	Blurb	$5,000.00
February	Phase 2	Blurb	$7,000.00
March	Phase 3	Blurb	$12,000.00
April	Phase 4	Blurb	$7,000.00
May	Phase 5	Blurb	$7,000.00
June	Phase 6	Blurb	$7,000.00
July	Phase 7	Blurb	$7,000.00
August	Phase 8	Blurb	$7,000.00

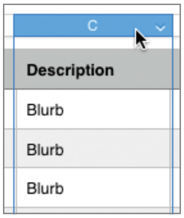
w: 5.43 in h: 4.75 in

Don't drag the table edge too close to the edge of the document page because you'll need some extra space later.

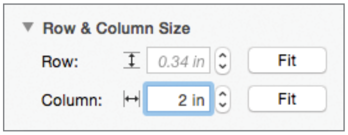
The Description column could be wider still.

9 Move your pointer to the division between the header references for columns C and D. Drag the dividing line to the right to make column C wider.

You can also set precise measurements for column width and row height.



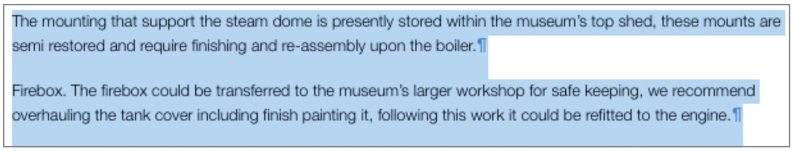
10 Click the reference bar for column C. In the Table inspector, in the Column data field, type *2 in*. Doing this adds clarity to the table layout.

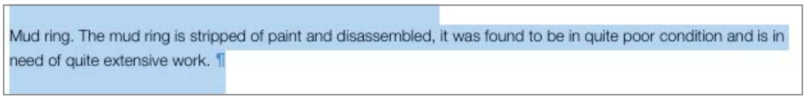


Creating List Structures

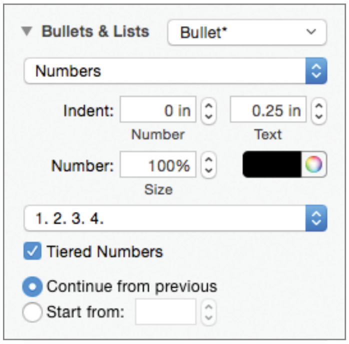
Tables are ideal when you need to sort data and run calculations; but when you simply need to create a hierarchy of ideas, tiered numbered lists are a great solution. On pages 3 and 4 of the 2009_report document you'll find an outline plan. Let's format it using tiered numbers.

1 Select the text on page 3, starting with the paragraph beginning, "The mounting," through to the paragraph on page 4 beginning, "Mud ring."





2 In the Text inspector, locate Bullets & Lists. Set the bullet type to Numbers, use standard Arabic numerals, and select Tiered Numbers.



NOTE ▸ The " Continue from previous" button is selected. If a document has more than one list and you want each list to start at 1, select the "Start from" option and type *1* in its field.

Each paragraph now starts with a number. To create a tiered list, the paragraphs must be indented.

3 Click the word "Firebox," listed as paragraph number 2.

4 In the Text inspector, click the Increase Indent button.

The paragraph is indented and labeled 1.1.

5 Click the word "Cab," now listed as paragraph 2. In the Text inspector, indent the paragraph.

The Cab paragraph is indented and labeled 1.2.

NOTE ▸ If you were to indent paragraph 1.2 again, it would be renamed 1.1.1.

6 Click the number 3 to select the entire bullet paragraph.

3. The hand rail well is complete and fitted, it will however need a new set of brackets as the ones currently fitted are badly made copies and do not properly sit, and will vibrate loose as and when the engine is back in service.¶

7 Drag the number 3 upward. A blue horizontal line appears. Move the blue line above list item 1.

NOTE ► Bullets can be dragged left or right to change their indent levels.

The bulleted list updates the numbering using the new order. This function allows topics to be typed randomly and later structured for sequence and hierarchy.

8 Choose File > Save to save a version of **2009_report.pages**.

Presenting Data Using Charts

Charts help illustrate data. They can highlight trends or show the breakdown of a budget. Like Numbers, Pages can create charts; but there are some differences in how you use it to add and edit charts. Generally, Numbers has greater data-crunching flexibility. In this exercise, you will create a line chart in Pages to illustrate the cash flow for a fictitious restoration project.

1 In the **2009_report.pages** document, go to page 6 and find two tables: Cash Flow by Month and Annual Totals.

Annual Totals

Income	$358962
Expenses	$266426
Funds for Engine 321	$92536
Engine 321 Cost	$87000
Balance of funds	$5536

The annual totals show a balance of $5536 so you have sufficient funds for the fictitious restoration project. What is less clear is the monthly balance of funds.

Profit	$805	$312	$26129	$3207	$3450	$3005	$6395	$1895	$614	$28910	$2398	$15416
321 Budget	$5000	$7000	$12000	$7000	$7000	$7000	$7000	$7000	$7000	$7000	$7000	$7000

Look at the Profit and 321 Budget lines at the bottom of the Cash Flow by Month table. In several of the months, you won't have enough money to pay the restoration bill. Line charts are often used to display trends or patterns like this. Let's make one.

2 In the toolbar, click the Chart icon. In the dialog, select the 2D line chart.

A chart appears with placeholder data. You will replace this with data from a table.

3 Move the chart if necessary so that it doesn't obscure any tables.

You'll resize the chart later.

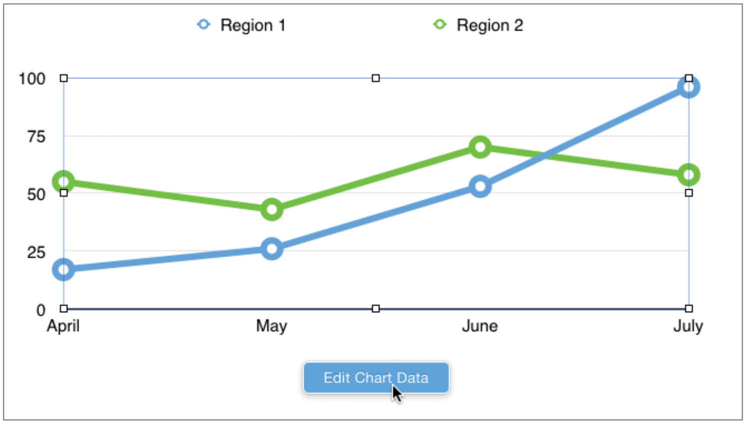
NOTE ▸ You have other methods for creating charts in Numbers.

4 In the Cash Flow by Month table, select rows 1, 7, and 8 by Command-clicking the reference headers for those rows.

1		Jan
2	Turnover	$9456
3	Cost of Sales	$6825
4	Profit on Sales	$2631
5	Admin Exp	$1826
6	Other Income	
7	Profit	$805
8	321 Budget	$5000

5 Choose Edit > Copy.

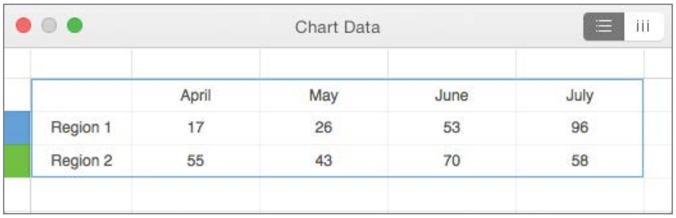
6 Select the line chart to display the Edit Chart Data button.



7 Click the Edit Chart Data button to open a new table dialog.

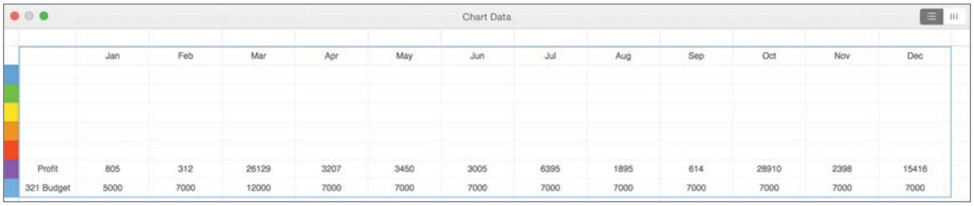
You will paste the copied data into this table, but first you need to select fields in the new table.

8 Select the first three rows of the Chart Data table by Command-clicking each row header.



9 Choose Edit > Paste. The Chart Data dialog populates with the table data you copied.

You may want to resize the Chart Data window to see all the data.



The paste operation added extra rows. Let’s remove them now.

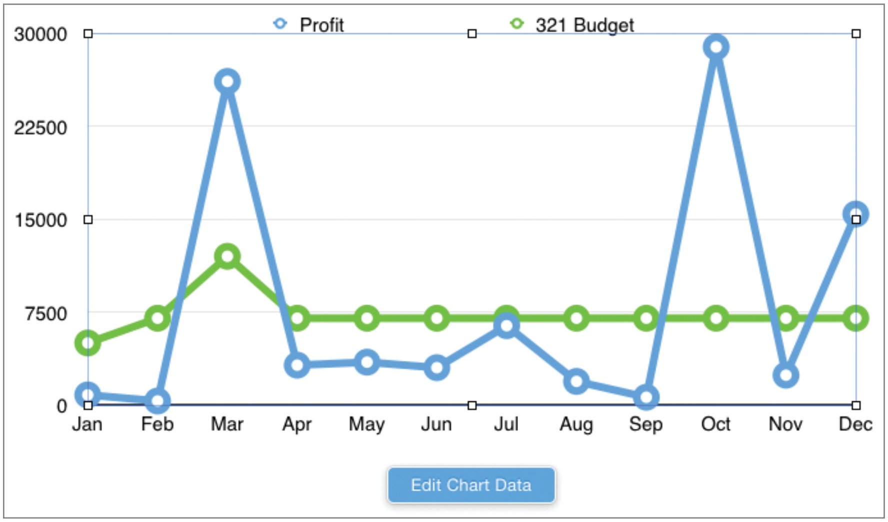
10 Command-click the header for each of the blank rows. Press Backspace to delete the blank rows.

You now have a 2D line chart created in Pages.

To edit the chart data, you click the Edit Chart Data button and change the figures. This method differs from Numbers in which you change data in the original table to automatically update any chart created from it.

11 Select the chart, and drag the selection handles to change its width and height.

NOTE ▶ The selection handles are the small squares that appear in the corners and in the middle of three sides of the selected chart.



12 Drag the chart into clear space on the page.

NOTE ▶ Other page elements move as you reposition the chart. This is caused by text wrap options, which are covered in Lesson 5.

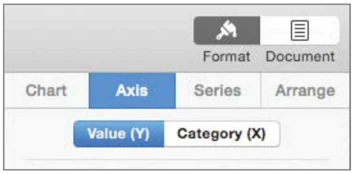
The line chart now displays the difference between income and expenditure. In the next exercise, you will change the labeling to display selective information.

Creating Chart Styles

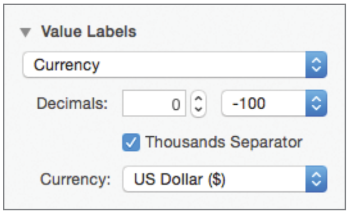
You can choose from many types of charts. By default, placeholder data has generic labels. In the chart you created, the x-axis is now marked in months; the y-axis displays the correct figures, but has no dollar units. You will change that now.

In this set of exercises, you'll change many of the format options for charts, learning techniques you can apply in Numbers and Keynote.

1 In the Format inspector, click the Axis tab, and then click the Value (Y) tab.



2 In the Value Labels section, change the format to Currency. Set Decimals to 0, and Currency to US Dollar ($). Select or deselect the Thousands Separator checkbox to suit yourself.



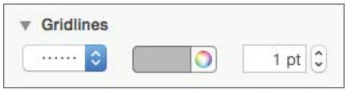
3 In the Format inspector, click the Series tab. Change the Data Symbols to squares and set their Size to 11.

With five data symbols to choose from (and the ability to scale them), you can customize your charts.

Although this chart doesn't call for them, feel free to experiment with Value Labels and Trendlines in the Series pane.

4 In the Format inspector, click the Axis tab, and then click the Category (X) tab.

5 Change the Gridlines to dots.



6 In the Format inspector, click the Chart tab.

7 In Chart Options, select Title.

The legend and title overlap, so let's move the legend.

8 Click to deselect the table, if necessary, and then drag the legend beneath the chart.

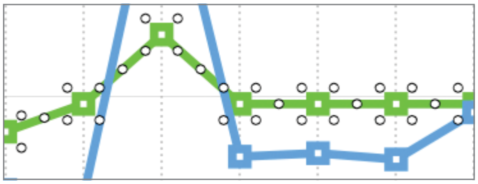
9 Double-click the title, and type *Cash Flow*.

Giving charts and tables specific titles helps identify what's what.

TIP In the Chart Title tab in the inspector, you can set a different font style.

The chart now displays the key information required. As a finishing touch, let's change the chart colors.

10 With the chart selected, click the green data line.

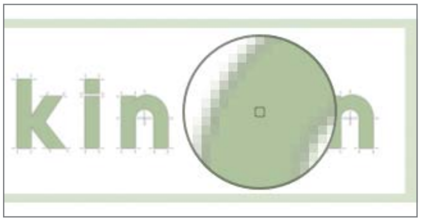


11 In the Style tab of the inspector, click the color wheel for Stroke to open the Colors window.

12 Click the eyedropper icon.

Your pointer changes to an eyedropper.

13 Click the dark green of the Sophia Larkinson logo. The data symbols change color.



14 In the Connection Line options, click the color wheel button. In the Colors window, resample the dark green of the logo.

The chart's green now matches Sophia's business signature color.

Pages, Numbers, and Keynote can make great-looking charts. There are lots of options to explore, so that you can display your data clearly and quickly.

Using Footnotes and Endnotes

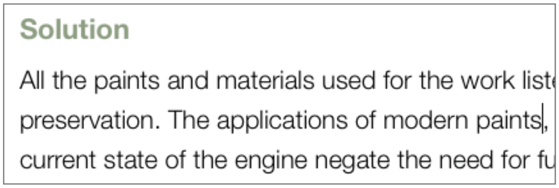
Pages can add footnotes or endnotes, which appear at the bottom of a page or at the end of a document or section, depending on the options you set.

> **NOTE ►** For research projects that require a bibliography, EndNote can be purchased. It is an application that enables you to search, organize, and share your findings. You can access EndNote within Pages as you write.

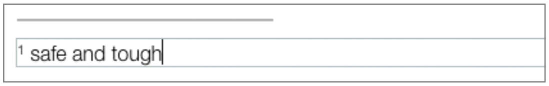
In this exercise, you'll use Pages to add footnotes to the **2009_report.pages** document.

NOTE ▶ You can't use footnotes and endnotes in the same Pages document.

1 Go to page 2 of the 2009_report. In the Solution subsection, click after the term "modern paints."



2 Choose Insert > Footnote, and type *safe and tough*.



A footnote is placed at the bottom of the page, numbered 1.

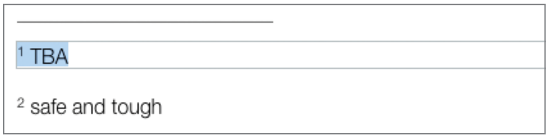
3 Click at the end of the Background paragraph.

4 Choose Insert > Footnote, and type *TBA*.

Because the second footnote insertion comes before the first footnote in the reading order it is labeled 1.

NOTE ▶ By default, footnotes and endnotes are numbered continuously throughout a document using Arabic numerals, but you can change this.

5 Select the footnote, TBA.



6 In the Text inspector, set the type to Bold.

Only the selected footnote's font style changes. When you want to change the formatting of every footnote in a document, perform the following steps.

7 Choose Edit > Deselect All.

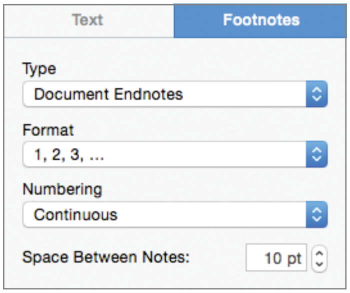
8 Click a footnote.

All the footnotes show blue selection lines. Any change made to the font or typeface will now affect every footnote in the document.

9 In the Text inspector, change the type size and style to 6pt italic.

All the footnotes change. Now you'll change the footnotes to endnotes.

10 In the Footnotes inspector, change the Type pop-up menu to Document Endnotes.



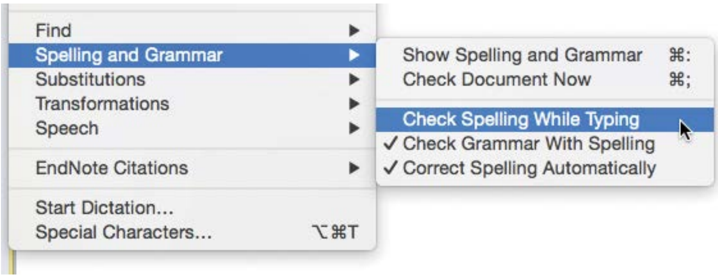
The footnotes that were on page 2 move to the end of the document.

NOTE ► Use the Footnotes inspector to change the numbering format and sequence. If a document is sectioned, you can choose to have endnotes appear at the end of each section, and the endnote numbering starts from 1 in each section.

Checking a Document for Errors

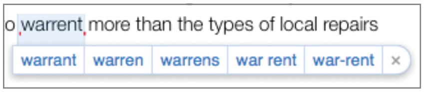
Pages will help you stay error free by checking spelling and grammar as you write. You can also check a word's definition with a couple of clicks.

1. Choose Edit > Spelling and Grammar > Check Spelling While Typing.



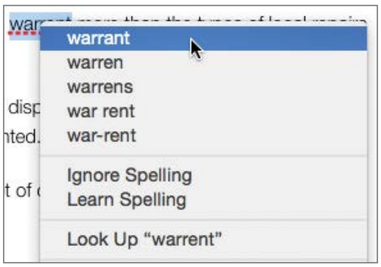
2. Go to page 3. In bullet number 5, the word "warrent" is misspelled, as indicated by a red dotted line.

3. Click at the end of the word "warrent" to display some spelling suggestions.



4. Click the × at the end of the spelling suggestions to close the suggestion bubble without correcting the spelling.

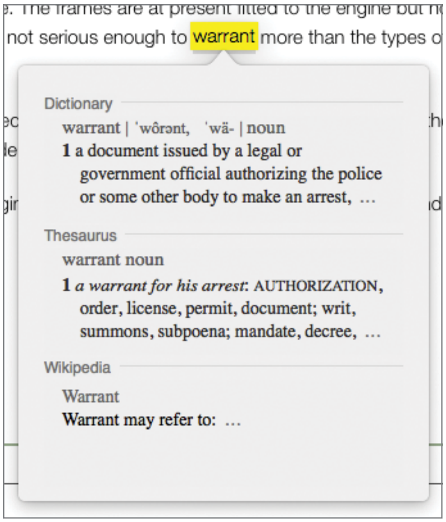
5. Control-click the misspelling of warrant.



The shortcut menu that appears offers spelling suggestions, and options to ignore a misspelled word or to learn its spelling.

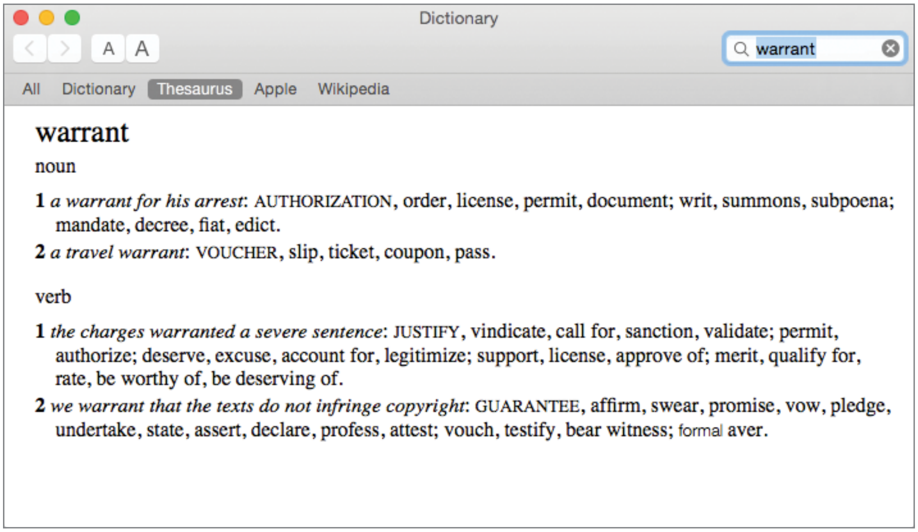
6 Choose “warrant” to set the correct spelling.

7 Control-click the word “warrant” and choose Look Up “warrant” from the shortcut menu.



A popover appears with dictionary, thesaurus, and Wikipedia entries.

8 Click the word “Thesaurus” to open the dictionary application. It has extended definitions and hyperlinks to help you further research the selected word.

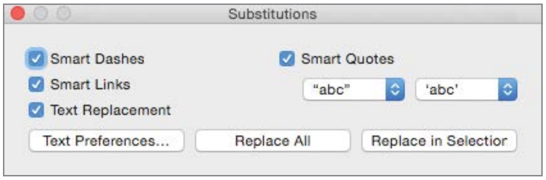


9 Close the Dictionary window to return to Pages.

NOTE ► A green dotted line under a word or words indicates a possible grammar or punctuation error.

Although you are working with Pages, the spelling suggestions are generated by the operating system. The dictionary and autocorrect preferences can be set in Pages, but they affect all applications that use autocorrection.

10 Choose Edit > Substitutions > Show Substitutions.



In the Substitutions window, you can set the following options:

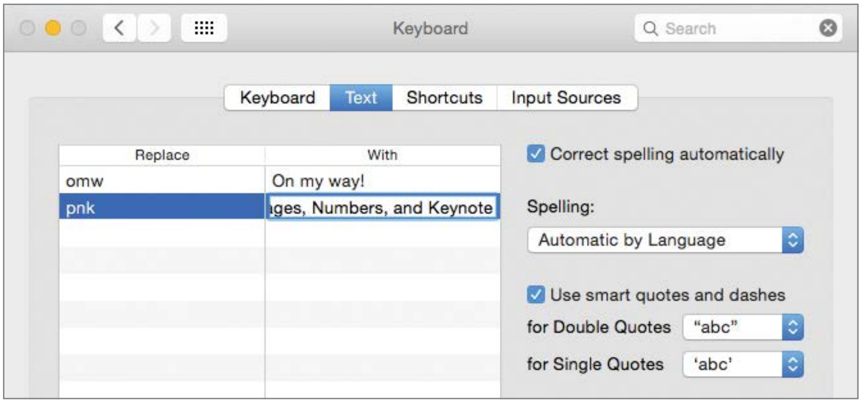
Convert double hyphens (--) to dashes (—).

Convert straight quotes to curly quotes.

Auto-detect website addresses (URLs) and email addresses and turn them into links.

Select or deselect your preferred options.

11 Click the Text Preferences button.



The System Preferences open in the Text pane of the Keyboard preferences. Any changes made here are applied systemwide.

By default, Spelling is set to Automatic by Language. If you were writing for someone in England, you might change the language to British English so that, for example, any instances of the U.S. English spelling of "color" would be marked as misspelled, or autocorrected to "colour" as you type.

TIP Click the Add (+) button at the lower left of Text preferences to add a new "replace with" option. Imagine the time saved if an author who was writing a book about Pages, Numbers, and Keynote could replace a typed "pnk" with "Pages, Numbers, and Keynote" as a preference. So, every time he typed "pnk" the title of the book would automatically appear.

12 Close System Preferences and return to Pages.

13 Choose Edit > Spelling and Grammar > Check Correct Spelling Automatically. Make sure this default setting is selected.

14 Type *teh*. Pages automatically changes this to "the."

TIP If you actually want to spell a word as *teh*, or any other word that otherwise autocorrects, type the word, but don't press the Spacebar. When the spelling suggestion appears, click the × to reject the autocorrection.

NOTE ▸ Clicking the Replace All button sets substitution preferences across a whole document. Clicking the "Replace in Selection" button affects only a text selection. Closing the Substitution dialog without choosing one of these options does not affect existing text.

Lesson Review

1. In Pages, how do you edit the data in a chart?
2. You have written a list in Pages, and selected Tiered Numbers in the inspector. Describe two ways to indent list items.
3. You have placed footnotes on the last page of a Pages document containing several chapters. The Footnote inspector has been set to Section Endnotes. What steps are required to place the endnotes at the end of each chapter?
4. A budget was created using a table in Pages. The currency format defaulted to U.S. Dollars. How do you change the currency to Chinese Yuan?
5. As you type, URL references are automatically being created. How do you turn off this function?

Answers

1. Select the chart and click the Edit Chart Data button.
2. Use the Increase Indent or Decrease Indent buttons in the Format inspector; or drag the button number left or right.
3. Start a new section for each chapter.
4. Select the cell ranges. Use the Format inspector's cell options to change the currency.
5. Choose Edit > Substitutions > Show Substitutions. Deselect Smart Links.

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