EXCEL 2013

Formatting Cell Contents, Advanced Skills

LESSON OUTLINE

Working with the Format Painter and Quick Styles

Formatting with Themes

Inserting Date Functions and Formatting

Creating Custom Formats

Working with Conditional Formatting

Naming Cells and Ranges

Concepts Review

Reinforce Your Skills

Apply Your Skills

Extend Your Skills

Transfer Your Skills

LEARNING OBJECTIVES

After studying this lesson, you will be able to:

■ Format worksheets using preset themes

■ Work with dynamic and static date functions

■ Create custom number formats

■ Apply conditional formatting to flag positive and negative trends

■ Create cell names for navigation and formulas

In this lesson, you will build on the formatting techniques you have learned with techniques such as the Format Painter, which allows you to efficiently apply consistent formatting. Moreover, you will use Excel's Conditional Formatting tool, which can format values that fall within an acceptable range, thus drawing attention to those values. Lastly, you will name cells and ranges so they are easier to locate within the worksheet and can be more easily utilized within formulas.

CASE STUDY

Formatting with Excel

Having completed the third quarter income statement for Green Clean, a janitorial product supplier and cleaning service contractor, you want to determine how well the company has performed compared to the prior year. With your spreadsheet modified to include prior year data, you format the income statement to highlight important information. You also name cells and ranges within the spreadsheet so they may be more easily located.

green clean

Green Clean Income Statement Comparison 3rd Quarter					
	Current Year		Prior Year		Dollar Change
REVENUES					
Sales	$	704,785	$	687,525	$ 17,260
Finance Charge Revenue		12,054		12,578	(524)
Total Revenues	$	716,839	$	700,103	$ 16,736
Vehicle Costs		63,226		67,498	(4,272)
Wages		373,937		362,495	11,442
Total Costs	$	571,164	$	559,957	$ 11,207
Net Income (Loss)	$	**145,675**	$	**140,146**	$ **5,529**
Net Income to Total Revenues		**20.3%**		**20.0%**	**33.0%**
Date Created	11-Nov-2013			Check Figure	
Date Reviewed	15-Nov-2013			$ 16,734	
Elapsed Days	4				
Date Printed	11/15/2013 10:23 AM				

Formatting can make important spreadsheet data more easily understandable.

Working with the Format Painter and Quick Styles

The Format Painter applies formatting from existing worksheet cells, while Quick Styles apply predefined formats to cells. Both of these tools can greatly simplify the formatting of a worksheet.

The Format Painter

The Format Painter lets you copy text and number formats from one cell to another. This can be extremely helpful if you have a cell to which many formatting options have been applied and you do not wish to go through the process of applying each option individually to another cell or range of cells.

Custom

Net Income ... ──────────────── **Custom cell styles that you create**

Good, Bad and Neutral

Normal	Bad

──── **Built-in cell styles**

Data and Model

Calculation	**Check Cell**
Output	Warning Text

Titles and Headings

Heading 1	Heading 2

Themed Cell Styles

20% - Accent1	20% - Accent2
40% - Accent1	40% - Accent2
60% - Accent1	60% - Accent2
Accent1	**Accent2**

Number Format

Comma	Comma [0]

New Cell Style...
Merge Styles... ──────── **Commands to create and import cell styles**

Applying Quick Styles to Cells

You can apply Excel's built-in cell styles, also called Quick Styles, or create your own styles for a uniform worksheet design. A cell style's formatting may include the font, number format, borders, or fill.

New cell styles that you create appear in the Custom section of the styles list. They are based on the workbook theme, so the colors change automatically to match any new theme applied. Among the built-in styles, only the Themed Cell Styles change colors. Any styles you create or edit apply only to the currently open workbook. The Merge Styles command in the Styles list allows you to import styles created in a different workbook into the current workbook.

QUICK REFERENCE	WORKING WITH THE FORMAT PAINTER AND CELL STYLES
Task	**Procedure**
Copy formats to one other cell or range	■ Click the cell with the desired formatting and choose Home→Clipboard→Format Painter. ■ Select the destination cell or range.
Copy formats to multiple locations	■ Click the cell with the desired formatting and double-click Home→Clipboard→Format Painter. ■ Select the destination cells or ranges; when finished, click Format Painter or tap Esc.
Apply a Quick Style to a cell or range	■ Select the destination cells and choose Home→Styles→Cell Styles. ■ Select the desired style from the list.
Create a cell style	■ Choose Home→Styles→Cell Styles→New Cell Style. ■ Click the Format button, select the desired formatting options, and click OK. ■ Name the style in the Style dialog box, select the formatting categories to be included, and click OK.
Modify a cell style	■ Choose Home→Styles→Cell Styles. ■ Right-click the desired style and choose Modify (or Duplicate to create a new style based on the existing style). ■ Click the Format button, select the desired formatting options, and click OK. ■ Select the formatting categories to be included; click OK.
Import cell styles from a different workbook	■ Open the workbook from which you wish to import styles. ■ In the destination workbook, choose Home→Styles→Cell Styles→Merge Styles, choose the source workbook name, and click OK.

TIP When you double-click the Format Painter, you can scroll through the worksheet to reach the desired location(s). You can also click a sheet tab to copy formatting to a different worksheet.

Change Formatting

In this exercise, you will copy the formatting from one cell to a range of cells. You also will apply cell styles and create a custom style.

1. Open **EX07-D01-ISComp** from the **EX2013 Lesson 07** folder and save it as **EX07-D01-ISComp-[FirstInitialLastName]**.

Replace the bracketed text with your first initial and last name. For example, if your name is Bethany Smith, your filename would look like this: EX07-D01-ISComp-BSmith.

2. Follow these steps to apply consistent formats to the column headers using the Format Painter:

Ⓐ Select **cell B4**.

Ⓑ Choose **Home→Clipboard→ Format Painter**.
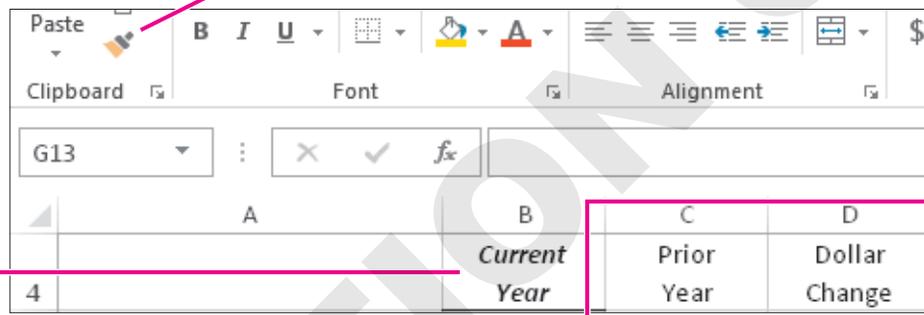
Ⓒ Select the **range C4:D4**.

The formatting from cell B4 is applied to the range C4:D4. Because you only clicked it once, the Format Painter button is no longer active. If you had double-clicked it, it would still be active.

Apply Cell Styles

3. Select the **range A1:A3**.

4. Follow these steps to apply a built-in cell style:

Ⓐ Choose **Home→ Styles→Cell Styles**.

Ⓑ Choose the **Title** style.
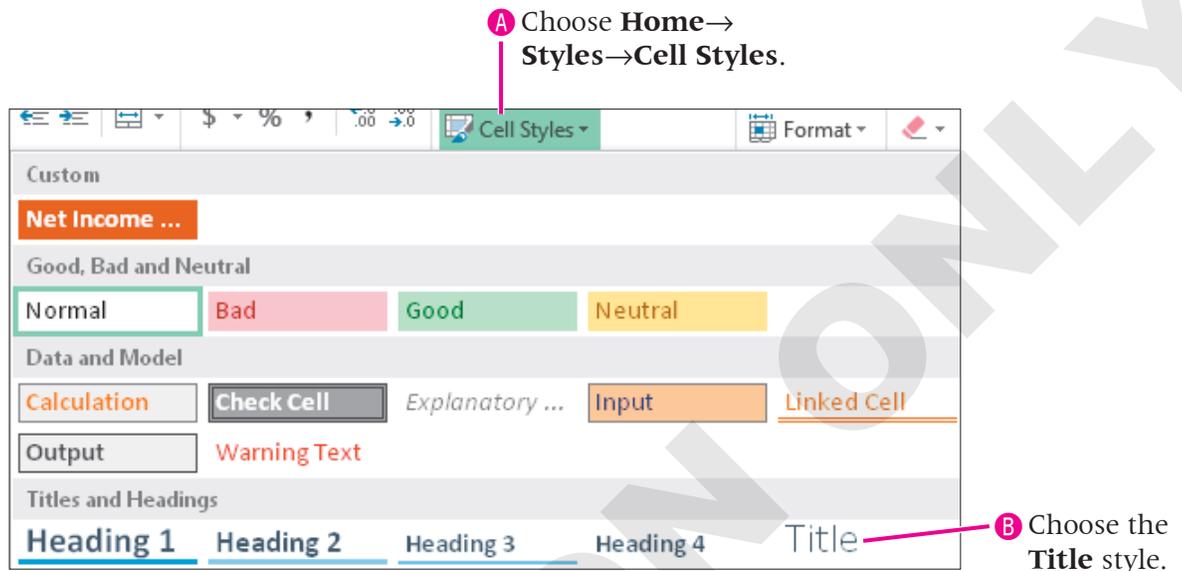
Your styles may differ from those shown.

5. Select the **range B25:D25**.

6. Choose **Home→Styles→Cell Styles** 📝 and select **Total** from within the Titles and Headings group.

7. Deselect the range.

Because of the cell style selected, the range displays bold formatting with a top and double bottom border.

Create a Custom Cell Style

8. Choose **Home→Styles→Cell Styles** 📝.

9. Choose **New Cell Style** at the bottom of the list.

10. Follow these steps to begin creating a cell style:

Ⓐ Type **Net Income Ratio** here.

Ⓑ Click the **Format** button.

Ⓒ Select the **Number** tab.

Ⓓ Choose **Percentage**.

Ⓔ Click the **spinner arrows** to change decimal places to **1**.

11. With the Format Cells dialog box still displayed, select the **Fill** tab.

12. Choose a dark fill color, such as the fourth color in the sixth column of the Theme Colors palette.

13. Follow these steps to set the text characteristics for the cell style:

Ⓐ Select the **Font** tab.

Ⓑ Choose **Bold**.

Ⓒ Click the **Color menu** ▾ button.

Ⓓ Choose the indicated white theme color.

Ⓔ Click **OK**.

Notice that your changes are shown in the Style dialog box.
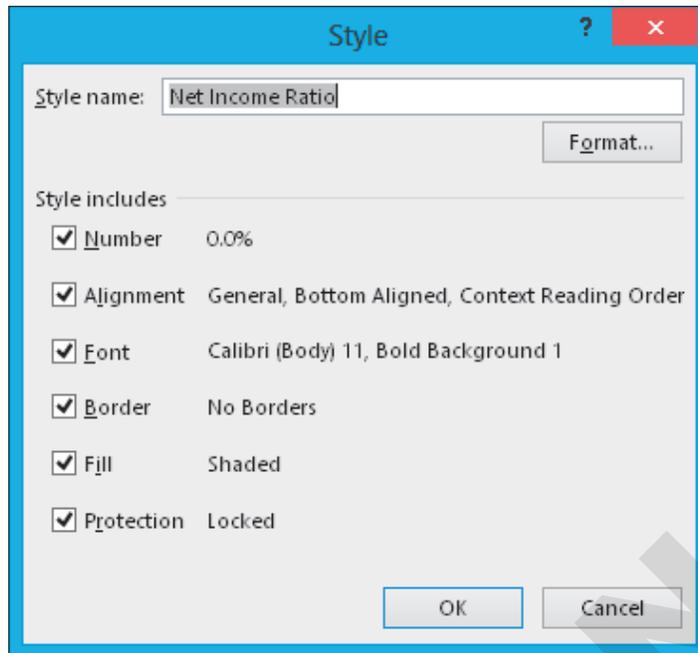
All the categories with a checkmark will be applied to the style. You can remove the checkmark from any formatting you don't want to use.

14. Click **OK** to close the Style dialog box.

Apply the Custom Cell Style

15. Select the **range A27:D27**.

16. Choose **Home→Styles→Cell Styles** and select your **Net Income Ratio** style from the **Custom** group at the top of the list.

The range now displays your custom cell style, including bold, white font, and a dark fill color.

17. Deselect the range.

18. Save the file and leave it open; you will modify it throughout this lesson.

Formatting with Themes

Themes allow you to easily apply formatting to entire workbooks. You can modify a theme by changing the font set, color palette, or graphic effect design. And, you can save the modifications as a custom theme that can be reused with other workbooks.

Themes allow you to choose a set of compatible fonts, one for headings and one for body text, which are identified at the top of the Font list. Likewise, the ten theme colors display at the top of the list when you are applying colors (such as fill color or font color).

Excel 2013

Colors and fonts are applied here.

Built-in themes

Themes you create are saved here.
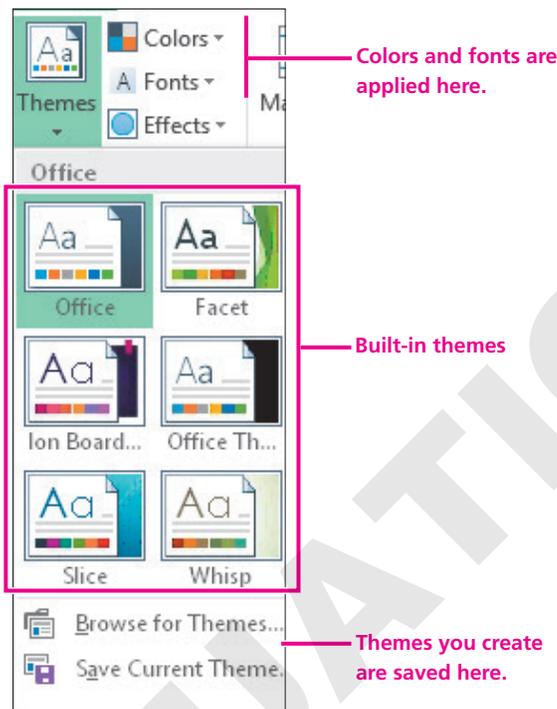
QUICK REFERENCE	APPLYING, MODIFYING, AND SAVING THEMES
Task	**Procedure**
Apply a theme to a workbook	■ Choose Page Layout →Themes→Themes and choose the desired theme.
Modify and save a theme	■ Choose Page Layout→Themes→Themes and choose the desired theme.
	■ Change the colors, fonts, and effects as desired.
	■ Choose Page Layout→Themes→Themes →Save Current Theme, enter a theme name, and click Save.

DEVELOP YOUR SKILLS EX07-D02

Use Themes in a Workbook

In this exercise, you will apply a theme to the workbook. You also will modify a theme and explore how it would be saved.

1. Save your file as **EX07-D02-ISComp-[FirstInitialLastName]**.

2. Click the **Page Layout view** button in the Status Bar.
   The view buttons are located to the left of the zoom slider.

3. Choose **Page Layout→Themes→Themes**.
   Office is the default theme applied to new workbooks.

4. Point at various themes and observe the different effects shown in Live Preview.
   Note that you may be able to scroll down to display additional themes.

5. Choose the **Integral** theme and click anywhere within the worksheet data.
   The colors and font in the workbook now correspond to those indicated in the theme.

6. Locate the **Status Bar** at the bottom-left corner of the Excel window to see that this theme displays the worksheet on one page.
   If this worksheet contained more data, and therefore extended beyond one page, you could quickly determine this by looking here.

Modify and Explore Saving a Theme

7. Choose **Page Layout→Themes→Theme Fonts**.

8. Point at various font families and observe the different effects in Live Preview.

9. Choose the **Arial** theme fonts.

10. Choose **Page Layout→Themes→Themes→Save Current Theme**.
    The Save Current Theme dialog box displays. Notice the default folder for saving themes on your system. You could enter a filename to save the modified theme.

11. Click **Cancel** so that you *do not* save the theme.

12. Save the file and leave it open.

Inserting Date Functions and Formatting

Video Library   http://labyrinthelab.com/videos   Video Number: EX13-V0703

The date functions, which utilize a similar syntax to that of statistical functions like SUM and AVERAGE, display either today's date or a date of your choice. Excel determines the current date according to your computer's clock feature.

Working with Dates

Dates are used in workbooks in two ways. First, you can simply type and display dates in cells using various formats such as 11/20/14; November 20, 2014; or 20-Nov-14. Second, you can use dates in formulas. For example, you may want to compute the number of days an invoice is past due. You calculate this as the difference between the current date and the due date of the invoice.

Date Serial Numbers

When you enter a date in a cell, Excel converts the date to a serial number between 1 and 2,958,525. These numbers correspond to the period from January 1, 1900, through December 31, 9999. The date January 1, 1900, is assigned the serial number 1; January 2, 1900, is assigned the serial number 2; etc. Serial numbers extend all the way to December 31, 9999. When dates are converted to numbers, you can use the numbers/dates in calculations.

NOTE Excel recognizes an entry as a date as long as you enter it using a standard date format.

Function	Description
TODAY()	Displays the current system date and calculates the serial number. The date updates automatically when the worksheet is recalculated or reopened.
NOW()	Displays the current system date and time and calculates the serial number. The date and time update automatically when the worksheet is recalculated or reopened.
DATE(year, month, day)	Returns a specific date displayed in the default date format and calculates the serial number. The date does not update when the worksheet is recalculated or reopened.

WARNING Do not type anything within the parentheses of the TODAY and NOW functions.

QUICK REFERENCE	CREATING DATE AND TIME FUNCTIONS
Task	**Procedure**
Insert a date or time function	■ Click the cell in which you wish to place the function result.
	■ Click Insert Function f_x and choose Date & Time.
	■ Select the function you wish to create; click OK.
	■ Enter the appropriate function arguments (if necessary); click OK.

DEVELOP YOUR SKILLS EX07-D03

Use the TODAY Function and Format a Date

In this exercise, you will create formulas to calculate the current date, and you will format dates.

1. Save your file as **EX07-D03-ISComp-[FirstInitialLastName]**.

2. Select **cell B30**.

3. Type **9/1/14** and then click **Enter** ✓.

4. Display the **Home** tab and locate the **Number** group.

   Notice the number format style displayed is Date, which Excel formatted for you when you typed the number in the date format.

5. Choose **Home→Number→dialog box launcher** 🢖.

   The Format Cells dialog box opens with the Number tab displayed.

6. Follow these steps to change the date format:
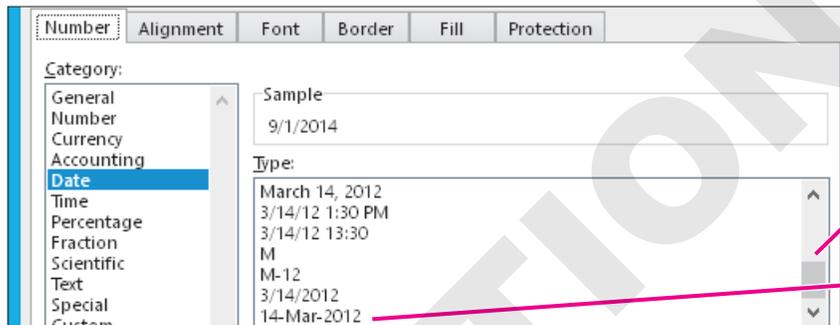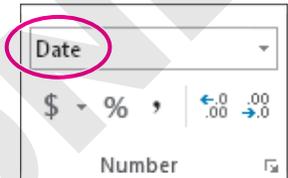
   Ⓐ Scroll to the bottom of the **Type** list.

   Ⓑ Click the last format type in the list; click **OK**.

7. Ensure that **cell B30** is still selected, and then tap Delete.

   Look at the Number group on the Home tab and notice that even when you remove the contents of the cell (the date), the number format for the cell will remain as Date.

Use the TODAY Function and Calculate Dates

8. Follow these steps to enter the TODAY function in cell B30:
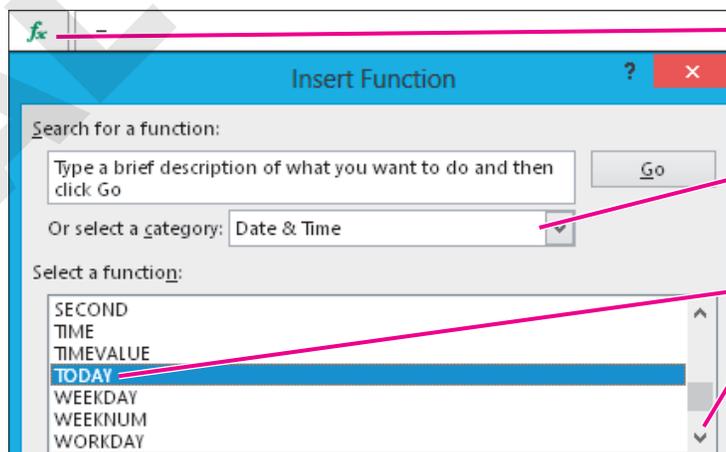
   Ⓐ Click the **Insert Function** button.

   Ⓑ Choose **Date & Time** as the category.

   Ⓒ Scroll down until **TODAY** is visible; double-click **TODAY**.

   Ⓓ Click **OK**.

   The date will appear with the number formatting you set for the cell.

9. Select **cell B29** and enter the date that is four days prior to today.

10. Use the **Format Painter** to apply the date format from **cell B30** to **cell B29**.

11. Select **cell B31** and enter the formula `=B30-B29`.

   The result should equal 4. By subtracting dates in this manner, Excel can calculate the number of days between any two dates.

Use the NOW Function

12. Select **cell B32**, then type `=now(` and tap ⏎ Enter.

   Excel automatically adds the closing parenthesis for the formula. Number signs (###) display across the cell width, which means that the date is too long to fit.

13. AutoFit **column B** by double-clicking the right edge of the header.

   The NOW function displays the current date and time, which will be updated the next time you open the worksheet.

14. Save the file and leave it open.

Creating Custom Formats

Video Library   http://labyrinthelab.com/videos   Video Number: EX13-V0704

Excel's predefined number format options are usually sufficient, but you may also need a modified format. For example, you may want a date to display the year as two digits instead of four. Or, an identification or account number may need to be displayed with preceding zeros, such as 0004842. The Number tab of the Format Cells dialog box includes a Type box in which you can edit an existing number format or create a new one.
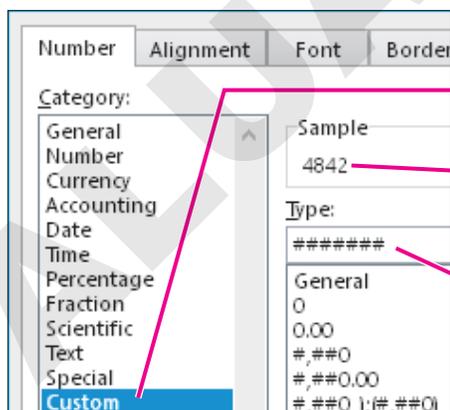
The Custom option

The number 0004842 was entered in the cell, but Excel discarded the preceding zeros (000).

Seven number signs (#) indicate that zeros will be added before the number to display seven digits.

Creating Custom Formats **EX07.13**

| QUICK REFERENCE	CREATING CUSTOM NUMBER FORMATS
Task	**Procedure**
Modify an existing number format to create a custom format	■ Select the cell/range to which you wish to apply a custom number format. ■ Choose Home→Number→dialog box launcher 🔲. ■ Select the Custom category and choose the format closest to the desired format. ■ Edit the formatting in the Type box and view the sample; click OK.

DEVELOP YOUR SKILLS EX07-D04
Modify a Date Format

In this exercise, you will edit the date format currently applied to the NOW function formula.

1. Save your file as **EX07-D04-ISComp-[FirstInitialLastName]**.

2. Select **cell B32**.

3. Follow these steps to modify the date format applied to the NOW function formula:

Ⓐ Choose **Home→Number→dialog box launcher**.

Ⓑ Verify that the **Custom Category** and **m/d/yyyy h:mm** are selected.
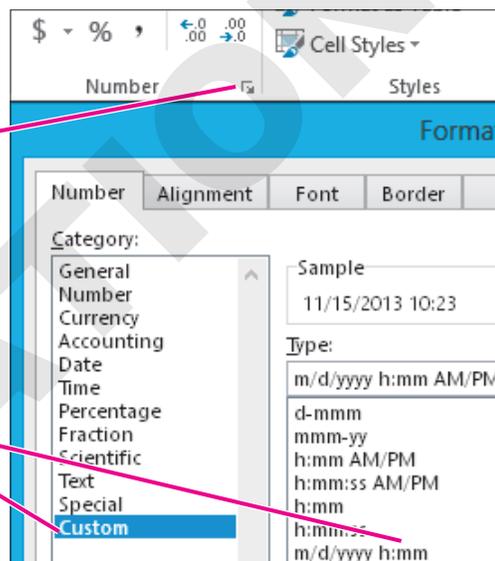
Ⓒ Edit the format to **m/d/yyyy h:mm AM/PM**.

Ⓓ Click **OK**.

The time now displays either AM or PM.

4. Save the file and leave it open.

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Working with Conditional Formatting

The Conditional Formatting command applies formatting to cells that meet criteria that you set. Conditional formats are activated only when the criteria are met. For example, you may assign a yellow fill to a cell when its value is greater than 12. You may apply conditional formatting to cells containing values, text, dates, blanks, or errors. While conditional formatting can refer to a cell in a different sheet of the workbook, it cannot refer to cells in a different workbook.

Using Presets and Multiple Conditions

You can choose from conditional formatting presets on the Conditional Formatting menu for frequently used criteria, such as Greater Than, Equal To, Above Average, and Top 10 Items. You may set any number of conditional formats and create multiple rules to check for more than one condition in a cell. Conditional formatting rules are applied in the priority order you set. The Stop If True option, when selected in any rule, prevents further formatting by the remaining rules after a criterion is evaluated as True.

Creating a Conditional Formatting Rule

If no preset item on the Conditional Formatting menu has your desired criteria or formatting, you may create a new conditional formatting rule. The following illustration defines the parts of the New Formatting Rule dialog box. The options vary in the lower half of the dialog box depending on the rule type you select.

The selected rule type will determine which options display below.

Preview of the formatted cell contents

Comparison operator

Comparison value, text, date, or cell reference

The Format Cells dialog box provides additional options.

Formatting with Graphics

You can choose to conditionally format cells with data bars, a color scale, or an icon set. These graphics identify values that are average, above average, and below average in the selected cell range. You may select a menu preset or create a custom rule using any of these visual aids.

Equipment Lease		7,844	8,200	✗	(356)
Insurance		18,230	17,500	✓	730
Rent		25,000	25,000	✗	-

Conditional formatting with data bars, a color scale, or icon sets helps to highlight data.

TIP

Use consistent formatting and limit the use of data bars, color scales, and icon sets on one worksheet. Using multiple styles could confuse the reader.

The Conditional Formatting Rules Manager

Conditional formatting rules can be created, edited, rearranged, and deleted within the Conditional Formatting Rules Manager dialog box. The following illustration displays the rules set within an entire worksheet.

A list of choices to display existing rules for a selected range or a worksheet

Buttons for creating a new rule and editing, deleting, or rearranging the order of a selected rule

Existing rules and their definitions

Conditional Formatting Rules Manager

Show formatting rules for: This Worksheet

New Rule... Edit Rule... Delete Rule ▲ ▼

Rule (applied in order shown)	Format	Applies to		Stop If True
Formula: =B31<5	AaBbCcYyZz	=$B$31		☐
Top 1	AaBbCcYyZz	=$D$11:$D$22		☐
Data Bar		=$B$11:$C$22		☐
Last 7 days	AaBbCcYyZz	=$B$29		☐
Cell Value > 0	AaBbCcYyZz	=$D$6:$D$7,$D$11:$D$22		☐
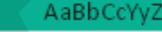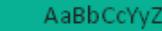
| QUICK REFERENCE	APPLYING CONDITIONAL FORMATTING
Task	**Procedure**
Apply preset conditional formatting	■ Select the cells to receive formatting. ■ Choose Home→Styles→Conditional Formatting 🔲, display a preset menu, and choose a command. ■ Edit options in the preset rule dialog box and click OK, if necessary.
Create a conditional formatting rule	■ Select the cells to receive formatting. ■ Choose Home→Styles→ Conditional Formatting 🔲→New Rule. ■ Choose a rule type and formatting options in the New Formatting Rule dialog box; click OK.
Apply conditional formatting with data bars, a color scale, or an icon set	■ Select the cells to receive formatting. ■ Choose Home→Styles→ Conditional Formatting 🔲→Data Bars, Color Scales, or Icon Sets. ■ Choose a preset item on the command's submenu or More Rules to create a custom rule.
Clear conditional formatting from specific cells	■ Select specific cells from which to remove formatting. ■ Choose Home→Styles→Conditional Formatting 🔲→Clear Rules→Clear Rules from Selected Cells.
Clear all conditional formatting from a worksheet	■ Display the desired worksheet. ■ Choose Home→Styles→Conditional Formatting 🔲→Clear Rules→Clear Rules from Entire Sheet.
Manage conditional formatting rules	■ Choose Home→Styles→Conditional Formatting 🔲→Manage Rules. ■ Choose Current Selection or a worksheet from the Show Formatting Rules For list. ■ Use buttons in the dialog box to create a new rule or select an existing rule and edit, delete, or change its order.

DEVELOP YOUR SKILLS EX07-D05
Apply Conditional Formatting

In this exercise, you will apply various types of conditional formatting to cell ranges. You will also create a conditional formatting rule and remove conditional formatting from a range.

1. Save your file as **EX07-D05-ISComp-[FirstInitialLastName]**.

2. Select the **ranges D6:D7** and the **range D11:D22**.

3. Choose **Home→Styles→Conditional Formatting→Highlight Cells Rules→Less Than**.

Next you will create a highlighting rule to identify those line items that have decreased from the prior year.

4. Follow these steps to apply conditional formatting:

Less Than

Format cells that are LESS THAN:

0   with   Light Red Fill with Dark Red Text

OK   Cancel
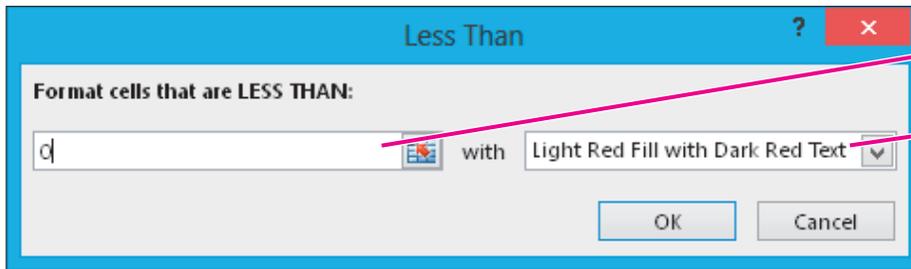
Ⓐ Type **0** here.

Ⓑ Ensure that **Light Red Fill with Dark Red Text** is selected.

Ⓒ Click **OK**.

5. With the prior ranges still selected, choose **Home→Styles→Conditional Formatting→Highlight Cells Rules→Greater Than**.

6. Repeat **step 4**, changing the format to **Green Fill with Dark Green Text**.

All revenues and expenses that changed now show either a red or green background.

Create a Conditional Formatting Rule

7. Highlight **cell B29** and choose **Home→Styles→Conditional Formatting→Highlight Cells Rules→More Rules**.

The New Formatting Rule dialog box appears.

8. Follow these steps to create a custom conditional formatting rule:
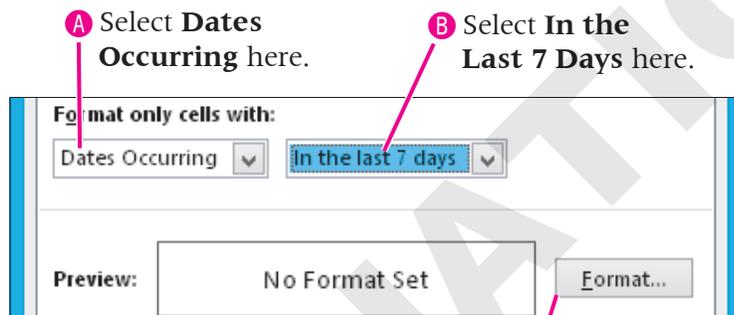
Ⓐ Select **Dates Occurring** here.

Ⓑ Select **In the Last 7 Days** here.

Format only cells with:

Dates Occurring   In the last 7 days

Preview: No Format Set   Format...

| Number | Font | Border | Fill |

Background Color:

No Color
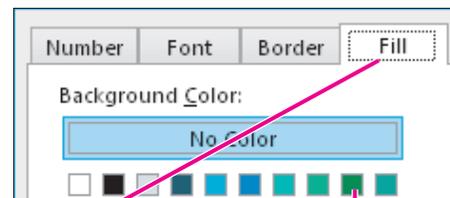
Ⓒ Click **Format**.

Ⓓ Click the **Fill** tab in the Format Cells dialog box.

Ⓔ Choose the green theme color.

9. Click **OK** to exit the Format Cells dialog box.

Notice the green fill in the Preview box of the New Formatting Rule dialog box.

10. Click **OK** to exit the New Formatting Rule dialog box.

The conditional formatting is applied to cell B29 to denote that the worksheet was created within the past week.

Format with Data Bars and a Top Rule

11. Select the **range B6:C7**.

12. Choose **Home→Styles→Conditional Formatting→Data Bars→Blue Data Bar**.

The data bars display the relative size of each revenue item. You may choose either gradient or solid data bars.

13. Select the **range B11:C22** and choose **Home→Styles→Conditional Formatting→Data Bars→Orange Data Bar**.

Data bars for revenues and expenses must be created separately, otherwise they will appear relative to one another (so the larger revenues would have big data bars and the smaller expenses would have small data bars).

14. Select the **range D11:D22** and choose **Home→Styles→Conditional Formatting→Top/Bottom Rules→Top 10 Items**.

15. Change 10 to **1** in the Top 10 Items dialog box.

16. Choose **Red Border** from the **With** list and click **OK**.

The highest expense item is now highlighted with a red border.

Format Using a Formula

In the next few steps, you will enter a formula that compares the date created to another date. If the result of this logical test is true, the cell's text will change to green.

17. Select **cell B30** and choose **Home→Styles→Conditional Formatting→New Rule**.

The New Formatting Rule dialog box displays.

18. Follow these steps to create a conditional formatting rule using a formula:

Ⓐ Choose this rule type. Ⓑ Type **=b31<5** as the formula. Ⓒ Click the **Format** button. Ⓓ Select the Fill tab, and on the top row choose **Green**.
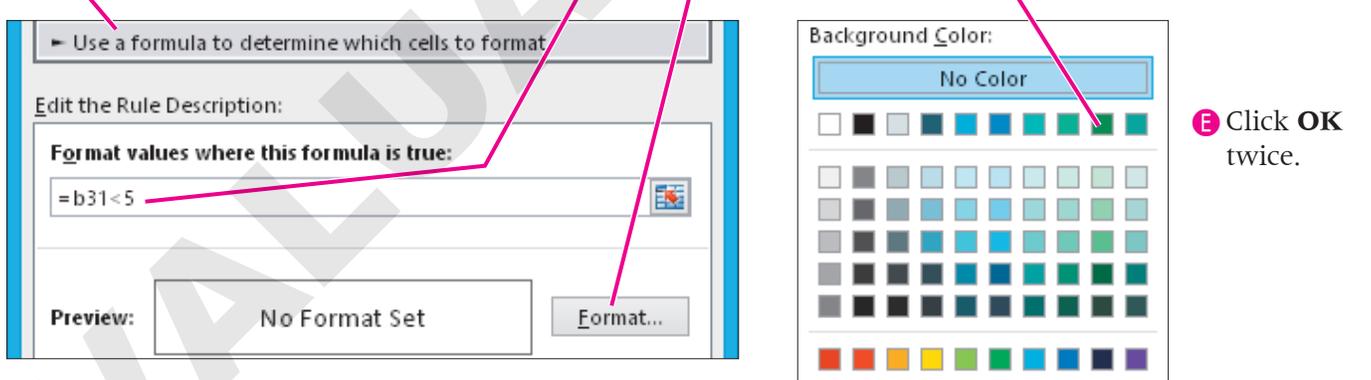
Ⓔ Click **OK** twice.

If Green Clean's goal of having schedules reviewed within fewer than five days has been met, cell B30 will display with green fill.

19. Select the **range B6:C7** and choose **Home→Styles→Conditional Formatting→Clear Rules→Clear Rules from Selected Cells**.

The data bars disappear from the cells containing revenue figures.

20. Save the file and leave it open.

Excel 2013

Naming Cells and Ranges

You may use a descriptive name instead of cell references in formulas and for worksheet navigation. Range names are easier to type, recognize, and remember. Excel refers to these as defined names. You may create a name for one cell or a range of cells.

Naming Rules

Excel has a few rules for naming cells. Defined names:

- Must begin with a letter.
- Cannot resemble a cell reference, as in A3 or BC14.
- Cannot consist of the single letters C or R, which Excel interprets as column or row.
- Cannot contain spaces, hyphens, or symbols.
- May contain an underscore, period, or capital letter to connect words.

Creating Defined Names

Defined names are available throughout a workbook by default. You may define a name in one worksheet and use the name to navigate to its cell reference(s) from within any other worksheet.

You may create a name using a few different methods, the easiest of which is to type a name in the Name Box of the Formula Bar.

TIP

The Name Box may be widened by dragging the three dots between the Name Box and the Formula Bar.
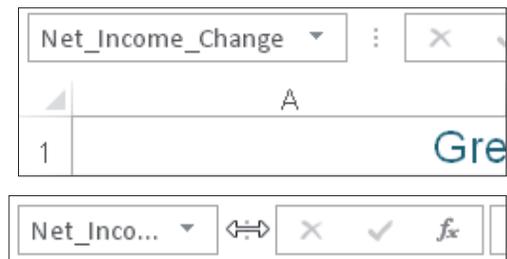
QUICK REFERENCE	ASSIGNING DEFINED NAMES
Task	**Procedures**
Assign cell and range names	Use any of these three methods: ■ Select the desired cell(s), click in the Name Box, type the new name, and tap Enter. ■ Select the desired cell(s), choose Formulas→Defined Names→Define Name, type the new name, and click OK. ■ Select the desired cell(s) (including the column or row titles), choose Formulas→ Defined Names→Create from Selection, select the location of the associated title, and click OK.

Using Defined Names

Defined names are mainly used to navigate workbooks and create linking formulas or calculation formulas.

Using Names to Navigate

Create defined names to move quickly to areas of the worksheet that you view or update frequently. To navigate to a named cell or range, you select its name from the Name list on the Formula Bar.

Using Names in Formulas

Formulas containing defined names help others to understand what the formulas are calculating. For example, the formula =AdvertisingTotal+MileageTotal is easier to understand than =AC10+AD10. Workbook users might prefer the linking formula =AdvertisingTotal, which uses a defined name, rather than =Advertising!B16. You may substitute a defined name for cell references in any formula. You may type the defined name or select it from the Use in Formula list on the Ribbon.

TIP

If the error message #NAME? displays in a cell, ensure that the spelling of the name is the same in the formula and Name list and that the name was not deleted from the list.

## Modifying and Deleting Defined Names

Use the Name Manager dialog box to view all defined names and edit their properties. You may add and delete names in Name Manager. Formula cells, however, display the error message #NAME?# after names have been deleted. You will need to edit the cell references in formulas that used any deleted name.

FROM THE RIBBON
Formulas→Defined Names→Name Manager

FROM THE KEYBOARD
Ctrl + F3

WARNING
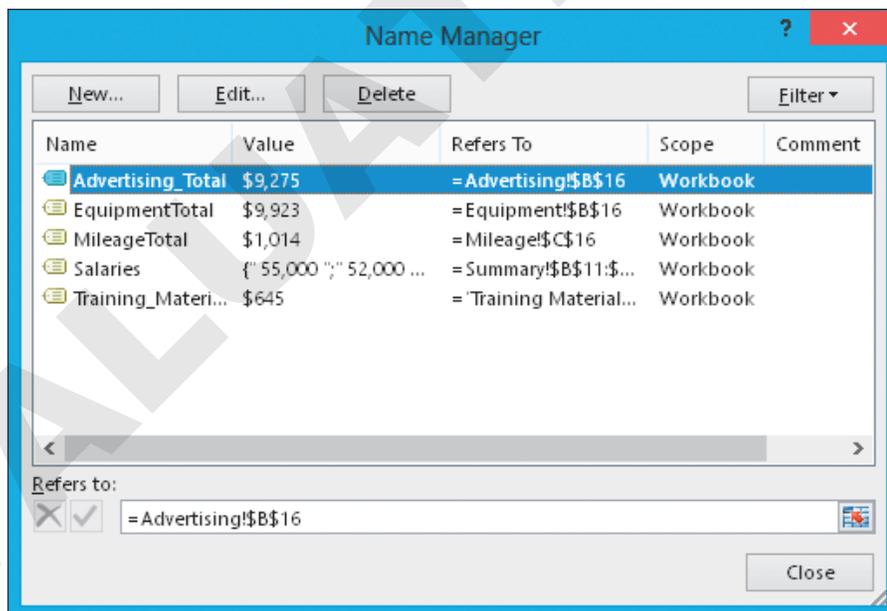
To change the Refers To entry, use the Collapse button and point mode to select cells. Do not use arrow keys to edit the entry, as Excel would insert cell references rather than move the insertion point.

Naming Cells and Ranges **EX07.21**

Excel 2013

QUICK REFERENCE	USING NAMED CELLS AND RANGES
Task	**Procedures**
Name Cells	■ Select the range of cells, type a name in the Name Box, and tap ⎡Enter⎤.
Create names from existing row or column titles	■ Select the labels and the cells to which they refer, and choose Formulas→Defined Names→Create from Selection. ■ Place a checkmark to indicate the location of the labels, and click OK.
Change a defined name	■ Choose Formulas→Defined Names→Name Manager, choose an existing name, click Edit, edit the name, click OK, and click Close.
Change the range to which a name refers	■ Choose Formulas→Defined Names→Name Manager, and choose an existing name. ■ Click the Collapse button next to Refers To, select the new range, and click the Expand button. ■ Click Close, and click Yes to confirm the change.
Delete a defined name	■ Choose Formulas→Defined Names→Name Manager, choose an existing name, click Delete, click OK, and click Close.
Navigate to a defined range	■ Choose the name from the Name list in the Formula Bar.
Use a defined name in a linking formula	■ Select the cell to contain the summary formula, choose Formulas→Defined Names→Use in Formula, choose the defined name, and tap ⎡Enter⎤.
Use one or more defined names in a calculation formula	■ Select the cell to contain the formula, and type the function beginning, such as =SUM(■ Choose Formulas→Defined Names→Use in Formula, choose the defined name, continue typing the formula and choose defined names as necessary, and tap ⎡Enter⎤.

Create and Use Defined Names

In this exercise, you will create names for single cells and then navigate to important areas of the workbook. You also will use defined names to create linking formulas.

1. Save your file as **EX07-D06-ISComp-[FirstInitialLastName]**.

2. Select **cell D25**.

3. Follow these steps to name the cell:

   Ⓐ Click in the **Name Box** at the left of the Formula Bar to select the D25 cell reference.

   ```
   D25        ▼    ⋮
   ```

   Ⓑ Type **Net_Income_Change** and tap ⎡Enter⎤.

You must tap ⎡Enter⎤ after typing the name. If you simply click outside the Name Box, the name will not be created.

4. Select any cell other than D25, and then select **cell D25** again.

   The Name Box displays Net_Income_Change.

   Net_Inco... ▼ ⋮ ✕

5. To view the entire name, drag the three dots between the Name Box and Formula Bar, if necessary.

6. Select **cell D27** and choose **Formulas→Defined Names→Define Name** 🔲.

7. In the New Name dialog box, type **Profit_Margin_Percentage** and click **OK**.

   Notice that the Scope option is set to Workbook. If you had multiple worksheets within this workbook, you could select the defined name from within any worksheet.

Use Names to Navigate and Create Formulas

You will now use defined names to create a "check" formula to confirm that the formulas in cells D25 and D27 are calculated properly.

8. Choose **Net_Income_Change** from the Name list in the Formula Bar to navigate to cell D25.

9. Navigate to **Profit_Margin_Percentage**.

10. Select **cell D30**, choose **Formulas→Defined Names→Use in Formula** 🔲, and choose the defined name **Net_Income_Change**.

11. Continue the formula by typing **/**.

12. Choose **Formulas→Defined Names→Use in Formula** 🔲.

13. Choose the defined name **Profit_Margin_Percentage** and confirm the formula.

    Since this "check" formula result is the same as the value in cell D8, you have confirmed that the formulas in cells D25 & D27 were calculated properly.

14. Save and then close the file. Exit **Excel**.

Concepts Review

To check your knowledge of the key concepts introduced in this lesson, complete the Concepts Review quiz by choosing the appropriate access option below.

If you are...	Then access the quiz by...
Using the Labyrinth Video Library	Going to http://labyrinthelab.com/videos
Using eLab	Logging in, choosing Content, and navigating to the Concepts Review quiz for this lesson
Not using the Labyrinth Video Library or eLab	Going to the student resource center for this book

Excel 2013

Concepts Review **EX07.23**

Reinforce Your Skills

REINFORCE YOUR SKILLS EX07-R01
Work with Dates, Cell Styles, and Themes

In this exercise, you will enter a date function that will calculate the current date for you. You will apply cell styles to worksheet cells and change the fonts in the workbook theme.

Work with the Format Painter and Quick Styles

1. Start **Excel**. Open **EX07-R01-BudgetDate** from the **EX2013 Lesson 07** folder and save it as **EX07-R01-BudgetDate-[FirstInitialLastName]**.

2. Select **cell B24**.

3. Choose **Home→Clipboard→Format Painter** and highlight the **range B25:C25** to apply consistent formatting to it.

4. Select **cell C4** and choose **Home→Styles→Cell Styles**.

5. Choose an appropriate **Quick Style** from the list to draw attention to the balance.

6. Select **cells A7, A15, and A25** using the [Ctrl] key.

7. Choose **Home→Styles→Cell Styles** and choose an appropriate themed cell style.

Format with Themes

8. Choose **Page Layout→Themes→Theme Fonts** [A Fonts ▾].

9. Point at various font themes to preview the workbook; choose a font theme.
   Remember that you can scroll to view all the font themes.

10. Evaluate how the data appear and change the font theme, if necessary, until you are satisfied.
    Your goal is to identify a font theme that is suitable for the worksheet data and easily comprehensible by the user.

11. Add any formatting that you think enhances the workbook design.

Insert Date Functions and Formatting

12. Select **cell B4**.

13. Click the **Insert Function** [fx] button.

14. Choose the **Date & Time** category if you do not see the TODAY function in the Most Recently Used category.

15. Scroll down, select the **TODAY** function, and click **OK**.

16. Click **OK** in the Function Arguments window.
    The date will be returned in the default format.

17. Choose **Home→Number→dialog box launcher** [⊡].

18. Display the **Number** tab in the Format Cells dialog box. Scroll down if necessary, and choose the format that will display the date like 1-Jan-15.

Excel uses March 14, 2012, as its example date; however, the date that appears within the worksheet will be the one you have created.

19. Save and then close the file. Exit **Excel**.

20. Submit your final file based on the guidelines provided by your instructor.

To view examples of how your file or files should look at the end of this exercise, go to the student resource center.

REINFORCE YOUR SKILLS EX07-R02

Apply Conditional Formatting and Cell Names

In this exercise, you will apply conditional formatting to cell ranges to analyze trends. You will also create a custom number format and name cells.

Create Custom Formats

1. Start **Excel**. Open **EX07-R02-ShippingFee** from the **EX2013 Lesson 07** folder and save it as **EX07-R02-ShippingFee-[FirstInitialLastName]**.

2. Select **cell C21** and choose **Home→Number→dialog box launcher** 🔲.

Notice that the contents of the range C21:D21 has been merged and centered.

3. Select the **Custom** category and choose **m/d/yyyy h:mm** as the format.

4. In the type box, edit the format to **m/d/yy h:mm AM/PM**; click **OK**.

In addition to the date, cell C21 now shows the time and AM or PM as well.

Work with Conditional Formatting

5. Select the **range B4:B18**.

6. Choose **Home→Styles→ Conditional Formatting→ Highlight Cells Rules→A Date Occurring**.

The A Date Occurring dialog box appears with the Yesterday option displayed.

7. Choose in **In the Last 7 Days** from the date list and choose **Green Fill with Dark Green Text** from the **With** list; click **OK**.

The last four dates are highlighted in column B of the worksheet.
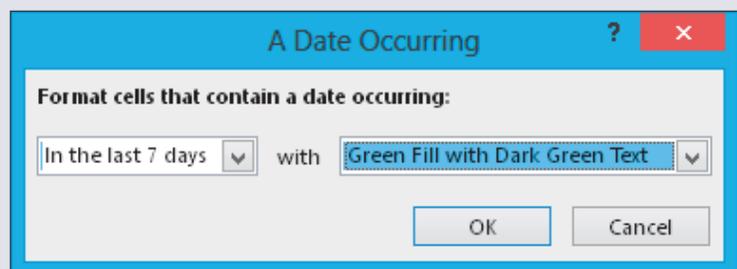
8. Select the **range E4:E18**.

9. Choose **Home→Styles→ Conditional Formatting→Color Scales→Green-White Color Scale**.

   The darkest green highlights the highest value, while the shades become lighter as the values decrease.
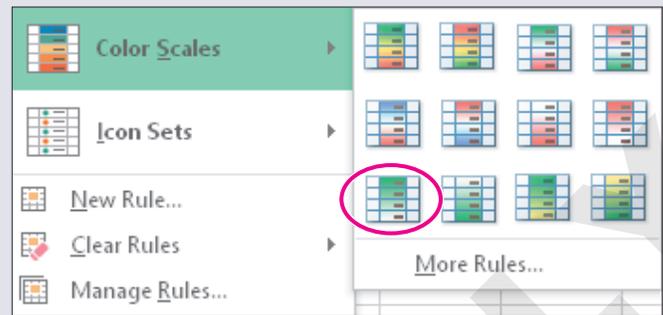
10. Select the **range C4:C18**.

11. Choose **Home→Styles→Conditional Formatting→Highlight Cells Rules→Text that Contains**.

12. Type **11** in the **Format Cells that Contain the Text** box and choose **Yellow Fill with Dark Yellow Text** from the **With** list; click **OK**.

    Next you will delete a conditional formatting rule.

13. Choose **Home→Styles→Conditional Formatting→Manage Rules**.

14. Choose to show formatting rules for **This Worksheet** and select the rule that displays yellow fill.

15. Click the **Delete Rule** button and click **OK**.
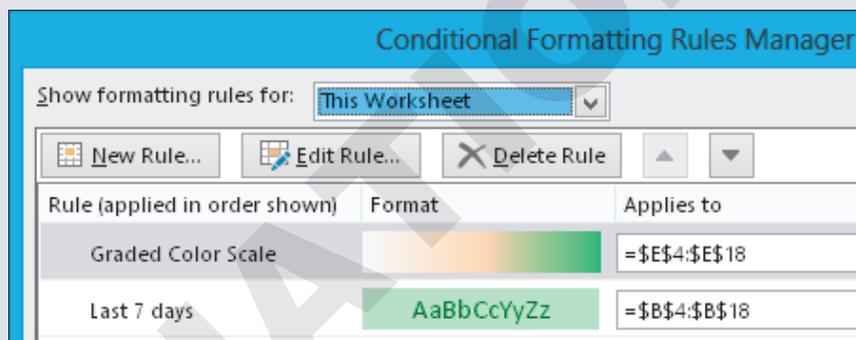
Now only these two conditional formatting rules remain in effect for the worksheet.

Name Cells and Ranges

16. Select **cell D19**.

17. Highlight **cell D19** in the Name Box, type **EstimatedTotal**, and tap Enter .

18. Follow the same steps to name **cell E19 ActualTotal**.

19. Select **cell F19**, type **=EstimatedTotal-ActualTotal**; confirm the formula.

    You have now calculated the total difference for all orders by using cell names within the formula.

20. Save and then close the file. Exit **Excel**.

21. Submit your final file based on the guidelines provided by your instructor.

    To view examples of how your file or files should look at the end of this exercise, go to the student resource center.

Apply Appropriate Formats

In this exercise, you will enter a date function that will calculate the current date. You will also apply cell styles to worksheet cells and change the fonts in the workbook theme.

Work with the Format Painter and Quick Styles

1. Start **Excel**. Open **EX07-R03-NonProfit** from the **EX2013 Lesson 07** folder and save it as **EX07-R03-NonProfit-[FirstInitialLastName]**.

2. Select **cell A4** and choose **Home→Clipboard→Format Painter** .

3. Select the **range B4:C4**, to which you will apply the formatting.

4. Select **cell A1**, choose **Home→Styles→Cell Styles**, and choose **Heading 1**.

Format with Themes

5. Choose **Page Layout→Themes→Theme Fonts** A Fonts .

6. Select the **Arial** theme.

Insert Date Functions and Formatting

7. Select **cell A12**, type **=NOW()**, and confirm your formula.

8. With **cell A12** selected, choose **Home→Number→Number Format ▼ menu→Long Date**.

   You decide that you do not like the appearance of the Long Date, so you will now create a custom date format.

Create Custom Formats

9. With **cell A12** highlighted, choose **Home→Number→dialog box launcher** .

10. Select the **Custom** category and choose **d-mmm** as the format.

11. In the Type box, edit the format to **d-mmm h:mm** and click **OK**.

Work with Conditional Formatting

12. Select the **range C5:C9**.

13. Choose **Home→Styles→Conditional Formatting→Color Scales→Red – White Color Scale**.

    This formatting applies the darkest shade of red to the highest rating, with progressively lighter shades applying to the ratings as they decrease.

14. With the **range C5:C9** selected, choose **Home→Styles→Conditional Formatting→Icon Sets > Three Traffic Lights (Unrimmed)**.

    Just like the color bars, the traffic light icons help to identify the magnitude of each rating.

15. With the **range C5:C9** selected, choose **Home→Styles→Conditional Formatting→Manage Rules**.

16. Select the **Icon Set** rule, choose **Delete Rule**, and click **OK**.

    Since the two rules accomplish the same goal, there is no need to display both.

Reinforce Your Skills **EX07.27**

Name Cells and Ranges

17. Select **cell C5**.

18. Highlight **cell C5** in the Name Box, type **FamilySupporters**, and tap ⎡Enter⎤.

19. Repeat **steps 17–18** to similarly name each cell in the **range C6:C9**.

Remember that the apostrophe in Children's Assist *cannot be used within a defined name.*

20. Right-click the **row 10** heading and choose **Insert**.

21. Type **Average Rating** in **cell A10** and **=Average(** in **cell C10**.

22. Select **cell C5**.

The defined name for cell C5 is entered into the formula.

23. Complete the formula by selecting each cell in the **range C6:C9**, using a comma to separate each cell reference.

The defined names continue to display, making it easier to identify the components of the formula.

24. Save and then close the file. Exit **Excel**.

25. Submit your final file based on the guidelines provided by your instructor.

Apply Your Skills

Use the Format Painter, Themes, and Date Functions

In this exercise, you will use the Format Painter, apply themes to a worksheet, and insert the date using a date function.

Work with the Format Painter, Quick Styles, and Themes

1. Start **Excel**. Open **EX07-A01-RetailInventory** from the **EX2013 Lesson 07** folder and save it as **EX07-A01-RetailInventory-[FirstInitialLastName]**.

2. Select **cell B4** and apply the **Currency** cell style.

3. Use the **Format Painter** to apply the formatting from **cell A3** to the **range B3:C3**, and from **cell B4** to the **range B5:B8**.

4. Apply the **Mesh** theme to the workbook.
   Apply a theme of your choice if Mesh is not available.

5. Modify the workbook's theme font to **Corbel**.

Insert Date Functions and Formatting

6. Use a function to enter the current date in **cell A12**.

7. Format the entry in **cell A12** to display the current time in addition to the date.

8. Save and then close the file. Exit **Excel**.

9. Submit your final file based on the guidelines provided by your instructor.
   To view examples of how your file or files should look at the end of this exercise, go to the student resource center.

Add Conditional Formatting and Navigate with Cell Names

In this exercise, you will apply a conditional formatting rule to highlight low quantities of products in inventory. You will also navigate the worksheet using cell names.

Create Custom Formats and Work with Conditional Formatting

1. Start **Excel**. Open **EX07-A02-InternetInv** from the **EX2013 Lesson 07** folder and save it as **EX07-A02-InternetInv-[FirstInitialLastName]**.

2. Create a custom format for the date in **cell A12** so the time includes seconds.

   Within the type box, seconds are represented by ss.

3. Create a conditional formatting rule that highlights values below 200 in **column C**.

   Be sure not to apply the conditional formatting to the total row.

4. Create a conditional formatting rule that highlights values above 200 in **column C**.

   Be careful to apply a different highlight color. The second conditional format is not informative, so you decide to remove it.

5. Remove the conditional formatting rule you created in **step 4**.

Name Cells and Ranges

6. Ensure that the **range C4:C8** is still highlighted.

   Note in the name box that this range has already been named InternetQuantity.

7. Sum the product quantities in **cell C9** using this range name.

8. Create an appropriate defined name for **cell C9**.

9. Save and then close the file. Exit **Excel**.

10. Submit your final file based on the guidelines provided by your instructor.

    To view examples of how your file or files should look at the end of this exercise, go to the student resource center.

APPLY YOUR SKILLS EX07-A03
Format a Worksheet

In this exercise, you will use a variety of techniques to format a customer ratings worksheet.

Work with the Format Painter, Quick Styles, and Themes

1. Start **Excel**. Open **EX07-A03-CustomerRatings** from the **EX2013 Lesson 07** folder and save it as **EX07-A03-CustomerRatings-[FirstInitialLastName]**.

2. Use the **Format Painter** to apply formatting from **cell A4** to the **range B4:E4**.

3. Apply the **Title** cell style to **cell A1**.

4. Apply the **Facet** theme to the workbook.

5. Modify the theme color of the workbook to **Red Violet**.

Insert Date Functions and Formatting, and Create Custom Formats

6. Use the **Now** function to enter the date and time in **cell A12**.

7. Create a custom format for the dates in the **range B5:B9** to be consistent with Jan-01-2014.

Work with Conditional Formatting, and Name Cells and Ranges

8. Insert red data bars for all staff ratings.

9. Create a conditional formatting rule that highlights overall ratings greater than 3 with **Green Fill with Dark Green Text**.

10. Name the **range D5:D9** as **Staff_Ratings** and the **range E5:E9** as **Overall_ Ratings**.

11. Write formulas in **cells D12 and E12**, using the range names you created, to show the average ratings.

12. Save and then close the file. Exit **Excel**.

13. Submit your final file based on the guidelines provided by your instructor.

Extend Your Skills

In the course of working through the Extend Your Skills exercises, you will think critically as you use the skills taught in the lesson to complete the assigned projects. To evaluate your mastery and completion of the exercises, your instructor may use a rubric, with which more points are allotted according to performance characteristics. (The more you do, the more you earn!) Ask your instructor how your work will be evaluated.

EX07-E01 That's the Way I See It

In this exercise, you will create a worksheet listing your ten favorite musical artists. For each artist, list their musical genre, your favorite song by the artist, the most recent album, and the number of songs of each that you own. You can use the Internet to search for information as necessary.

Save your file as **EX07-E01-MusicalArtists-[FirstInitialLastName]** in the **EX2013 Lesson 07** folder.

Create appropriate headers and column titles within the worksheet. Use the Format Painter to apply formats throughout, enter the necessary data, and use conditional formatting to identify the three artists whose songs appear most in your music library. Apply the theme of your choice. Use a function to display the current date at the top of the worksheet, and for each artist use a function to display the date on which their most recent album was released. Then, create formulas that calculate the number of days since the release of each artist's most recent album.

You will be evaluated based on the inclusion of all elements specified, your ability to follow directions, your ability to apply newly learned skills to a real-world situation, your creativity, and the relevance of your topic and/or data choice(s). Submit your final file based on the guidelines provided by your instructor.

EX07-E02 Be Your Own Boss

In this exercise, you will format a worksheet listing all landscape architects used by your company, Blue Jean Landscaping, and their associated customer ratings.

Open **EX07-E02-Landscape** from the **EX2013 Lesson 07** folder and it save as **EX07-E02-Landscape-[FirstInitialLastName]**.

Apply appropriate formatting within the worksheet and use the Format Painter to copy it throughout. Use conditional formatting to highlight the contractor with the highest customer ratings and apply cell names to each cell containing a rating. Lastly, use a function to insert a custom date below all worksheet data that displays the date and time of worksheet completion, along with either "AM" or "PM."

You will be evaluated based on the inclusion of all elements specified, your ability to follow directions, your ability to apply newly learned skills to a real-world situation, your creativity, and your demonstration of an entrepreneurial spirit. Submit your final file based on the guidelines provided by your instructor.

Transfer Your Skills

In the course of working through the Transfer Your Skills exercises, you will use critical-thinking and creativity skills to complete the assigned projects using skills taught in the lesson. To evaluate your mastery and completion of the exercises, your instructor may use a rubric, with which more points are allotted according to performance characteristics. (The more you do, the more you earn!) Ask your instructor how your work will be evaluated.

EX07-T01 Use the Web as a Learning Tool

Throughout this book, you will be provided with an opportunity to use the Internet as a learning tool by completing WebQuests. According to the original creators of WebQuests, as described on their website (WebQuest.org), a WebQuest is "an inquiry-oriented activity in which most or all of the information used by learners is drawn from the web." To complete the WebQuest projects in this book, navigate to the student resource center and choose the WebQuest for the lesson on which you are currently working. The subject of each WebQuest will be relevant to the material found in the lesson.

WebQuest Subject: Effective application of conditional formatting

Submit your file(s) based on the guidelines provided by your instructor.

EX07-T02 Demonstrate Proficiency

You have created an information card that will be given to all customers at Stormy BBQ. You will be collecting customer information so you can maintain a customer list and use it to contact customers with promotional offers.

Open **EX07-T02-CustInfo** from the **EX2013 Lesson 07** folder and save it as **EX07-T02-CustInfo-[FirstInitialLastName]**.

Use the Format Painter to apply the existing formats throughout the worksheet. Ensure that the headers in rows 1 and 2 are consistent, and that the titles in row 4 are consistent. Enter the information for five of your friends in rows 5–9 and apply the formatting from row 5 throughout. Apply a theme of your choice to the worksheet and create a defined name for the range of data in rows 5–9. Lastly, insert a "created on" date (with appropriate label) that displays both the date and time of completion below all worksheet data. Write a paragraph (minimum of three sentences) below the data that details a new promotional offer that you plan to initiate utilizing the customer data collected.

Submit your final file based on the guidelines provided by your instructor.