Microsoft

MOS 2013 Study Guide

Joan Lambert

EXAM 77-420

Microsoft Excel

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Introduction

The Microsoft Office Specialist (MOS) certification program has been designed to validate your knowledge of and ability to use programs in the Microsoft Office 2013 suite of programs, Microsoft Office 365, and Microsoft SharePoint. This book has been designed to guide you in studying the types of tasks you are likely to be required to demonstrate in Exam 77-420: Microsoft Excel 2013.

See Also For information about the tasks you are likely to be required to demonstrate in Exams 77-427 and 77-428: Microsoft Excel 2013 Expert, see *MOS 2013 Study Guide for Microsoft Excel Expert* by Mark Dodge (Microsoft Press, 2013).

Who this book is for

MOS 2013 Study Guide for Microsoft Excel is designed for experienced computer users seeking Microsoft Office Specialist certification in Excel 2013.

MOS exams for individual programs are practical rather than theoretical. You must demonstrate that you can complete certain tasks or projects rather than simply answering questions about program features. The successful MOS certification candidate will have at least six months of experience using all aspects of the application on a regular basis; for example, using Excel at work or school to create and manage workbooks and worksheets, modify and format cell content, present data in tables and charts, perform calculations on data, and insert and format objects in a worksheet.

As a certification candidate, you probably have a lot of experience with the program you want to become certified in. Many of the procedures described in this book will be familiar to you; others might not be. Read through each study section and ensure that you are familiar with not only the procedures included in the section, but also the concepts and tools discussed in the review information. In some cases, graphics depict the tools you will use to perform procedures related to the skill set. Study the graphics and ensure that you are familiar with all the options available for each tool.

How this book is organized

The exam coverage is divided into chapters representing broad skill sets that correlate to the functional groups covered by the exam, and each chapter is divided into sections addressing groups of related skills that correlate to the exam objectives. Each section includes review information, generic procedures, and practice tasks you can complete on your own while studying. When necessary, we provide practice files you can use to work through the practice tasks. You can practice the procedures in this book by using the practice files supplied or by using your own files.

Throughout this book, you will find Strategy tips that present information about the scope of study that is necessary to ensure that you achieve mastery of a skill set and are successful in your certification effort.

Download the practice files

Before you can complete the practice tasks in this book, you need to download the book's practice files to your computer. These practice files can be downloaded from the following page:

http://aka.ms/mosExcel2013/files

Important The Excel 2013 program is not available from this website. You should purchase and install that program before using this book.

If you would like to be able to refer to the completed versions of practice files at a later time, you can save the practice files that you modify while working through the exercises in this book. If you save your changes and later want to repeat the exercise, you can download the original practice files again. The following table lists the practice files for this book.

Folder and chapter	Files
MOSExcel2013\Objective1 1 Create and manage workbooks and worksheets	*Excel_1-1.xlsx* *Excel_1-2a.xlsx* *Excel_1-2b.xlsx* *Excel_1-3a.xlsx* *Excel_1-3b.xlsx* *Excel_1-3c.xlsx* *Excel_1-3d.xlsx*

Folder and chapter	Files
MOSExcel2013\Objective1 *(continued)*	*Excel_1-4a.xlsx*
1 Create and manage workbooks and worksheets	*Excel_1-4b.xlsx*
	Excel_1-4c.xlsx
	Excel_1-5a.xlsx
	Excel_1-5b.xlsm
MOSExcel2013\Objective2	*Excel_2-1a.xlsx*
2 Manage cells and ranges	*Excel_2-1b.xlsx*
	Excel_2-1c.xlsx
	Excel_2-1d.xlsx
	Excel_2-2a.xlsx
	Excel_2-2b.xlsx
	Excel_2-3a.xlsx
	Excel_2-3b.xlsx
	Excel_2-3c.xlsx
	Excel_2-3d.xlsx
	Excel_2-3e.xlsx
MOSExcel2013\Objective3	*Excel_3-1.xlsx*
3 Manage tables	*Excel_3-2.xlsx*
	Excel_3-3a.xlsx
	Excel_3-3b.xlsx
MOSExcel2013\Objective4	*Excel_4-1a.xlsx*
4 Apply formulas and functions	*Excel_4-1b.xlsx*
	Excel_4-1c.xlsx
	Excel_4-2a.xlsx
	Excel_4-2b.xlsx
	Excel_4-3.xlsx
	Excel_4-4.xlsx
MOSExcel2013\Objective5	*Excel_5-1a.xlsx*
5 Create charts and objects	*Excel_5-1b.xlsx*
	Excel_5-1c.xlsx
	Excel_5-2a.xlsx
	Excel_5-2b.xlsx
	Excel_5-2c.xlsx
	Excel_5-3a.xlsx
	Excel_5-3b.png
	Excel_5-3c.txt
	Excel_5-3d.jpg

Adapting exercise steps

The screen images shown in this book were captured at a screen resolution of 1024 × 768, at 100 percent magnification. If your settings are different, the ribbon on your screen might not look the same as the one shown in this book. For example, you might have more or fewer buttons in each of the groups, the buttons you have might be represented by larger or smaller icons than those shown, or the group might be represented by a button that you click to display the group's commands. As a result, exercise instructions that involve the ribbon might require a little adaptation. Our instructions use this format:

➜ On the **Insert** tab, in the **Illustrations** group, click the **Chart** button.

If the command is in a list or on a menu, our instructions use this format:

➜ On the **Home** tab, in the **Editing** group, click the **Find** arrow and then, on the **Find** menu, click **Advanced Find**.

Tip On subsequent instances of instructions located on the same tab or in the same group, the instructions are simplified to reflect that we've already established the working location.

If differences between your display settings and ours cause a button to appear differently on your screen than it does in this book, you can easily adapt the steps to locate the command. First click the specified tab, and then locate the specified group. If a group has been collapsed into a group list or under a group button, click the list or button to display the group's commands. If you can't immediately identify the button you want, point to likely candidates to display their names in ScreenTips.

If you prefer not to have to adapt the steps, set up your screen to match ours while you read and work through the exercises in this book.

In this book, we provide instructions based on the traditional keyboard and mouse input methods. If you're using the program on a touch-enabled device, you might be giving commands by tapping with a stylus or your finger. If so, substitute a tapping action any time we instruct you to click a user interface element. Also note that when we tell you to enter information, you can do so by typing on a keyboard, tapping an on-screen keyboard, or even speaking aloud, depending on your computer setup and your personal preferences.

Get support and give feedback

The following sections provide information about getting help with this book and contacting us to provide feedback or report errors.

Errata

We've made every effort to ensure the accuracy of this book and its companion content. Any errors that have been reported since this book was published are listed on our Microsoft Press site:

http://aka.ms/mosExcel2013/errata

If you find an error that is not already listed, you can report it to us through the same page.

If you need additional support, send an email message to Microsoft Press Book Support at:

mspinput@microsoft.com

Please note that product support for Microsoft software is not offered through the preceding addresses.

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At Microsoft Press, your satisfaction is our top priority, and your feedback our most valuable asset. Please tell us what you think of this book at:

http://www.microsoft.com/learning/booksurvey

The survey is short, and we read every one of your comments and ideas. Thanks in advance for your input!

Stay in touch

Let's keep the conversation going! We're on Twitter at:

http://twitter.com/MicrosoftPress

Taking a Microsoft Office Specialist exam

Desktop computing proficiency is increasingly important in today's business world. When screening, hiring, and training employees, employers can feel reassured by relying on the objectivity and consistency of technology certification to ensure the competence of their workforce. As an employee or job seeker, you can use technology certification to prove that you already have the skills you need to succeed, saving current and future employers the time and expense of training you.

Microsoft Office Specialist certification

Microsoft Office Specialist certification is designed to assist employees in validating their skills with Office programs. The following certification paths are available:

- A Microsoft Office Specialist (MOS) is an individual who has demonstrated proficiency by passing a certification exam in one or more Office programs, including Microsoft Word, Excel, PowerPoint, Outlook, Access, OneNote, or SharePoint.
- A Microsoft Office Specialist Expert (MOS Expert) is an individual who has taken his or her knowledge of Office to the next level and has demonstrated by passing a certification exam that he or she has mastered the more advanced features of Word or Excel.

Selecting a certification path

When deciding which certifications you would like to pursue, you should assess the following:

- The program and program version(s) with which you are familiar
- The length of time you have used the program and how frequently you use it
- Whether you have had formal or informal training in the use of that program
- Whether you use most or all of the available program features
- Whether you are considered a go-to resource by business associates, friends, and family members who have difficulty with the program

Candidates for MOS-level certification are expected to successfully complete a wide range of standard business tasks, such as formatting a document or worksheet and its content; creating and formatting visual content; or working with SharePoint lists, libraries, Web Parts, and dashboards. Successful candidates generally have six or more months of experience with the specific Office program, including either formal, instructor-led training or self-study using MOS-approved books, guides, or interactive computer-based materials.

Candidates for MOS Expert–level certification are expected to successfully complete more complex tasks that involve using the advanced functionality of the program. Successful candidates generally have at least six months, and might have several years, of experience with the programs, including formal, instructor-led training or self-study using MOS-approved materials.

Test-taking tips

Every MOS certification exam is developed from a set of exam skill standards (referred to as the objective domain) that are derived from studies of how the Office programs are used in the workplace. Because these skill standards dictate the scope of each exam, they provide critical information about how to prepare for certification. This book follows the structure of the published exam objectives; see “How this book is organized” in the Introduction for more information.

The MOS certification exams are performance based and require you to complete business-related tasks or projects in the program for which you are seeking certification. For example, you might be presented with a file and told to do something specific with it, or presented with a sample document and told to create it by using resources provided for that purpose. Your score on the exam reflects how well you perform the requested tasks or complete the project within the allotted time.

Here is some helpful information about taking the exam:

- Keep track of the time. Your exam time does not officially begin until after you finish reading the instructions provided at the beginning of the exam. During the exam, the amount of time remaining is shown at the bottom of the exam interface. You can’t pause the exam after you start it.
- Pace yourself. At the beginning of the exam, you will receive information about the questions or projects that are included in the exam. Some questions will require that you complete more than one task. Each project will require that you complete multiple tasks. During the exam, the amount of time remaining to complete the questions or project, and the number of completed and remaining questions if applicable, is shown at the bottom of the exam interface.

- Read the exam instructions carefully before beginning. Follow all the instructions provided completely and accurately.
- Enter requested information as it appears in the instructions, but without duplicating the formatting unless you are specifically instructed to do so. For example, the text and values you are asked to enter might appear in the instructions in bold and underlined text, but you should enter the information without applying these formats.
- Close all dialog boxes before proceeding to the next exam question unless you are specifically instructed not to do so.
- Don't close task panes before proceeding to the next exam question unless you are specifically instructed to do so.
- If you are asked to print a document, worksheet, chart, report, or slide, perform the task, but be aware that nothing will actually be printed.
- When performing tasks to complete a project-based exam, save your work frequently.
- Don't worry about extra keystrokes or mouse clicks. Your work is scored based on its result, not on the method you use to achieve that result (unless a specific method is indicated in the instructions).
- If a computer problem occurs during the exam (for example, if the exam does not respond or the mouse no longer functions) or if a power outage occurs, contact a testing center administrator immediately. The administrator will restart the computer and return the exam to the point where the interruption occurred, with your score intact.

Strategy **This book includes special tips for effectively studying for the Microsoft Office Specialist exams in Strategy paragraphs such as this one.**

Certification benefits

At the conclusion of the exam, you will receive a score report, indicating whether you passed the exam. If your score meets or exceeds the passing standard (the minimum required score), you will be contacted by email by the Microsoft Certification Program team. The email message you receive will include your Microsoft Certification ID and links to online resources, including the Microsoft Certified Professional site. On this site, you can download or order a printed certificate, create a virtual business card, order an ID card, view and share your certification transcript, access the Logo Builder, and access other useful and interesting resources, including special offers from Microsoft and affiliated companies.

Depending on the level of certification you achieve, you will qualify to display one of three logos on your business card and other personal promotional materials. These logos attest to the fact that you are proficient in the applications or cross-application skills necessary to achieve the certification.

Microsoft
Office Specialist

Microsoft
Office Specialist Expert

Microsoft
Office Specialist Master

Using the Logo Builder, you can create a personalized certification logo that includes the MOS logo and the specific programs in which you have achieved certification. If you achieve MOS certification in multiple programs, you can include multiple certifications in one logo.

For more information

To learn more about the Microsoft Office Specialist exams and related courseware, visit:

http://www.microsoft.com/learning/en/us/mos-certification.aspx

3

Manage tables

The skills tested in this section of the Microsoft Office Specialist exam for Microsoft Excel 2013 relate to creating tables. Specifically, the following objectives are associated with this set of skills:

3.1 Create tables
3.2 Modify tables
3.3 Filter and sort tables

Data stored in an Excel worksheet is organized in rows and columns of cells. Data in a contiguous range of cells is referred to as a *data range*. Similarly, an Excel table is a series of contiguous cells that have been formatted as a named Excel object that has functionality beyond that of a simple data range.

Some table functionality, such as the ability to sort and filter on columns, is also available for data ranges. Useful table functionality that is not available for data ranges includes the automatic application of formatting, the automatic copying of formulas, the ability to perform the following actions:

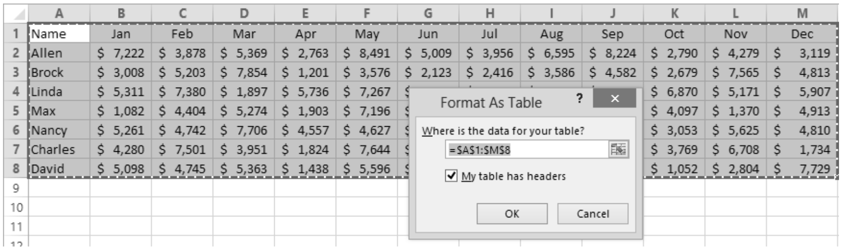
- Quickly insert column totals or other mathematical results
- Search for the named table object
- Expose the named table object in a web view
- Reference the table or any table field by name in a formula

This chapter guides you in studying methods for creating and modifying tables. It also covers how to filter and sort data that is stored in tables.

Practice Files **To complete the practice tasks in this chapter, you need the practice files contained in the MOSExcel2013\Objective3 practice file folder. For more information, see "Download the practice files" in this book's Introduction.**

3.1 Create tables

The simplest way to create a table is by converting an existing data range. When you do so, you can retain the existing formatting or apply thematic formatting. You can also create a blank table and then add data to it. (Adding data to a table is often referred to as *populating the table*).



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	Allen	$ 7,222	$ 3,878	$ 5,369	$ 2,763	$ 8,491	$ 5,009	$ 3,956	$ 6,595	$ 8,224	$ 2,790	$ 4,279	$ 3,119
3	Brock	$ 3,008	$ 5,203	$ 7,854	$ 1,201	$ 3,576	$ 2,123	$ 2,416	$ 3,586	$ 4,582	$ 2,679	$ 7,565	$ 4,813
4	Linda	$ 5,311	$ 7,380	$ 1,897	$ 5,736	$ 7,267	$				$ 6,870	$ 5,171	$ 5,907
5	Max	$ 1,082	$ 4,404	$ 5,274	$ 1,903	$ 7,196	$				$ 4,097	$ 1,370	$ 4,913
6	Nancy	$ 5,261	$ 4,742	$ 7,706	$ 4,557	$ 4,627	$				$ 3,053	$ 5,625	$ 4,810
7	Charles	$ 4,280	$ 7,501	$ 3,951	$ 1,824	$ 7,644	$				$ 3,769	$ 6,708	$ 1,734
8	David	$ 5,098	$ 4,745	$ 5,363	$ 1,438	$ 5,596	$				$ 1,052	$ 2,804	$ 7,729
9													
10													
11													

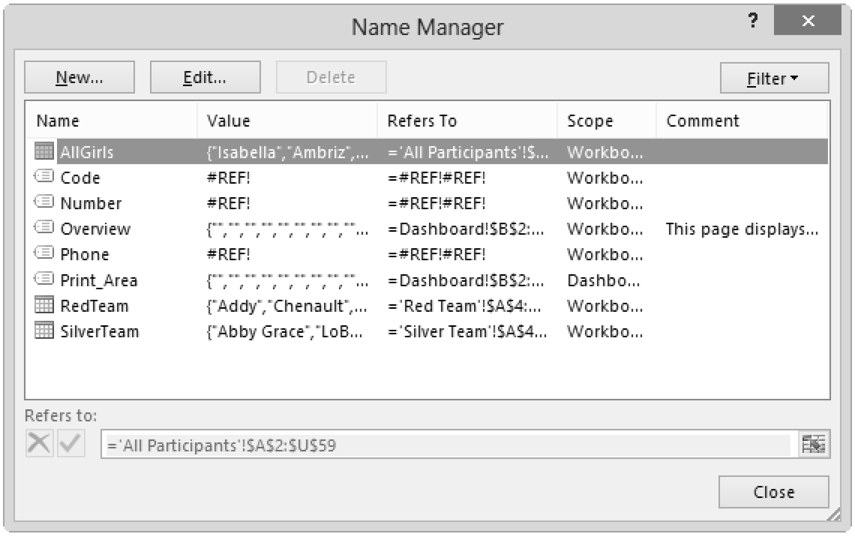
Format As Table

Where is the data for your table?

=$A$1:$M$8

☑ My table has headers

When you create a table, Excel evaluates the table content to identify the cells that are included in the table and define functional table elements (header rows and total rows) and formatting (emphasized columns and banding). Excel assigns a name to the table based on its order of creation in the workbook (*Table1*, *Table2*, and so on). You can change the table name to one that makes it more easily identifiable (such as *2014Sales*, *Students*, or *Products*). When you assign the name, you can also identify the scope whether you want to reference the table by that name in the entire workbook or only in the current worksheet.



Name Manager

Name	Value	Refers To	Scope	Comment
AllGirls	{"Isabella","Ambriz",...	='All Participants'!$...	Workbo...	
Code	#REF!	=#REF!#REF!	Workbo...	
Number	#REF!	=#REF!#REF!	Workbo...	
Overview	{"","","","","","","","","",""...	=Dashboard!$B$2:...	Workbo...	This page displays...
Phone	#REF!	=#REF!#REF!	Workbo...	
Print_Area	{"","","","","","","","","",""...	=Dashboard!$B$2:...	Dashbo...	
RedTeam	{"Addy","Chenault",...	='Red Team'!$A$4:...	Workbo...	
SilverTeam	{"Abby Grace","LoB...	='Silver Team'!$A$4...	Workbo...	

Refers to:

='All Participants'!$A$2:$U$59

Inserting, deleting, or moving rows or columns in the table automatically updates the table formatting to gracefully include the new content. For example, adding a column to the right end of a table extends the formatting to that column, and inserting a row in the middle of a table that has banded rows updates the banding. You can modify the table element selections at any time.

If you want to remove the table functionality from a table—for example, so you can work with the functionality that is available only for data ranges and not for tables—you can easily convert a table to text. Simply converting the table doesn't remove any table formatting from the table. You can retain the formatting or clear it.

> **See Also** For information about header rows, total rows, emphasized columns, and banding, see section 3.2, "Modify tables." For information about functionality that is specific to data ranges, see Chapter 2, "Manage cells and ranges."

➤ To convert a data range to an unformatted table

1. Click anywhere in the data range.
2. On the **Insert** tab, in the **Tables** group, click **Table**.
3. In the **Create Table** dialog box, do the following, and then click **OK**:
    - Verify that the correct data range is displayed in the dialog box (selected in the worksheet).
    - Verify that the **My table includes headers** check box is selected if the data range includes headers.

➤ To convert a data range to a formatted table

1. Click anywhere in the data range.
2. On the **Home** tab, in the **Styles** group, click **Format as Table**, and then click the formatting you want.
3. In the **Format As Table** dialog box, do the following, and then click **OK**:
    - Verify that the correct data range is displayed in the dialog box (selected in the worksheet).
    - Verify that the **My table includes headers** check box is selected if the data range includes headers.

➤ To change the name of a table

➜ Click any cell in the table. On the **Design** tool tab, in the **Properties** group, click the table name to select it, and then enter the name you want to assign to the table.

Or

1. Select the table by using one of the following methods:
    - At the left end of the formula bar, click the **Name** arrow, and then click the table name.
    - In the worksheet, drag to select all cells of the table.
2. In the **Name** box on the formula bar or in the **Properties** group on the **Design** tool tab, click the table name to select it. Then enter the name you want to assign to the table.

   Or

1. On the **Formulas** tab, in the **Defined Names** group, click **Name Manager**.
2. In the **Name Manager** window, click the table, and then click **Edit**.
3. In the **Edit Name** dialog box, select and replace the table name, and then click **OK**.

➤ **To insert table rows and columns**

- ➜ To add a column to the right end of a table, click in the cell to the right of the last header cell, enter a header for the new column, and then press **Enter**.
- ➜ To insert a single column within a table, click a cell to the left of which you want to add a column. On the **Home** tab, in the **Cells** group, click the **Insert** arrow, and then click **Insert Table Columns to the Left**.

  Or

  Select a table column to the left of which you want to insert a column, and then in the **Cells** group, click the **Insert** button.
- ➜ To add multiple columns within a table, select the number of columns that you want to insert, and then in the **Cells** group, click the **Insert** button.
- ➜ To add a row at the bottom of the table, click in any cell in the row below the last table row, enter the text for that table cell, and then press **Tab**.
- ➜ To add a row within the table, click a cell above which you want to add a row. On the **Home** tab, in the **Cells** group, click the **Insert** arrow, and then click **Insert Table Rows Above**.

  Or

  Select a table row above which you want to insert a column, and then in the **Cells** group, click the **Insert** button.
- ➜ To add multiple rows to a table, select the number of rows that you want to insert, and then in the **Cells** group, click the **Insert** button.

➤ To move rows within a table

1. Select the table row or rows you want to move, and then do one of the following to cut the selection to the Microsoft Office Clipboard:
   - Press **Ctrl+X**.
   - Right-click the selection, and then click **Cut**.
   - Click **Cut** in the **Clipboard** group on the **Home** tab.
2. Select the table row above which you want to move the cut row or rows.
3. On the **Home** tab, in the **Cells** group, click the **Insert** arrow, and then click **Insert Cut Cells**.

   Or

1. Select the worksheet row or rows containing the table row or rows you want to move, and then cut the selection to the Clipboard.
2. Select the worksheet row above which you want to move the cut row or rows.
3. On the **Home** tab, in the **Cells** group, click the **Insert** arrow, and then click **Insert Cut Cells**.

➤ To move columns within a table

➜ Point to the top edge of the column you want to move. When the cursor changes to a four-headed arrow, drag the column to the new location (indicated by a thick vertical insertion bar).

Or

1. Select the worksheet column or columns containing the table column or columns you want to move, and then cut the selection to the Clipboard.
2. Select the worksheet column to the left of which you want to move the cut column or columns.
3. On the **Home** tab, in the **Cells** group, click the **Insert** arrow, and then click **Insert Cut Cells**.

➤ To delete table rows and columns

➜ Select at least one cell in each row or column you want to delete. On the **Home** tab, in the **Cells** group, click the **Delete** arrow, and then click **Delete Table Rows** or **Delete Table Columns**.

➜ Right-click a cell in the row or column you want to delete, click **Delete**, and then click **Table Columns** or **Table Rows**.

➤ To convert a table to a data range

- ➜ Right-click the table, click **Table**, and then click **Convert to Range**.
- ➜ Click anywhere in the table. Then on the **Design** tool tab, in the **Tools** group, click **Convert to Range**, and then in the **Microsoft Excel** dialog box, click **Yes**.

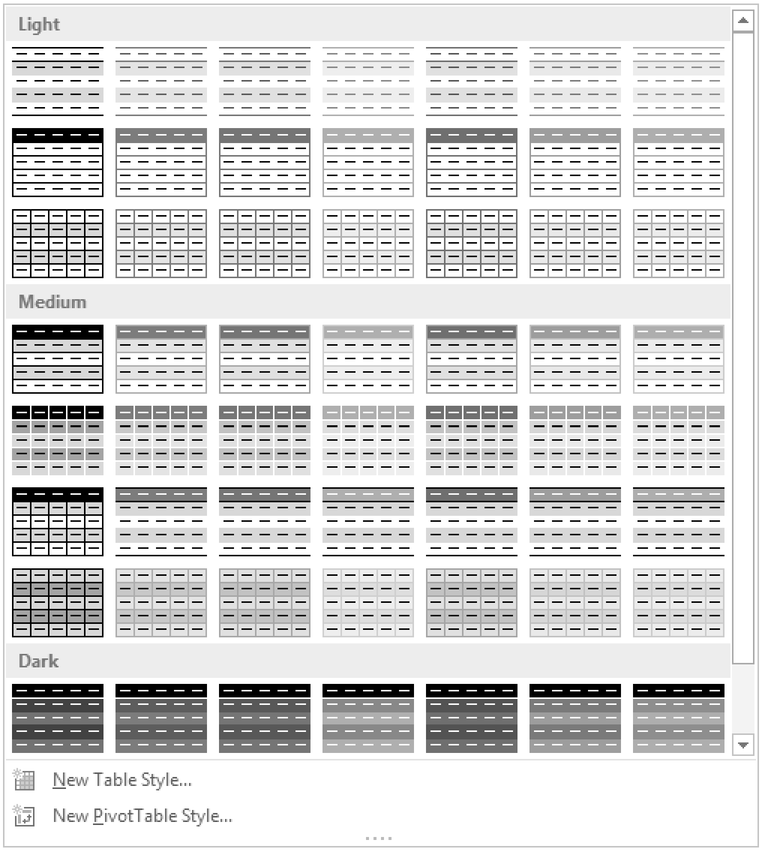
Practice tasks

The practice file for these tasks is located in the MOSExcel2013\Objective3 practice file folder. Save the results of the tasks in the same folder.

- Open the *Excel_3-1* workbook, and complete the following tasks on the Sales worksheet:
  - Convert the data range A2:M23 to a table that includes a header row. (Retain the existing formatting.)
  - Assign the name *Toys2013* to the table.
  - Move the *July* column so that it is between the *June* and *August* columns.
  - Move the *Linda*, *Max*, and *Nancy* rows at one time so that they are between the *Kay* and *Olivia* rows.
  - Add a row to the table for a salesperson named *Raina*, between the *Quentin* and *Steve* rows.
  - Add a row to the end of the table for a salesperson named *William*.
  - Add a column named *December* to the right end of the table.

3.2 Modify tables

When you create a table, you can apply a combination of formatting elements called a *table style*. The table style includes fonts, borders, and fills that are coordinated to provide a professional appearance. The available table styles are based on the worksheet theme colors. You can change the table style by choosing another from the Table Styles gallery.



Tip If you want to create the table and apply a specific table style at the same time, select the range containing the data, click Format As Table in the Styles group on the Home tab, and then click a style.

The table style governs the appearance of standard cells, special elements, and functional table elements, including the following:

- **Header row** These cells across the top of the table are formatted to contrast with the table content, require an entry, and look like column titles, but are also used to reference fields in formulas.
- **Total row** These cells across the bottom of the table are formatted to contrast with the table content. They do not require an entry, but clicking in any cell displays a list of functions for processing the numeric contents of the table column. These include Average, Count, Count Numbers, Max, Min, Sum, StdDev, and Var, and a link to the Insert Function dialog box from which any function can be inserted in the cell.

Table element formatting is designed to make table entries or fields easier to differentiate, and include an emphasized first column, emphasized last column, banded rows, and banded columns.

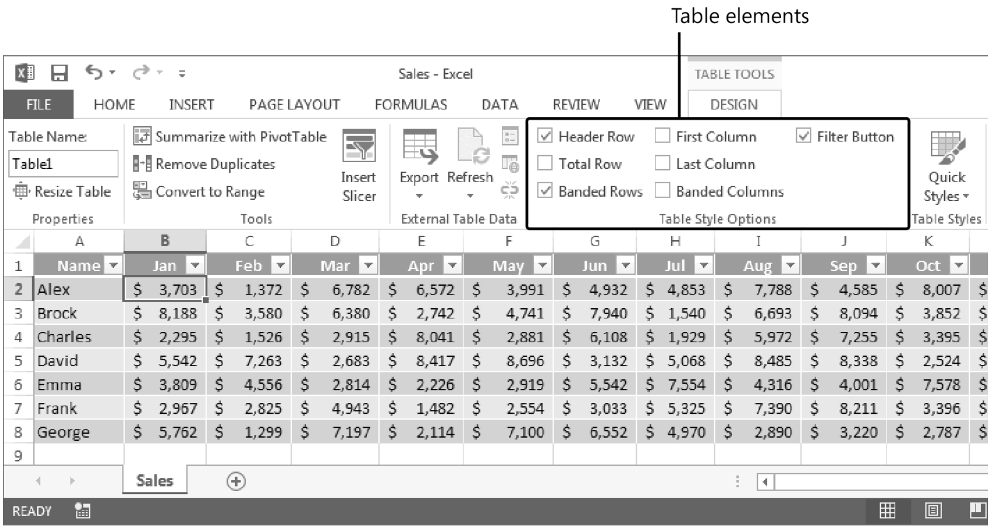


Table elements

Sales - Excel
TABLE TOOLS
FILE
HOME
INSERT
PAGE LAYOUT
FORMULAS
DATA
REVIEW
VIEW
DESIGN
Summarize with PivotTable
Remove Duplicates
Convert to Range
Insert Slicer
Export
Refresh
Properties
Tools
External Table Data
Table Style Options
Quick Styles
Table Styles
Sales
READY

Table Name: Table1

☑ Header Row ☐ First Column ☑ Filter Button
☐ Total Row ☐ Last Column
☑ Banded Rows ☐ Banded Columns

	A	B	C	D	E	F	G	H	I	J	K
1	Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
2	Alex	$ 3,703	$ 1,372	$ 6,782	$ 6,572	$ 3,991	$ 4,932	$ 4,853	$ 7,788	$ 4,585	$ 8,007
3	Brock	$ 8,188	$ 3,580	$ 6,380	$ 2,742	$ 4,741	$ 7,940	$ 1,540	$ 6,693	$ 8,094	$ 3,852
4	Charles	$ 2,295	$ 1,526	$ 2,915	$ 8,041	$ 2,881	$ 6,108	$ 1,929	$ 5,972	$ 7,255	$ 3,395
5	David	$ 5,542	$ 7,263	$ 2,683	$ 8,417	$ 8,696	$ 3,132	$ 5,068	$ 8,485	$ 8,338	$ 2,524
6	Emma	$ 3,809	$ 4,556	$ 2,814	$ 2,226	$ 2,919	$ 5,542	$ 7,554	$ 4,316	$ 4,001	$ 7,578
7	Frank	$ 2,967	$ 2,825	$ 4,943	$ 1,482	$ 2,554	$ 3,033	$ 5,325	$ 7,390	$ 8,211	$ 3,396
8	George	$ 5,762	$ 1,299	$ 7,197	$ 2,114	$ 7,100	$ 6,552	$ 4,970	$ 2,890	$ 3,220	$ 2,787
9											

➤ To apply a table style to a selected table

1. On the **Design** tool tab, in the **Table Styles** group, click the **More** button (if your screen resolution allows for partial display of the **Table Styles** gallery), or click the **Quick Styles** button.
2. In the **Table Styles** gallery, click the style you want.

➤ To modify functional table elements

➜ On the **Design** tool tab, in the **Table Style Options** group, select or clear the **Header Row**, **Total Row**, or **Filter Button** check boxes.

➤ To apply contrasting formatting to specific table elements

➜ On the **Design** tool tab, in the **Table Style Options** group, select the **Banded Rows**, **First Column**, **Last Column**, or **Banded Columns** check box.

➤ To clear formatting from a table

➜ Select any cell in the table. Then on the **Design** tool tab, on the **Table Styles** menu, click **Clear**.

➤ To clear formatting from a data range

➜ Select the entire data range. On the **Home** tab, in the **Editing** group, click **Clear**, and then click **Clear Formats**.

Practice tasks

The practice file for these tasks is located in the MOSExcel2013\Objective3 practice file folder. Save the results of the tasks in the same folder.

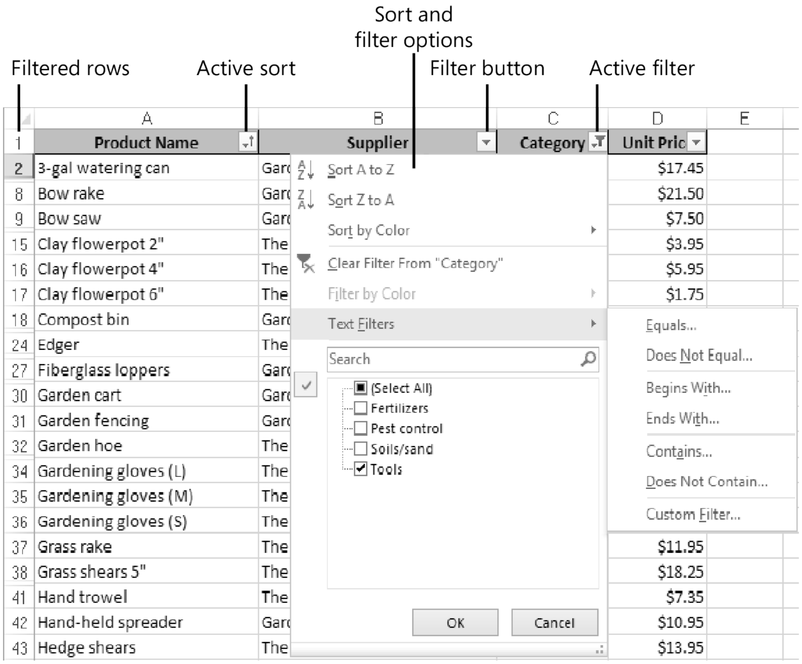
- Open the *Excel_3-2* workbook, and complete the following tasks on the Sales worksheet:
  - Change the table style to a Medium table style of your choice, and then apply banded rows.
  - Configure the table style options to emphasize the first and last columns of the table.
  - Add a total row to the table and change the row name to *Average*. Remove the total from the Year column. For each month, insert the average sales for that month in the row.
- On the Bonuses worksheet, remove the formatting from the ToyBonus table.

3.3 Filter and sort tables

You can easily sort and filter content in an Excel table by using the filter buttons located at the top of each column. If you prefer to hide the filter button, you can do so.

You can sort the values in one or more columns in a worksheet or table in either ascending or descending order. To sort on multiple columns, you specify in the Sort dialog box the order in which you want them to be sorted.

By default, Excel assumes that the first row in the worksheet contains column headings and does not include it in the sort. It also assumes that you want to sort by the values in the table cells. Standard sort orders are from A to Z for text, from smallest to largest for numbers, and from oldest to newest for dates. You can optionally sort by other features of the data range, including cell color, font color, and cell icon. These options are particularly useful in conjunction with conditional formatting.


Sort and filter options
Filtered rows
Active sort
Filter button
Active filter
A
B
C
D
E
Sort A to Z
Sort Z to A
Sort by Color
Clear Filter From "Category"
Filter by Color
Text Filters
Search
(Select All)
Fertilizers
Pest control
Soils/sand
Tools
OK
Cancel
Equals...
Does Not Equal...
Begins With...
Ends With...
Contains...
Does Not Contain...
Custom Filter...

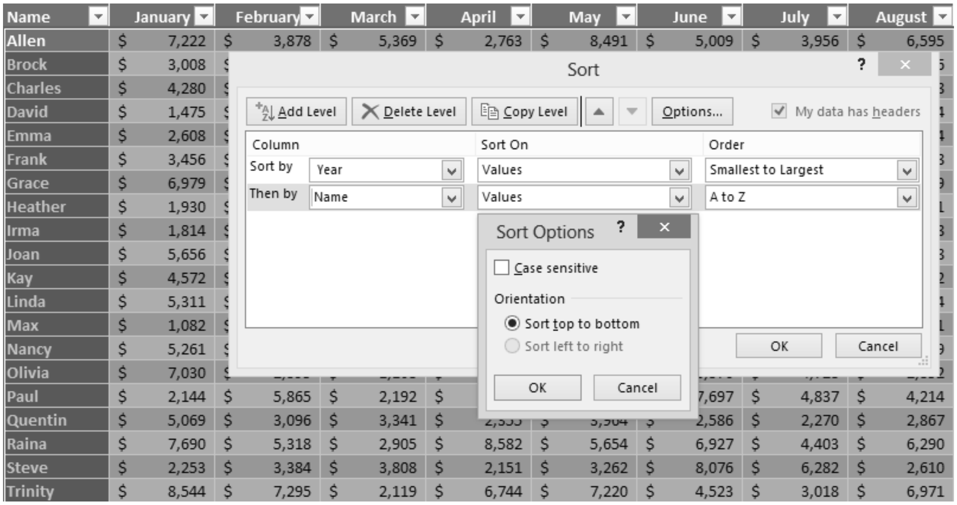
1	Product Name	Supplier	Category	Unit Pric
2	3-gal watering can	Garc		$17.45
8	Bow rake	Garc		$21.50
9	Bow saw	Garc		$7.50
15	Clay flowerpot 2"	The		$3.95
16	Clay flowerpot 4"	The		$5.95
17	Clay flowerpot 6"	The		$1.75
18	Compost bin	Garc		
24	Edger	The		
27	Fiberglass loppers	Garc		
30	Garden cart	Garc		
31	Garden fencing	Garc		
32	Garden hoe	The		
34	Gardening gloves (L)	The		
35	Gardening gloves (M)	The		
36	Gardening gloves (S)	The		
37	Grass rake	The		$11.95
38	Grass shears 5"	The		$18.25
41	Hand trowel	The		$7.35
42	Hand-held spreader	Garc		$10.95
43	Hedge shears	The		$13.95

☑ Tools

You can also specify whether entries starting with uppercase and lowercase letters should be sorted separately and the orientation of the sort (whether you want to sort columns or rows).

> **Tip** You can sort a table by the content of hidden columns within that table.

You can sort a data range, but not a table, by rows rather than columns by selecting the Sort Left To Right option. This option is available only when the data range you're sorting contains data that could be sorted in either direction. To successfully sort data from left to right, select a data range that includes only data, and not headers.



☑ My data has headers

Column		Sort On	Order
Sort by	Year	Values	Smallest to Largest
Then by	Name	Values	A to Z

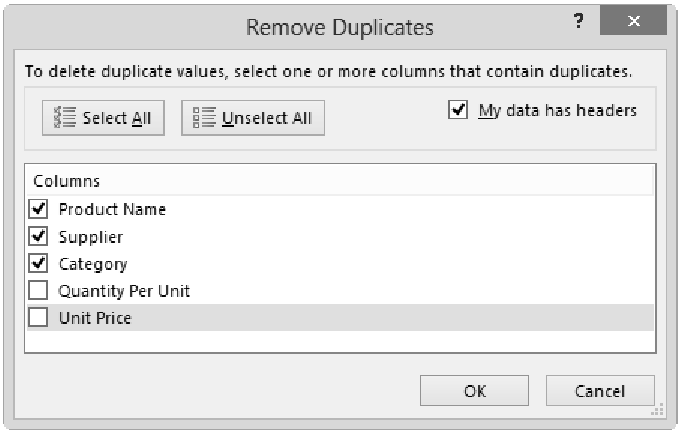
☐ Case sensitive

Orientation

● Sort top to bottom

○ Sort left to right

When simplifying a table that contains many entries, or when compiling data from multiple sources, you might find that a table contains multiple matching entries. You can easily remove duplicate data from a table by using the Remove Duplicates feature.



To delete duplicate values, select one or more columns that contain duplicates.

☑ My data has headers

Columns

☑ Product Name

☑ Supplier

☑ Category

☐ Quantity Per Unit

☐ Unit Price

> **Tip** Use conditional formatting to locate duplicates so you can review them before permanently deleting them by using the Remove Duplicates feature. If you are uncertain about deleting the duplicate data, copy the original data to another worksheet as a backup.

➤ To filter data in an Excel table

1. Click the filter button in the header of the column you want to filter.
2. At the top of the list of column entries, clear the **(Select All)** check box, and then select the check boxes of the items you want to display. Then click **OK**.

> **Tip** **You can enlarge the menu to display more options by dragging the handle in the lower-right corner of the menu.**

➤ To remove a filter

- ➜ Click the filter button, and then click **Clear Filter From *Column***.

➤ To sort a table by multiple columns

1. Click any cell in the range to be sorted. Then on the **Home** tab, in the **Editing** group, click the **Sort & Filter** button, and click **Custom Sort**.

   Or

   Click any cell in the range to be sorted, and then on the **Data** tab, in the **Sort & Filter** group, click the **Sort** button.
2. In the **Sort** dialog box, click the first column you want in the **Sort by** list. Then click the criteria by which you want to sort in the **Sort on** list. Finally, click the order you want in the **Order** list.

> **Tip** **The options in the Sort dialog box change if you click Cell Color, Font Color, or Cell Icon in the Sort On list.**

3. Click **Add Level**, and repeat step 2 for the second column. Repeat this step for additional columns.
4. Click **OK**.

➤ To sort a data range by rows

➜ In the **Sort** dialog box, click **Options**. In the **Sort Option** dialog box, click **Sort left to right**, and then click **OK**.

➤ To remove duplicate rows from a table

1. On the **Data** tab, in the **Data Tools** group, click **Remove Duplicates**.
2. In the **Remove Duplicates** dialog box, select the columns from which you want to remove duplicate entries. Then click **OK**.

Tip **Remove any outlines or subtotals from your data before trying to remove duplicates.**

Practice tasks

The practice files for these tasks are located in the MOSExcel2013\Objective3 practice file folder. Save the results of the tasks in the same folder.

- In the *Excel_3-3a* workbook, on the Bonuses worksheet, apply a filter to display only the bonuses that were less than $2,500.00.
- Open the *Excel_3-3b* workbook, and complete the following tasks on the Sales worksheet:
  - Sort the data in ascending order by category and by unit price.
  - Sort the data in descending order by category and alphabetically by name.
  - Remove duplicates so that there is only one entry for each supplier.

Objective review

Before finishing this chapter, ensure that you have mastered the following skills:

- **3.1** Create tables
- **3.2** Modify tables
- **3.3** Filter and sort tables

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