

*NEW PERSPECTIVES*

PARSONS | OJA | CAREY  
DESJARDINS

Microsoft® Office 365™  
**Excel®**  
**2016**

Comprehensive

For Microsoft® Office updates, go to [sam.cengage.com](http://sam.cengage.com)

This is an electronic version of the print textbook. Due to electronic rights restrictions, some third party content may be suppressed. Editorial review has deemed that any suppressed content does not materially affect the overall learning experience. The publisher reserves the right to remove content from this title at any time if subsequent rights restrictions require it. For valuable information on pricing, previous editions, changes to current editions, and alternate formats, please visit [www.cengage.com/highered](http://www.cengage.com/highered) to search by ISBN, author, title, or keyword for materials in your areas of interest.

Important notice: Media content referenced within the product description or the product text may not be available in the eBook version.

# Want to turn C's into A's? Obviously, right?

But the right way to go about it isn't always so obvious. Go digital to get the grades. MindTap's customizable study tools and eTextbook give you everything you need all in one place.

Engage with your course content, enjoy the flexibility of studying anytime and anywhere, stay connected to assignment due dates and instructor notifications with the MindTap Mobile app...

*and most of all...EARN BETTER GRADES.*



TO GET STARTED VISIT  
[WWW.CENGAGE.COM/STUDENTS/MINDTAP](http://WWW.CENGAGE.COM/STUDENTS/MINDTAP)



MindTap®

**NEW PERSPECTIVES**

# Microsoft® Office 365™ & Excel 2016

---

**COMPREHENSIVE**

**June Jamrich Parsons**  
**Dan Oja**  
**Patrick Carey**

**Carol A. DesJardins**  
St. Clair County Community College



---

Australia • Brazil • Mexico • Singapore • United Kingdom • United States

**New Perspectives Microsoft® Office 365™ & Excel 2016, Comprehensive**  
**June Jamrich Parsons, Dan Oja, Patrick Carey, Carol A. Desjardins**

SVP, GM Science, Technology & Math: Balraj S. Kalsi

Senior Product Director: Kathleen McMahon

Senior Product Team Manager: Lauren Murphy

Product Team Manager: Andrea Topping

Associate Product Manager: Melissa Stehler

Senior Director, Development: Julia Caballero

Product Development Manager: Leigh Hefferon

Senior Content Developers: Kathy Finnegan,  
Marjorie Hunt

Developmental Editor: Robin M. Romer

Manuscript Quality Assurance: John Freitas,  
Chris Scriver

Product Assistant: Erica Chapman

Marketing Director: Michele McTighe

Marketing Manager: Stephanie Albracht

Marketing Coordinator: Cassie Cloutier

Production Director: Patty Stephan

Senior Content Project Managers: Jennifer Goguen,  
McGrail, Stacey Lamodi

Manufacturing Planner: Fola Orekoya

Art Director: Diana Graham

Text Designer: Althea Chen

Composition: GEX Publishing Services

Cover Template Designer: Wing-Ip Ngan,  
Ink Design, Inc.

Cover image(s): BMJ/Shutterstock.com

© 2017 Cengage Learning

ALL RIGHTS RESERVED. No part of this work covered by the copyright herein may be reproduced or distributed in any form or by any means, except as permitted by U.S. copyright law, without the prior written permission of the copyright owner.

For product information and technology assistance, contact us at  
**Cengage Learning Customer & Sales Support, 1-800-354-9706**

For permission to use material from this text or product, submit all requests online at [www.cengage.com/permissions](http://www.cengage.com/permissions). Further permissions questions can be e-mailed to [permissionrequest@cengage.com](mailto:permissionrequest@cengage.com)

Mac users: If you're working through this product using a Mac, some of the steps may vary. Additional information for Mac users is included with the Data Files for this product.

Some of the product names and company names used in this book have been used for identification purposes only and may be trademarks or registered trademarks of their respective manufacturers and sellers.

Windows® is a registered trademark of Microsoft Corporation. © 2012 Microsoft. Microsoft and the Office logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Cengage Learning is an independent entity from Microsoft Corporation and not affiliated with Microsoft in any manner.

Disclaimer: Any fictional data related to persons or companies or URLs used throughout this text is intended for instructional purposes only. At the time this text was published, any such data was fictional and not belonging to any real persons or companies.

Disclaimer: The material in this text was written using Microsoft Office 365 ProPlus and Microsoft Excel 2016 running on Microsoft Windows 10 Professional and was Quality Assurance tested before the publication date. As Microsoft continually updates the Microsoft Office suite and the Windows 10 operating system, your software experience may vary slightly from what is presented in the printed text.

Microsoft product screenshots used with permission from Microsoft Corporation. Unless otherwise noted, all clip art is courtesy of [openclipart.org](http://openclipart.org).

Library of Congress Control Number: 2016941948

Soft-cover Edition ISBN: 978-1-305-88040-5

Loose-leaf cover Edition ISBN: 978-1-337-25147-1

#### **Cengage Learning**

20 Channel Center Street  
Boston, MA 02210  
USA

Cengage Learning is a leading provider of customized learning solutions with employees residing in nearly 40 different countries and sales in more than 125 countries around the world. Find your local representative at [www.cengage.com](http://www.cengage.com).

Cengage Learning products are represented in Canada by  
Nelson Education, Ltd.

To learn more about Cengage Learning, visit [www.cengage.com](http://www.cengage.com)

Purchase any of our products at your local college store or at our preferred online store [www.cengagebrain.com](http://www.cengagebrain.com)

Printed in the United States of America  
Print Number: 01

Print Year: 2016

# BRIEF CONTENTS

|               |  |        |
|---------------|--|--------|
| <b>OFFICE</b> | Productivity Apps for School and Work . . . . .  | PA-1   |
| <b>EXCEL</b>  | <b>Module 1</b> Getting Started with Excel . . . . .<br><i>Creating a Customer Order Report</i>  | EX 1   |
|               | <b>Module 2</b> Formatting Workbook Text and Data . . . . .<br><i>Creating a Sales Report</i>  | EX 65  |
|               | <b>Module 3</b> Performing Calculations with Formulas and Functions . . . . .<br><i>Calculating Farm Yield and Revenue</i>                             | EX 131 |
|               | <b>Module 4</b> Analyzing and Charting Financial Data . . . . .<br><i>Preparing a Business Plan</i>  | EX 187 |
|               | <b>Module 5</b> Working with Excel Tables, PivotTables, and PivotCharts . . . . .<br><i>Tracking Sales Data</i>  | EX 257 |
|               | <b>Module 6</b> Managing Multiple Worksheets and Workbooks. . . . .<br><i>Summarizing Rental Income Data</i>   | EX 327 |
|               | <b>Module 7</b> Developing an Excel Application. . . . .<br><i>Creating a Registration Receipt</i>   | EX 387 |
|               | <b>Module 8</b> Working with Advanced Functions . . . . .<br><i>Analyzing Employee and Product Data</i>  | EX 463 |
|               | <b>Module 9</b> Exploring Financial Tools and Functions . . . . .<br><i>Analyzing a Business Plan</i>  | EX 529 |
|               | <b>Module 10</b> Performing What-If Analyses . . . . .<br><i>Maximizing Profits with the Right Product Mix</i>   | EX 595 |
|               | <b>Module 11</b> Analyzing Data with Business Intelligence. . . . .<br><i>Creating a Sales Report for a Music Store</i>                                | EX 659 |
|               | <b>Module 12</b> Collaborating on a Shared Workbook . . . . .<br><i>Working with a Team on a Financial Report</i>                                      | EX 729 |
|               | <b>Appendix A</b> Working with Text Functions and Creating Custom Formats . . . . .<br><i>Cleaning Data in a Spreadsheet</i>                           | EX A1  |
|               | <b>Appendix B</b> Advanced Filters, Database Functions, and<br>Summary IFS Functions. . . . .<br><i>Filtering and Summarizing Database Information</i> | EX B1  |
|               | <b>Appendix C</b> Working with Enhanced Formatting Tools. . . . .<br><i>Formatting Seasonal Calendars for a Waterpark</i>                              | EX C1  |
|               | <b>Index</b> . . . . .   | REF 1  |

# TABLE OF CONTENTS

## PRODUCTIVITY APPS FOR SCHOOL AND WORK ..... PA-1

|  |       |  |       |
|--|-------|--|-------|
| Introduction to OneNote 2016 .....                         | PA-2  | Inserting Quizzes, Live Webpages,<br>and Apps. ....        | PA-12 |
| Creating a OneNote Notebook .....                          | PA-2  | Sharing an Office Mix Presentation .....                   | PA-12 |
| Syncing a Notebook to the Cloud .....                      | PA-2  | 1: Creating an Office Mix Tutorial for<br>OneNote .....    | PA-13 |
| Taking Notes .....   | PA-3  | 2: Teaching Augmented Reality with<br>Office Mix .....     | PA-13 |
| Converting Handwriting to Text .....                       | PA-3  | 3: Marketing a Travel Destination<br>with Office Mix ..... | PA-13 |
| Recording a Lecture .....                                  | PA-4  | Introduction to Microsoft Edge .....                       | PA-14 |
| 1: Taking Notes for a Week .....                           | PA-5  | Browsing the Web with Microsoft Edge .....                 | PA-14 |
| 2: Using OneNote to Organize a Research<br>Paper .....     | PA-5  | Locating Information with Cortana .....                    | PA-14 |
| 3: Planning Your Career .....                              | PA-5  | Annotating Webpages .....                                  | PA-15 |
| Introduction to Sway .....                                 | PA-6  | 1: Using Cortana in Microsoft Edge .....                   | PA-16 |
| Creating a Sway Presentation .....                         | PA-6  | 2: Viewing Online News with<br>Reading View .....          | PA-16 |
| Adding Content to Build a Story .....                      | PA-7  | 3: Inking with Microsoft Edge .....                        | PA-16 |
| Designing a Sway .....                                     | PA-8  |  |       |
| Publishing a Sway .....                                    | PA-8  |  |       |
| Sharing a Sway .....                                       | PA-8  |  |       |
| 1: Creating a Sway Resume .....                            | PA-9  |  |       |
| 2: Creating an Online Sway Newsletter .....                | PA-9  |  |       |
| 3: Creating and Sharing a Technology<br>Presentation ..... | PA-9  |  |       |
| Introduction to Office Mix .....                           | PA-10 |  |       |
| Adding Office Mix to PowerPoint .....                      | PA-10 |  |       |
| Capturing Video Clips .....                                | PA-11 |  |       |

## EXCEL MODULES

### Module 1 Getting Started with Excel

*Creating a Customer Order Report* ..... EX 1

Session 1.1 Visual Overview:

The Excel Workbook ..... EX 2

Introducing Excel and Spreadsheets ..... EX 4

    Opening an Existing Workbook ..... EX 4

    Using Keyboard Shortcuts to Work Faster ..... EX 6

|   |       |   |       |
|---|-------|---|-------|
| Getting Help . . . . .                      | EX 6  | Session 1.2 Visual Overview:                    |       |
| Using Excel 2016 in Touch Mode . . . . .    | EX 6  | Excel Formulas and Functions . . . . .          | EX 30 |
| Exploring a Workbook . . . . .              | EX 7  | Performing Calculations with Formulas . . . . . | EX 32 |
| Changing the Active Sheet . . . . .         | EX 8  | Entering a Formula . . . . .                    | EX 32 |
| Navigating Within a Worksheet . . . . .     | EX 9  | Copying and Pasting Formulas . . . . .          | EX 35 |
| Selecting a Cell Range . . . . .            | EX 11 | Simplifying Formulas with Functions . . . . .   | EX 36 |
| Closing a Workbook . . . . .                | EX 13 | Introducing Function Syntax . . . . .           | EX 36 |
| Planning a Workbook . . . . .               | EX 13 | Entering Functions with AutoSum . . . . .       | EX 36 |
| Starting a New Workbook . . . . .           | EX 14 | Modifying a Worksheet . . . . .                 | EX 39 |
| Renaming and Inserting Worksheets . . . . . | EX 15 | Moving and Copying a Cell or Range . . . . .    | EX 39 |
| Moving Worksheets . . . . .                 | EX 16 | Using the COUNT Function . . . . .              | EX 41 |
| Deleting Worksheets . . . . .               | EX 16 | Inserting a Column or Row . . . . .             | EX 42 |
| Saving a Workbook . . . . .                 | EX 17 | Deleting a Row or Column . . . . .              | EX 44 |
| Entering Text, Dates, and Numbers . . . . . | EX 17 | Inserting and Deleting a Range . . . . .        | EX 45 |
| Entering Text . . . . .                     | EX 17 | Using Flash Fill . . . . .                      | EX 47 |
| Undoing and Redoing an Action . . . . .     | EX 19 | Formatting a Worksheet . . . . .                | EX 48 |
| Editing Cell Content . . . . .              | EX 19 | Adding Cell Borders . . . . .                   | EX 49 |
| Understanding AutoComplete . . . . .        | EX 20 | Changing the Font Size . . . . .                | EX 50 |
| Displaying Numbers as Text . . . . .        | EX 21 | Printing a Workbook . . . . .                   | EX 50 |
| Entering Dates . . . . .                    | EX 22 | Changing Worksheet Views . . . . .              | EX 50 |
| Entering Numbers . . . . .                  | EX 24 | Changing the Page Orientation . . . . .         | EX 52 |
| Resizing Columns and Rows . . . . .         | EX 25 | Setting the Scaling Options . . . . .           | EX 53 |
| Changing Column Widths . . . . .            | EX 25 | Setting the Print Options . . . . .             | EX 54 |
| Wrapping Text Within a Cell . . . . .       | EX 27 | Viewing Worksheet Formulas . . . . .            | EX 55 |
| Changing Row Heights . . . . .              | EX 28 | Saving a Workbook with a New Filename . . . . . | EX 56 |
| Session 1.1 Quick Check . . . . .           | EX 29 | Session 1.2 Quick Check . . . . .               | EX 57 |



|  |              |  |        |
|--|--------------|--|--------|
| Review Assignments . . . . .                       | EX 58        | Session 2.2 Visual Overview:                     |        |
| Case Problems . . . . .                            | EX 59        | Designing a Printout . . . . .                   | EX 94  |
| <b>Module 2 Formatting Workbook Text and Data</b>  |              | Calculating Averages . . . . .                   | EX 96  |
| <i>Creating a Sales Report . . . . .</i>           | <b>EX 65</b> | Applying Cell Styles . . . . .                   | EX 98  |
| Session 2.1 Visual Overview:                       |              | Copying and Pasting Formats . . . . .            | EX 100 |
| Formatting a Worksheet . . . . .                   | EX 66        | Copying Formats with the                         |        |
| Formatting Cell Text . . . . .                     | EX 68        | Format Painter . . . . .                         | EX 100 |
| Applying Fonts and Font Styles . . . . .           | EX 68        | Copying Formats with the                         |        |
| Applying a Font Color . . . . .                    | EX 70        | Paste Options Button . . . . .                   | EX 101 |
| Formatting Text Selections Within                  |              | Copying Formats with Paste Special . . . . .     | EX 102 |
| a Cell . . . . .                                   | EX 72        | Finding and Replacing Text and Formats . . . . . | EX 103 |
| Working with Fill Colors and Backgrounds . . . . . | EX 72        | Working with Themes . . . . .                    | EX 105 |
| Changing a Fill Color . . . . .                    | EX 73        | Highlighting Data with Conditional               |        |
| Adding a Background Image . . . . .                | EX 74        | Formats . . . . .                                | EX 107 |
| Using Functions and Formulas to Calculate          |              | Highlighting Cells Based on                      |        |
| Sales Data . . . . .                               | EX 75        | Their Values . . . . .                           | EX 107 |
| Formatting Numbers . . . . .                       | EX 79        | Highlighting Cells with a Top/                   |        |
| Applying Number Formats . . . . .                  | EX 79        | Bottom Rule . . . . .                            | EX 109 |
| Formatting Dates and Times . . . . .               | EX 83        | Other Conditional Formatting                     |        |
| Formatting Worksheet Cells . . . . .               | EX 84        | Options . . . . .                                | EX 111 |
| Aligning Cell Content . . . . .                    | EX 84        | Creating a Conditional Formatting                |        |
| Indenting Cell Content . . . . .                   | EX 85        | Legend . . . . .                                 | EX 111 |
| Adding Borders to Cells . . . . .                  | EX 85        | Formatting a Worksheet for Printing . . . . .    | EX 113 |
| Merging Cells . . . . .                            | EX 87        | Using Page Break Preview . . . . .               | EX 113 |
| Rotating Cell Contents . . . . .                   | EX 88        | Defining the Print Area . . . . .                | EX 114 |
| Exploring the Format Cells Dialog Box . . . . .    | EX 89        | Inserting Page Breaks . . . . .                  | EX 115 |
| Session 2.1 Quick Check . . . . .                  | EX 93        | Adding Print Titles . . . . .                    | EX 117 |
|  |              | Designing Headers and Footers . . . . .          | EX 118 |
|  |              | Setting the Page Margins . . . . .               | EX 120 |

|                                   |        |
|-----------------------------------|--------|
| Session 2.2 Quick Check . . . . . | EX 122 |
| Review Assignments . . . . .      | EX 123 |
| Case Problems . . . . .           | EX 125 |

### Module 3 Performing Calculations with Formulas and Functions

|   |               |
|---|---------------|
| <i>Calculating Farm Yield and Revenue . . . . .</i> | <b>EX 131</b> |
|---|---------------|

#### Session 3.1 Visual Overview:

|   |        |
|---|--------|
| Formulas and Functions . . . . .  | EX 132 |
| Making Workbooks User-Friendly . . . . .                                | EX 134 |
| Documenting Formulas . . . . .  | EX 135 |
| Using Constants in Formulas . . . . .                                   | EX 136 |
| Identifying Notes, Input Values, and Calculated Values . . . . .        | EX 140 |
| Using Excel Functions . . . . .   | EX 141 |
| Understanding Function Syntax . . . . .                                 | EX 141 |
| Entering the COUNT function . . . . .                                   | EX 142 |
| Nesting the ROUND and AVERAGE Functions . . . . .                       | EX 143 |
| Using the Function Library and the Insert Function Dialog Box . . . . . | EX 145 |
| Performing What-If Analyses . . . . .                                   | EX 149 |
| Using Trial and Error . . . . .   | EX 149 |
| Using Goal Seek . . . . .   | EX 150 |
| Interpreting Error Values . . . . .                                     | EX 151 |
| Session 3.1 Quick Check . . . . .                                       | EX 153 |
| Session 3.2 Visual Overview:  |        |
| Cell References and Formulas . . . . .                                  | EX 154 |
| AutoFilling Formulas and Data . . . . .                                 | EX 156 |

|  |        |
|--|--------|
| Filling a Series . . . . .                                 | EX 156 |
| Exploring Auto Fill Options . . . . .                      | EX 158 |
| Filling Formulas . . . . .                                 | EX 159 |
| Exploring Cell References . . . . .                        | EX 161 |
| Understanding Relative References . . . . .                | EX 161 |
| Understanding Absolute References . . . . .                | EX 162 |
| Understanding Mixed References . . . . .                   | EX 163 |
| Changing Cell References in a Formula . . . . .            | EX 165 |
| Summarizing Data with the Quick Analysis Tool . . . . .    | EX 167 |
| Working with Dates and Date Functions . . . . .            | EX 169 |
| Using Lookup Functions . . . . .                           | EX 171 |
| Finding an Exact Match with the VLOOKUP Function . . . . . | EX 171 |
| Working with Logical Functions . . . . .                   | EX 174 |
| Session 3.2 Quick Check . . . . .                          | EX 180 |
| Review Assignments . . . . .                               | EX 181 |
| Case Problems . . . . .                                    | EX 182 |

### Module 4 Analyzing and Charting Financial Data

|  |               |
|--|---------------|
| <i>Preparing a Business Plan . . . . .</i> | <b>EX 187</b> |
|--|---------------|

#### Session 4.1 Visual Overview:

|   |        |
|---|--------|
| Chart Elements . . . . .                      | EX 188 |
| Introduction to Financial Functions . . . . . | EX 190 |
| Using the PMT Function . . . . .              | EX 191 |
| Getting Started with Excel Charts . . . . .   | EX 195 |
| Creating a Pie Chart . . . . .                | EX 197 |
| Selecting the Data Source . . . . .           | EX 197 |

|  |        |  |               |
|--|--------|--|---------------|
| Charting with the Quick Analysis Tool . . . . .                            | EX 198 | Creating a Combination Chart . . . . .   | EX 230        |
| Moving and Resizing a Chart . . . . .                                      | EX 200 | Working with Primary and Secondary<br>Axes. . . . .  | EX 232        |
| Working with Chart Elements . . . . .                                      | EX 201 | Editing a Chart Data Source . . . . .  | EX 235        |
| Choosing a Chart Style . . . . .   | EX 202 | Exploring Other Chart Types . . . . .  | EX 237        |
| Formatting a Chart Legend . . . . .  | EX 203 | Creating a Histogram . . . . .   | EX 237        |
| Formatting Pie Chart Labels. . . . .                                       | EX 205 | Creating a Pareto Chart . . . . .  | EX 239        |
| Changing the Pie Slice Colors. . . . .                                     | EX 206 | Using a Waterfall Chart. . . . .   | EX 240        |
| Formatting the Chart Area . . . . .  | EX 207 | Using a Hierarchical Chart . . . . .   | EX 241        |
| Performing What-If Analyses with<br>Charts . . . . .                       | EX 208 | Creating Sparklines . . . . .  | EX 243        |
| Creating a Column Chart . . . . .  | EX 210 | Formatting the Sparkline Axis . . . . .  | EX 245        |
| Comparing Column Chart Subtypes . . . . .                                  | EX 210 | Working with Sparkline Groups . . . . .  | EX 246        |
| Creating a Clustered Column Chart . . . . .                                | EX 211 | Creating Data Bars . . . . .   | EX 247        |
| Moving a Chart to a Different<br>Worksheet. . . . .                        | EX 212 | Modifying a Data Bar Rule . . . . .  | EX 249        |
| Editing a Chart Title . . . . .  | EX 213 | Session 4.2 Quick Check. . . . .   | EX 250        |
| Creating a Stacked Column Chart . . . . .                                  | EX 213 | Review Assignments . . . . .   | EX 251        |
| Session 4.1 Quick Check . . . . .  | EX 217 | Case Problems. . . . .   | EX 252        |
| Session 4.2 Visual Overview:<br>Charts, Sparklines, and Data Bars. . . . . | EX 218 | <b>Module 5 Working with Excel Tables, PivotTables,<br/>and PivotCharts</b><br><i>Tracking Sales Data. . . . .</i> | <b>EX 257</b> |
| Creating a Line Chart . . . . .  | EX 220 | Session 5.1 Visual Overview:<br>Elements of an Excel Table . . . . .   | EX 258        |
| Working with Axes and Gridlines . . . . .                                  | EX 222 | Planning a Structured Range of Data . . . . .  | EX 260        |
| Editing the Scale of the Vertical Axis . . . . .                           | EX 222 | Freezing Rows and Columns . . . . .  | EX 262        |
| Adding Gridlines to a Chart . . . . .                                      | EX 224 | Creating an Excel Table. . . . .   | EX 264        |
| Working with Column Widths. . . . .  | EX 224 | Renaming an Excel Table . . . . .  | EX 266        |
| Formatting Data Markers . . . . .  | EX 225 | Modifying an Excel Table . . . . .   | EX 266        |
| Formatting the Plot Area. . . . .  | EX 227 |  |               |

|  |        |  |               |
|--|--------|--|---------------|
| Maintaining Data in an Excel Table . . . . .       | EX 267 | Session 5.3 Visual Overview:                     |               |
| Adding Records . . . . .                           | EX 268 | PivotTable and PivotChart . . . . .              | EX 298        |
| Finding and Editing Records. . . . .               | EX 269 | Analyzing Data with PivotTables . . . . .        | EX 300        |
| Deleting a Record . . . . .                        | EX 270 | Creating a PivotTable. . . . .                   | EX 300        |
| Sorting Data . . . . .                             | EX 271 | Adding Fields to a PivotTable . . . . .          | EX 303        |
| Sorting One Column Using the                       |        | Changing the Layout of a PivotTable . . . . .    | EX 305        |
| Sort Buttons . . . . .                             | EX 271 | Formatting a PivotTable . . . . .                | EX 306        |
| Sorting Multiple Columns Using the                 |        | Filtering a PivotTable . . . . .                 | EX 308        |
| Sort Dialog Box. . . . .                           | EX 272 | Adding a Field to the FILTERS Area . . . . .     | EX 308        |
| Sorting Using a Custom List . . . . .              | EX 274 | Filtering PivotTable Fields . . . . .            | EX 309        |
| Session 5.1 Quick Check . . . . .                  | EX 275 | Creating a Slicer to Filter a                    |               |
| Session 5.2 Visual Overview:                       |        | PivotTable . . . . .                             | EX 310        |
| Filtering Table Data . . . . .                     | EX 276 | Refreshing a PivotTable . . . . .                | EX 312        |
| Filtering Data . . . . .                           | EX 278 | Creating a Recommended PivotTable . . . . .      | EX 314        |
| Filtering Using One Column . . . . .               | EX 278 | Creating a PivotChart . . . . .                  | EX 316        |
| Filtering Using Multiple Columns . . . . .         | EX 280 | Session 5.3 Quick Check . . . . .                | EX 318        |
| Clearing Filters . . . . .                         | EX 281 | Review Assignments . . . . .                     | EX 319        |
| Selecting Multiple Filter Items . . . . .          | EX 281 | Case Problems. . . . .                           | EX 320        |
| Creating Criteria Filters to Specify More          |        | <b>Module 6 Managing Multiple Worksheets and</b> |               |
| Complex Criteria. . . . .                          | EX 282 | <b>Workbooks</b>                                 |               |
| Creating a Slicer to Filter Data in                |        | <i>Summarizing Rental Income Data. . . . .</i>   | <b>EX 327</b> |
| an Excel Table . . . . .                           | EX 285 | Session 6.1 Visual Overview:                     |               |
| Using the Total Row to Calculate                   |        | Worksheet Groups and 3-D References . . . . .    | EX 328        |
| Summary Statistics . . . . .                       | EX 287 | Grouping Worksheets . . . . .                    | EX 330        |
| Splitting the Worksheet Window into Panes. . . . . | EX 290 | Entering Headings and Formulas in a              |               |
| Inserting Subtotals. . . . .                       | EX 292 | Worksheet Group . . . . .                        | EX 332        |
| Using the Subtotal Outline View. . . . .           | EX 295 | Formatting a Worksheet Group . . . . .           | EX 334        |
| Session 5.2 Quick Check . . . . .                  | EX 297 | Ungrouping Worksheets. . . . .                   | EX 335        |

|   |        |   |               |
|---|--------|---|---------------|
| Working with Multiple Worksheets . . . . .                                | EX 336 | Using Templates . . . . .   | EX 370        |
| Copying Worksheets. . . . .   | EX 336 | Creating a Workbook Based on an<br>Existing Template . . . . .                                      | EX 371        |
| Referencing Cells and Ranges in Other<br>Worksheets . . . . .             | EX 338 | Creating a Custom Workbook Template . . . . .   | EX 375        |
| Using 3-D References to Add Values Across<br>Worksheets . . . . .         | EX 341 | Creating a New Workbook<br>from a Template . . . . .  | EX 378        |
| Printing a Worksheet Group . . . . .                                      | EX 345 | Session 6.3 Quick Check . . . . .   | EX 380        |
| Session 6.1 Quick Check . . . . .   | EX 347 | Review Assignment . . . . .   | EX 381        |
| Session 6.2 Visual Overview:<br>Links and External References. . . . .    | EX 348 | Case Problems. . . . .  | EX 382        |
| Linking Workbooks . . . . .   | EX 350 | <b>Module 7 Developing an Excel Application</b><br><i>Creating a Registration Receipt . . . . .</i> | <b>EX 387</b> |
| Navigating Multiple Workbooks. . . . .                                    | EX 352 | Session 7.1 Visual Overview:<br>Excel Application and Defined Names . . . . .                       | EX 388        |
| Arranging Multiple Workbooks . . . . .                                    | EX 352 | Planning an Excel Application . . . . .   | EX 390        |
| Creating Formulas with External<br>References. . . . .                    | EX 354 | Naming Cells and Ranges . . . . .   | EX 392        |
| Updating Linked Workbooks. . . . .  | EX 360 | Using the Name Box to Create<br>Defined Names . . . . .   | EX 393        |
| Updating a Destination Workbook with<br>Source Workbooks Open . . . . .   | EX 360 | Selecting Cells and Ranges by Their<br>Defined Names . . . . .                                      | EX 394        |
| Updating a Destination Workbook with<br>Source Workbooks Closed . . . . . | EX 361 | Creating Defined Names by Selection . . . . .   | EX 395        |
| Managing Links . . . . .  | EX 363 | Editing and Deleting Defined Names. . . . .   | EX 395        |
| Session 6.2 Quick Check . . . . .   | EX 365 | Using the Paste Names Command . . . . .   | EX 397        |
| Session 6.3 Visual Overview:<br>Templates and Hyperlinks . . . . .        | EX 366 | Using Defined Names in Formulas . . . . .   | EX 398        |
| Creating a Hyperlink . . . . .  | EX 368 | Entering Formulas with Defined Names. . . . .   | EX 399        |
| Inserting a Hyperlink. . . . .  | EX 368 | Adding Defined Names to<br>Existing Formulas . . . . .  | EX 402        |
| Editing a Hyperlink . . . . .   | EX 370 | Session 7.1 Quick Check . . . . .   | EX 405        |

|   |               |
|---|---------------|
| Session 7.2 Visual Overview:  |               |
| Data Validation and Protection . . . . .                                    | EX 406        |
| Validating Data Entry . . . . .   | EX 408        |
| Specifying Validation Criteria . . . . .                                    | EX 408        |
| Creating an Error Alert Style<br>and Message . . . . .                      | EX 410        |
| Creating an Input Message . . . . .   | EX 411        |
| Creating a List Validation Rule . . . . .                                   | EX 412        |
| Testing Data Validation Rules . . . . .                                     | EX 416        |
| Protecting a Worksheet and a Workbook . . . . .                             | EX 417        |
| Locking and Unlocking Cells . . . . .                                       | EX 418        |
| Protecting a Worksheet . . . . .  | EX 419        |
| Protecting a Workbook . . . . .   | EX 421        |
| Unprotecting a Worksheet<br>and a Workbook . . . . .                        | EX 422        |
| Inserting Comments . . . . .  | EX 422        |
| Session 7.2 Quick Check . . . . .   | EX 425        |
| Session 7.3 Visual Overview:  |               |
| Working with Macros . . . . .   | EX 426        |
| Automating Tasks with Macros . . . . .                                      | EX 428        |
| Protecting Against Macro Viruses . . . . .                                  | EX 429        |
| Macro Security Settings . . . . .   | EX 429        |
| Recording a Macro . . . . .   | EX 432        |
| Running a Macro . . . . .   | EX 436        |
| Creating the TransferData Macro . . . . .                                   | EX 438        |
| Fixing Macro Errors . . . . .   | EX 440        |
| Working with the Visual Basic Editor . . . . .                              | EX 440        |
| Understanding the Structure of Macros . . . . .                             | EX 442        |
| Editing a Macro Using the<br>Visual Basic Editor . . . . .                  | EX 443        |
| Creating Macro Buttons . . . . .  | EX 444        |
| Saving a Workbook with Macros . . . . .                                     | EX 450        |
| Opening a Workbook with Macros . . . . .                                    | EX 451        |
| Removing a Tab from the Ribbon . . . . .                                    | EX 452        |
| Session 7.3 Quick Check . . . . .   | EX 452        |
| Review Assignments . . . . .  | EX 453        |
| Case Problems . . . . .   | EX 455        |
| <b>Module 8 Working with Advanced Functions</b>                             |               |
| <i>Analyzing Employee and Product Data . . . . .</i>                        | <b>EX 463</b> |
| Session 8.1 Visual Overview:  |               |
| Logical Functions . . . . .   | EX 464        |
| Working with Logical Functions . . . . .                                    | EX 466        |
| Inserting Calculated Columns in an<br>Excel Table . . . . .                 | EX 467        |
| Using the IF Function . . . . .   | EX 467        |
| Using the AND Function . . . . .  | EX 470        |
| Using the OR Function . . . . .   | EX 475        |
| Using Structured References to Create Formulas<br>in Excel Tables . . . . . | EX 477        |
| Session 8.1 Quick Check . . . . .   | EX 481        |
| Session 8.2 Visual Overview:  |               |
| Lookup Tables and the IFERROR Function . . . . .                            | EX 482        |
| Creating Nested IFs . . . . .   | EX 484        |

|   |               |   |        |
|---|---------------|---|--------|
| Using LOOKUP Functions . . . . .  | EX 489        | Calculating Borrowing Costs . . . . .                                       | EX 532 |
| Using the VLOOKUP Function to Find an<br>Exact Match . . . . .  | EX 491        | Calculating a Payment with the PMT<br>Function . . . . .                    | EX 532 |
| Using the VLOOKUP Function to Find an<br>Approximate Match . . . . .                                  | EX 493        | Calculating a Future Value with the FV<br>Function . . . . .                | EX 534 |
| Using the HLOOKUP Function to Find an<br>Exact Match . . . . .  | EX 496        | Calculating the Payment Period with<br>the NPER Function . . . . .          | EX 536 |
| Using the IFERROR Function . . . . .  | EX 501        | Calculating the Present Value with<br>the PV Function . . . . .             | EX 537 |
| Session 8.2 Quick Check . . . . .   | EX 505        | Creating an Amortization Schedule . . . . .                                 | EX 540 |
| Session 8.3 Visual Overview:<br>Conditional Formatting and Functions . . . . .                        | EX 506        | Calculating Interest and Principal<br>Payments . . . . .                    | EX 541 |
| Applying Conditional Formatting . . . . .   | EX 508        | Calculating Cumulative Interest and<br>Principal Payments . . . . .         | EX 543 |
| Highlighting Duplicate Values . . . . .   | EX 508        | Session 9.1 Quick Check . . . . .   | EX 547 |
| Using the Conditional Formatting Rules<br>Manager . . . . .   | EX 510        | Session 9.2 Visual Overview:<br>Income Statement and Depreciation . . . . . | EX 548 |
| Using Functions to Summarize Data<br>Conditionally . . . . .  | EX 513        | Projecting Future Income and Expenses . . . . .                             | EX 550 |
| Using the COUNTIF Function . . . . .  | EX 514        | Exploring Linear and Growth Trends . . . . .                                | EX 550 |
| Using the SUMIF Function . . . . .  | EX 516        | Interpolating from a Starting Value to an<br>Ending Value . . . . .         | EX 551 |
| Using the AVERAGEIF Function . . . . .  | EX 518        | Calculating the Cost of Goods Sold . . . . .                                | EX 553 |
| Session 8.3 Quick Check . . . . .   | EX 522        | Extrapolating from a Series of Values . . . . .                             | EX 555 |
| Review Assignments . . . . .  | EX 523        | Calculating Depreciation of Assets . . . . .                                | EX 557 |
| Case Problems . . . . .   | EX 524        | Straight-Line Depreciation . . . . .  | EX 558 |
| <b>Module 9 Exploring Financial Tools and Functions</b><br><i>Analyzing a Business Plan</i> . . . . . | <b>EX 529</b> | Declining Balance Depreciation . . . . .                                    | EX 558 |
| Session 9.1 Visual Overview:<br>Loan and Investment Functions . . . . .                               | EX 530        | Adding Depreciation to an Income<br>Statement . . . . .                     | EX 563 |

|   |               |   |        |
|---|---------------|---|--------|
| Adding Taxes and Interest Expenses to an<br>Income Statement . . . . .  | EX 563        | Understanding Cost-Volume Relationships. . . . .                        | EX 598 |
| Session 9.2 Quick Check . . . . .   | EX 565        | Comparing Expenses and Revenue . . . . .                                | EX 598 |
| Session 9.3 Visual Overview:<br>NPV and IRR Functions and Auditing . . . . .                                  | EX 566        | Exploring the Break-Even Point . . . . .                                | EX 600 |
| Calculating Interest Rates with the RATE<br>Function. . . . .   | EX 568        | Finding the Break-Even Point with<br>What-If Analysis. . . . .          | EX 601 |
| Viewing the Payback Period of an<br>Investment. . . . .   | EX 569        | Working with Data Tables . . . . .                                      | EX 603 |
| Calculating Net Present Value. . . . .  | EX 571        | Creating a One-Variable Data Table. . . . .                             | EX 603 |
| The Time Value of Money. . . . .  | EX 571        | Charting a One-Variable Data Table. . . . .                             | EX 606 |
| Using the NPV Function . . . . .  | EX 571        | Modifying a Data Table. . . . .   | EX 607 |
| Choosing a Rate of Return . . . . .   | EX 572        | Creating a Two-Variable Data Table . . . . .                            | EX 608 |
| Calculating the Internal Rate of Return. . . . .  | EX 574        | Formatting the Result Cell . . . . .                                    | EX 611 |
| Using the IRR Function . . . . .  | EX 574        | Charting a Two-Variable Data Table. . . . .                             | EX 612 |
| Exploring the XNPV and XIRR<br>Functions. . . . .   | EX 577        | Session 10.1 Quick Check . . . . .                                      | EX 615 |
| Auditing a Workbook . . . . .   | EX 579        | Session 10.2 Visual Overview:<br>What-If Scenarios. . . . .             | EX 616 |
| Tracing an Error. . . . .   | EX 580        | Developing Financial Scenarios with<br>the Scenario Manager . . . . .   | EX 618 |
| Evaluating a Formula. . . . .   | EX 583        | Defining a Scenario. . . . .  | EX 619 |
| Using the Watch Window . . . . .  | EX 585        | Viewing Scenarios. . . . .  | EX 622 |
| Session 9.3 Quick Check . . . . .   | EX 586        | Editing a Scenario. . . . .   | EX 624 |
| Review Assignments . . . . .  | EX 587        | Creating Scenario Summary Reports . . . . .                             | EX 625 |
| Case Problems. . . . .  | EX 589        | Session 10.2 Quick Check . . . . .                                      | EX 629 |
| <b>Module 10 Performing What-If Analyses</b><br><i>Maximizing Profits with the Right Product Mix. . . . .</i> | <b>EX 595</b> | Session 10.3 Visual Overview:<br>Optimal Solutions with Solver. . . . . | EX 630 |
| Session 10.1 Visual Overview:<br>Data Tables and What-If Analysis . . . . .                                   | EX 596        | Introducing Product Mix . . . . .                                       | EX 632 |
|   |               | Finding an Optimal Solution Using Solver . . . . .                      | EX 634 |
|   |               | Activating Solver. . . . .  | EX 634 |



|  |               |   |        |
|--|---------------|---|--------|
| Setting the Objective Cell and Variable Cells . . . . .  | EX 636        | Introducing Databases . . . . .                       | EX 682 |
| Adding Constraints to Solver . . . . .   | EX 638        | Relational Databases. . . . .                         | EX 682 |
| Exploring the Iterative Process . . . . .  | EX 644        | Querying an Access Database . . . . .                 | EX 683 |
| Creating a Solver Answer Report . . . . .  | EX 645        | Exploring the Data Model. . . . .                     | EX 685 |
| Saving and Loading Solver Models. . . . .  | EX 647        | Transforming Data with Power Pivot. . . . .           | EX 689 |
| Session 10.3 Quick Check . . . . .   | EX 651        | Exploring the Data Model in<br>Diagram View . . . . . | EX 690 |
| Review Assignments . . . . .   | EX 652        | Managing Table Relationships . . . . .                | EX 691 |
| Case Problems. . . . .   | EX 653        | Creating a PivotTable from the Data<br>Model. . . . . | EX 692 |
| <b>Module 11 Analyzing Data with Business Intelligence</b><br><i>Creating a Sales Report for a Music Store . . . . .</i> | <b>EX 659</b> | Working with Fields from Multiple Tables . . . . .    | EX 693 |
| Session 11.1 Visual Overview:  |               | Adding a Timeline Slicer . . . . .                    | EX 695 |
| Queries and Trendlines . . . . .   | EX 660        | Session 11.2 Quick Check . . . . .                    | EX 697 |
| Writing a Data Query . . . . .   | EX 662        | Session 11.3 Visual Overview:                         |        |
| Using Power Query. . . . .   | EX 662        | Power View and Power Map . . . . .                    | EX 698 |
| Retrieving Data into an Excel Table . . . . .  | EX 665        | Drilling Down into Data. . . . .                      | EX 700 |
| Editing a Query. . . . .   | EX 666        | Outlining a PivotTable with a Date Field. . . . .     | EX 701 |
| Refreshing Query Data . . . . .  | EX 667        | Creating a Hierarchy of Fields. . . . .               | EX 702 |
| Transforming Data with Queries . . . . .   | EX 669        | Visualizing Data with Power View . . . . .            | EX 706 |
| Adding a New Column . . . . .  | EX 669        | Creating a Data Visualization . . . . .               | EX 708 |
| Grouping Values in a Query . . . . .   | EX 670        | Filtering Charts in a Power View Sheet. . . . .       | EX 711 |
| Charting Trends . . . . .  | EX 673        | Creating Multiple Charts . . . . .                    | EX 713 |
| Creating a Forecast Sheet. . . . .   | EX 675        | Visualizing Data with Power Map . . . . .             | EX 716 |
| Session 11.1 Quick Check . . . . .   | EX 679        | Session 11.3 Quick Check . . . . .                    | EX 719 |
| Session 11.2 Visual Overview:  |               | Review Assignments . . . . .                          | EX 720 |
| Power Pivot and the Data Model . . . . .   | EX 680        | Case Problems. . . . .                                | EX 722 |

**Module 12 Collaborating on a Shared Workbook***Working with a Team on a Financial Report. . . . .* **EX 729**

Session 12.1 Visual Overview:

Collaborating on a Workbook. . . . . EX 730

Sharing a Workbook Among Multiple Users. . . . . EX 732

Setting Privacy Options . . . . . EX 732

Enabling Workbook Sharing . . . . . EX 733

Tracking Changes in a Workbook . . . . . EX 733

    Reviewing Comments in a Shared  
    Workbook . . . . . EX 736    Reviewing Changes Using the  
    Tracking Log . . . . . EX 738

Accepting and Rejecting Edits . . . . . EX 740

Merge and Compare Workbooks . . . . . EX 743

Collaborating on the Internet . . . . . EX 745

Saving a Workbook to OneDrive . . . . . EX 745

Viewing a Workbook on the Web. . . . . EX 746

Sharing Workbooks on OneDrive. . . . . EX 747

Session 12.1 Quick Check . . . . . EX 749

Session 12.2 Visual Overview:

Finalizing a Workbook. . . . . EX 750

Preparing the Final Workbook . . . . . EX 752

Setting Document Properties. . . . . EX 752

Inspecting a Workbook. . . . . EX 754

Protecting a Workbook. . . . . EX 758

Marking a Workbook as Final . . . . . EX 759

Signing Off on a Workbook . . . . . EX 759

Integrating Excel with Other Office  
Applications. . . . . EX 762

Object Linking and Embedding . . . . . EX 762

Customizing Excel for Your Work Style. . . . . EX 769

Developing a Workbook for International  
Clients . . . . . EX 772

Saving a Worksheet as a PDF File . . . . . EX 776

Session 12.2 Quick Check . . . . . EX 778

Review Assignments . . . . . EX 779

Case Problems. . . . . EX 780

**Appendix A Working with Text Functions and  
Creating Custom Formats***Cleaning Data in a Spreadsheet. . . . .* **EX A1**Opening and Saving Workbooks Created in  
Earlier Versions of Excel . . . . . EX A2

Using Text Functions. . . . . EX A4

Using the LEN and LEFT Functions. . . . . EX A5

Using the Paste Values Command . . . . . EX A7

    Using the PROPER Function and the  
    CONCATENATE Function. . . . . EX A8    Applying the Text to Columns  
    Command . . . . . EX A10    Using the UPPER Function to Convert  
    Case . . . . . EX A12

Using the SUBSTITUTE Function . . . . . EX A13

Using Special Formats. . . . . EX A15

Creating Custom Formats . . . . . EX A16

Creating a Custom Number Format. . . . . EX A16

Creating a Custom Date Format. . . . . EX A18

Using the Compatibility Checker . . . . . EX A20

Review Assignments . . . . . EX A22

Case Problems. . . . . EX A23

### **Appendix B Advanced Filters, Database Functions, and Summary IFS Functions**

*Filtering and Summarizing Database Information. . . . .* **EX B1**

Using Advanced Filters . . . . . EX B2

    Understanding the Criteria Range . . . . . EX B3

    Creating a Criteria Range . . . . . EX B7

Using Database Functions to Summarize  
Data . . . . . EX B11

Summarizing Data Using the COUNTIFS,  
SUMIFS, and AVERAGEIFS Functions . . . . . EX B16

Review Assignments . . . . . EX B22

Case Problems. . . . . EX B23

### **Appendix C Working with Enhanced Formatting Tools**

*Formatting Seasonal Calendars for a Waterpark. . . . .* **EX C1**

Creating a Custom Cell Style . . . . . EX C2

Creating a Custom Table Style . . . . . EX C4

Exploring Conditional Formats . . . . . EX C7

    Highlighting Cells . . . . . EX C7

    Modifying a Conditional Formatting Rule . . . . . EX C8

Working with Color Scales . . . . . EX C9

Working with Icon Sets . . . . . EX C13

Using Formulas to Apply  
Conditional Formatting. . . . . EX C15

Working with Pictures and SmartArt  
Graphics. . . . . EX C15

    Adding Text Labels to SmartArt  
    Graphics . . . . . EX C17

    Applying SmartArt Styles . . . . . EX C18

    Inserting and Editing Pictures. . . . . EX C18

    Resizing a SmartArt Graphic. . . . . EX C21

Working with Themes . . . . . EX C23

    Modifying a Theme's Fonts and Colors . . . . . EX C24

    Saving a Custom Theme . . . . . EX C26

Improving Accessibility with Alternative Text. . . . . EX C27

Review Assignments . . . . . EX C29

Case Problems. . . . . EX C30

**INDEX . . . . . REF 1**

# Productivity Apps for School and Work

OneNote  
Sway  
Office Mix  
Edge

Corinne Hoisington



© Rawpixel/Shutterstock.com

**Being computer literate no longer means mastery of only Word, Excel, PowerPoint, Outlook, and Access. To become technology power users, Hunter, Nori, Zoe, and Lochlan are exploring Microsoft OneNote, Sway, Mix, and Edge in Office 2016 and Windows 10.**

|                |                                      |    |
|----------------|--------------------------------------|----|
| In this Module | Introduction to OneNote 2016 .....   | 2  |
|                | Introduction to Sway .....           | 6  |
|                | Introduction to Office Mix .....     | 10 |
|                | Introduction to Microsoft Edge ..... | 14 |

## Learn to use productivity apps!

Links to companion **Sways**, featuring **videos** with hands-on instructions, are located on [www.cengagebrain.com](http://www.cengagebrain.com).

# Introduction to OneNote 2016

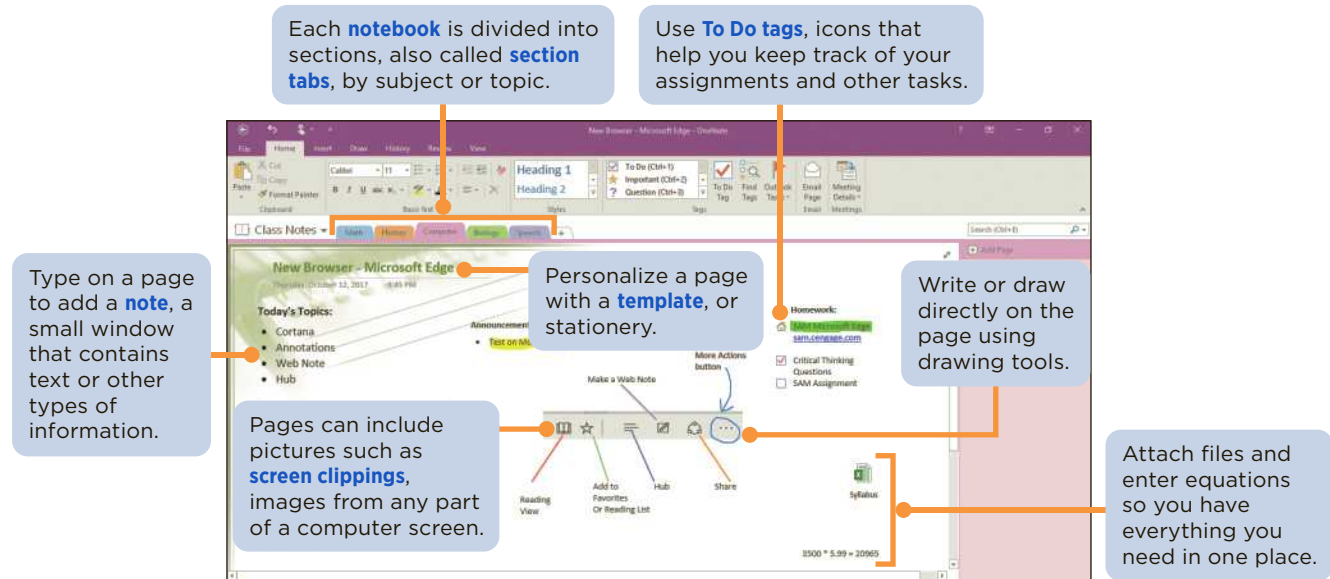
## Bottom Line

- OneNote is a note-taking app for your academic and professional life.
- Use OneNote to get organized by gathering your ideas, sketches, webpages, photos, videos, and notes in one place.

[notebook](#) | [section tab](#) | [To Do tag](#) | [screen clipping](#) | [note](#) | [template](#) | [Microsoft OneNote Mobile app](#) | [sync](#) | [drawing canvas](#) | [inked handwriting](#) | [Link to Text](#)

As you glance around any classroom, you invariably see paper notebooks and notepads on each desk. Because deciphering and sharing handwritten notes can be a challenge, Microsoft OneNote 2016 replaces physical notebooks, binders, and paper notes with a searchable, digital notebook. OneNote captures your ideas and schoolwork on any device so you can stay organized, share notes, and work with others on projects. Whether you are a student taking class notes as shown in **Figure 1** or an employee taking notes in company meetings, OneNote is the one place to keep notes for all of your projects.

**Figure 1:** OneNote 2016 notebook



## Learn to use OneNote!

Links to companion **Sways**, featuring **videos** with hands-on instructions, are located on [www.cengagebrain.com](http://www.cengagebrain.com).

## Creating a OneNote Notebook

OneNote is divided into sections similar to those in a spiral-bound notebook. Each OneNote notebook contains sections, pages, and other notebooks. You can use OneNote for school, business, and personal projects. Store information for each type of project in different notebooks to keep your tasks separate, or use any other organization that suits you. OneNote is flexible enough to adapt to the way you want to work.

When you create a notebook, it contains a blank page with a plain white background by default, though you can use templates, or stationery, to apply designs in categories such as Academic, Business, Decorative, and Planners. Start typing or use the buttons on the Insert tab to insert notes, which are small resizable windows that can contain text, equations, tables, on-screen writing, images, audio and video recordings, to-do lists, file attachments, and file printouts. Add as many notes as you need to each page.

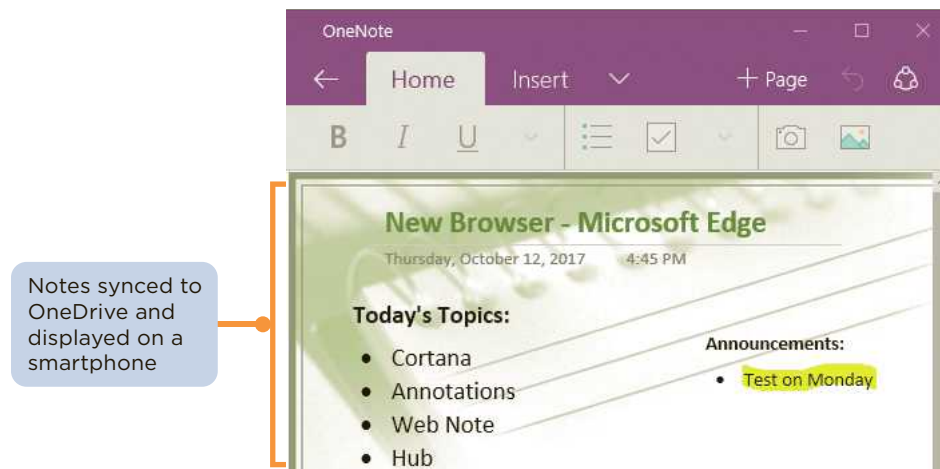
## Syncing a Notebook to the Cloud

OneNote saves your notes every time you make a change in a notebook. To make sure you can access your notebooks with a laptop, tablet, or smartphone wherever you are, OneNote uses cloud-based storage, such as OneDrive or SharePoint. **Microsoft OneNote Mobile app**, a lightweight version of OneNote 2016 shown in **Figure 2**, is available for free in the Windows Store, Google Play for Android devices, and the AppStore for iOS devices.

If you have a Microsoft account, OneNote saves your notes on OneDrive automatically for all your mobile devices and computers, which is called **syncing**. For example, you can use OneNote to take notes on your laptop during class, and then

open OneNote on your phone to study later. To use a notebook stored on your computer with your OneNote Mobile app, move the notebook to OneDrive. You can quickly share notebook content with other people using OneDrive.

**Figure 2:** Microsoft OneNote Mobile app



## Taking Notes

Use OneNote pages to organize your notes by class and topic or lecture. Beyond simple typed notes, OneNote stores drawings, converts handwriting to searchable text and mathematical sketches to equations, and records audio and video.

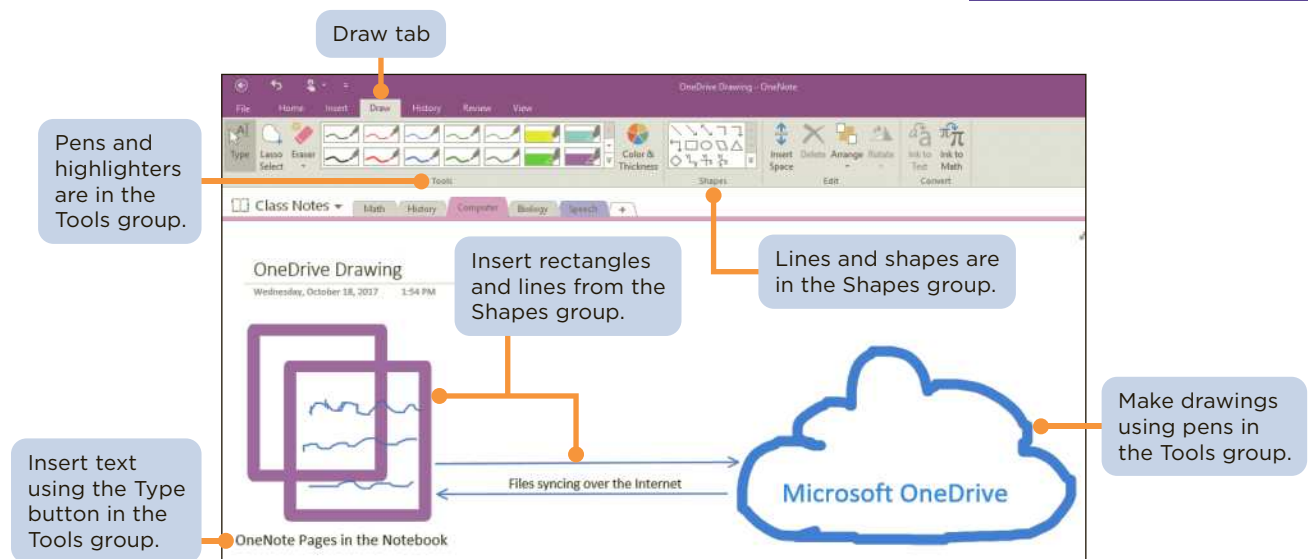
OneNote includes drawing tools that let you sketch freehand drawings such as biological cell diagrams and financial supply-and-demand charts. As shown in **Figure 3**, the Draw tab on the ribbon provides these drawing tools along with shapes so you can insert diagrams and other illustrations to represent your ideas. When you draw on a page, OneNote creates a **drawing canvas**, which is a container for shapes and lines.



## On the Job Now

OneNote is ideal for taking notes during meetings, whether you are recording minutes, documenting a discussion, sketching product diagrams, or listing follow-up items. Use a meeting template to add pages with content appropriate for meetings.

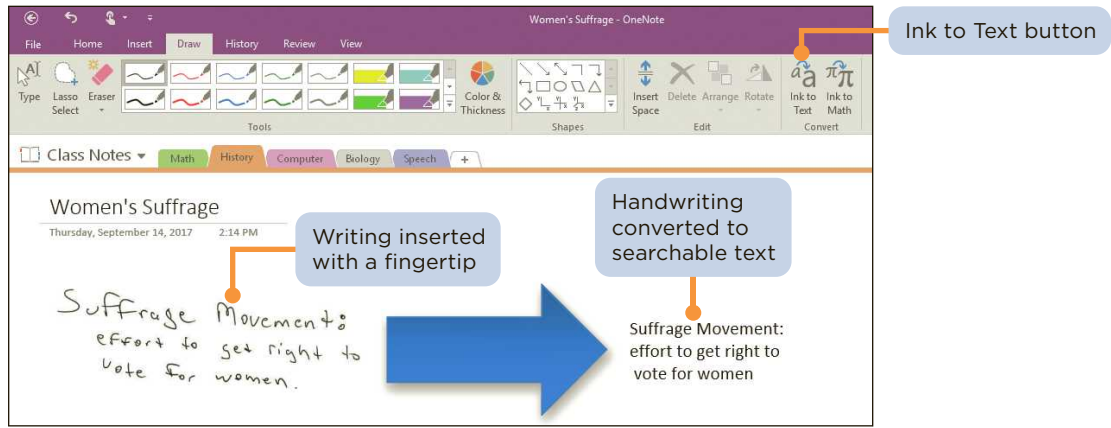
**Figure 3:** Tools on the Draw tab



## Converting Handwriting to Text

When you use a pen tool to write on a notebook page, the text you enter is called **inked handwriting**. OneNote can convert inked handwriting to typed text when you use the **Link to Text** button in the Convert group on the Draw tab, as shown in **Figure 4**. After OneNote converts the handwriting to text, you can use the Search box to find terms in the converted text or any other note in your notebooks.

**Figure 4:** Converting handwriting to text



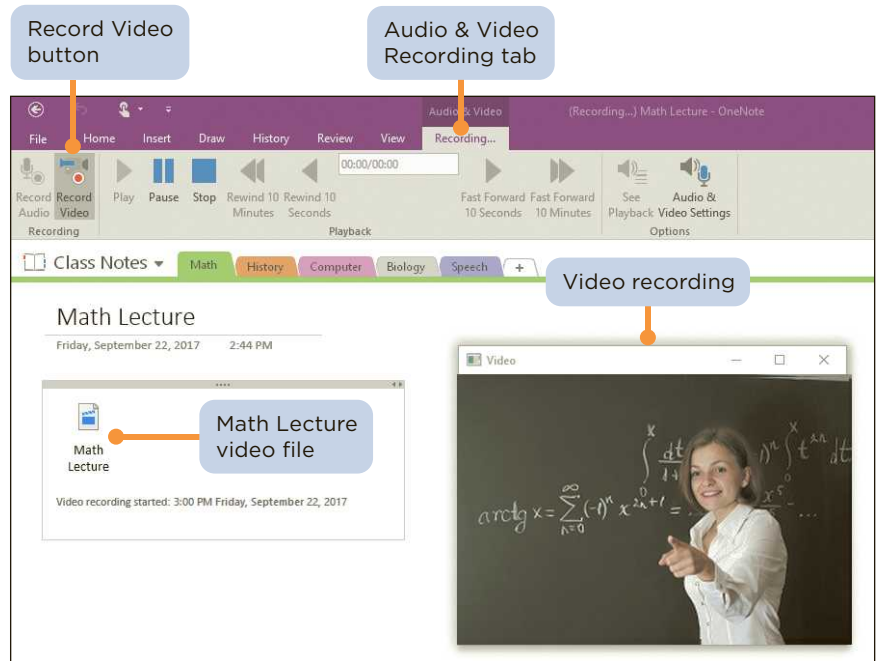
**On the Job Now**

Use OneNote as a place to brainstorm ongoing work projects. If a notebook contains sensitive material, you can password-protect some or all of the notebook so that only certain people can open it.

**Recording a Lecture**

If your computer or mobile device has a microphone or camera, OneNote can record the audio or video from a lecture or business meeting as shown in **Figure 5**. When you record a lecture (with your instructor's permission), you can follow along, take regular notes at your own pace, and review the video recording later. You can control the start, pause, and stop motions of the recording when you play back the recording of your notes.

**Figure 5:** Video inserted in a notebook



## Try This Now

### 1: Taking Notes for a Week

As a student, you can get organized by using OneNote to take detailed notes in your classes. Perform the following tasks:

- Create a new OneNote notebook on your Microsoft OneDrive account (the default location for new notebooks). Name the notebook with your first name followed by “Notes,” as in **Caleb Notes**.
- Create four section tabs, each with a different class name.
- Take detailed notes in those classes for one week. Be sure to include notes, drawings, and other types of content.
- Sync your notes with your OneDrive. Submit your assignment in the format specified by your instructor.

#### Learn to use OneNote!

Links to companion **Sways**, featuring **videos** with hands-on instructions, are located on [www.cengagebrain.com](http://www.cengagebrain.com).

### 2: Using OneNote to Organize a Research Paper

You have a research paper due on the topic of three habits of successful students. Use OneNote to organize your research. Perform the following tasks:

- Create a new OneNote notebook on your Microsoft OneDrive account. Name the notebook **Success Research**.
- Create three section tabs with the following names:
  - **Take Detailed Notes**
  - **Be Respectful in Class**
  - **Come to Class Prepared**
- On the web, research the topics and find three sources for each section. Copy a sentence from each source and paste the sentence into the appropriate section. When you paste the sentence, OneNote inserts it in a note with a link to the source.
- Sync your notes with your OneDrive. Submit your assignment in the format specified by your instructor.

### 3: Planning Your Career

*Note:* This activity requires a webcam or built-in video camera on any type of device.

Consider an occupation that interests you. Using OneNote, examine the responsibilities, education requirements, potential salary, and employment outlook of a specific career. Perform the following tasks:

- Create a new OneNote notebook on your Microsoft OneDrive account. Name the notebook with your first name followed by a career title, such as **Kara - App Developer**.
- Create four section tabs with the names **Responsibilities**, **Education Requirements**, **Median Salary**, and **Employment Outlook**.
- Research the responsibilities of your career path. Using OneNote, record a short video (approximately 30 seconds) of yourself explaining the responsibilities of your career path. Place the video in the Responsibilities section.
- On the web, research the educational requirements for your career path and find two appropriate sources. Copy a paragraph from each source and paste them into the appropriate section. When you paste a paragraph, OneNote inserts it in a note with a link to the source.
- Research the median salary for a single year for this career. Create a mathematical equation in the Median Salary section that multiplies the amount of the median salary times 20 years to calculate how much you will possibly earn.
- For the Employment Outlook section, research the outlook for your career path. Take at least four notes about what you find when researching the topic.
- Sync your notes with your OneDrive. Submit your assignment in the format specified by your instructor.



## Introduction to Sway

[Sway site](#) | [responsive design](#) | [Storyline](#) | [card](#) | [Creative Commons license](#) | [animation emphasis effects](#) | [Docs.com](#)

### Bottom Line

- Drag photos, videos, and files from your computer and content from Facebook and Twitter directly to your Sway presentation.
- Run Sway in a web browser or as an app on your smartphone, and save presentations as webpages.

Expressing your ideas in a presentation typically means creating PowerPoint slides or a Word document. Microsoft Sway gives you another way to engage an audience. Sway is a free Microsoft tool available at [Sway.com](#) or as an app in Office 365. Using Sway, you can combine text, images, videos, and social media in a website called a **Sway site** that you can share and display on any device. To get started, you create a digital story on a web-based canvas without borders, slides, cells, or page breaks. A Sway site organizes the text, images, and video into a **responsive design**, which means your content adapts perfectly to any screen size as shown in **Figure 6**. You store a Sway site in the cloud on OneDrive using a free Microsoft account.

**Figure 6:** Sway site with responsive design



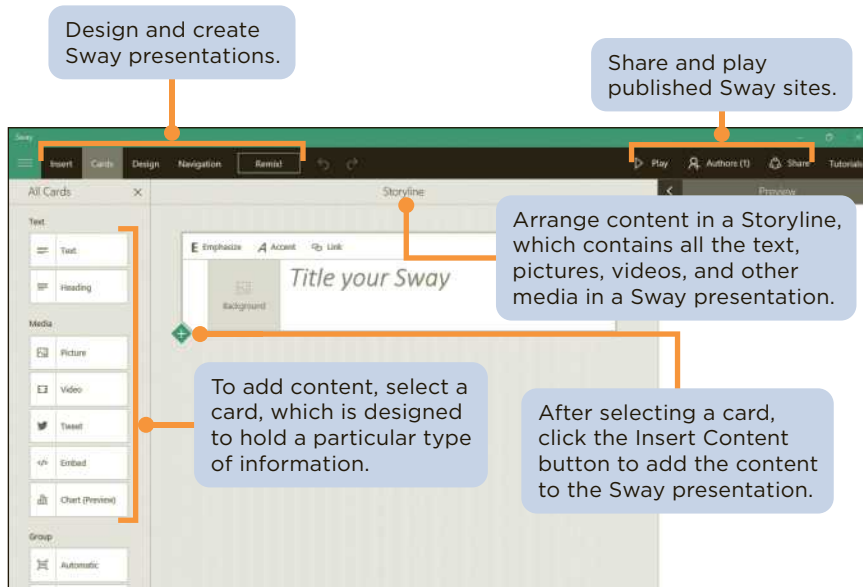
### Learn to use Sway!

Links to companion **Sways**, featuring **videos** with hands-on instructions, are located on [www.cengagebrain.com](#).

## Creating a Sway Presentation

You can use Sway to build a digital flyer, a club newsletter, a vacation blog, an informational site, a digital art portfolio, or a new product rollout. After you select your topic and sign into Sway with your Microsoft account, a **Storyline** opens, providing tools and a work area for composing your digital story. See **Figure 7**. Each story can include text, images, and videos. You create a Sway by adding text and media content into a Storyline section, or **card**. To add pictures, videos, or documents, select a card in the left pane and then select the Insert Content button. The first card in a Sway presentation contains a title and background image.

**Figure 7:** Creating a Sway site



## Adding Content to Build a Story

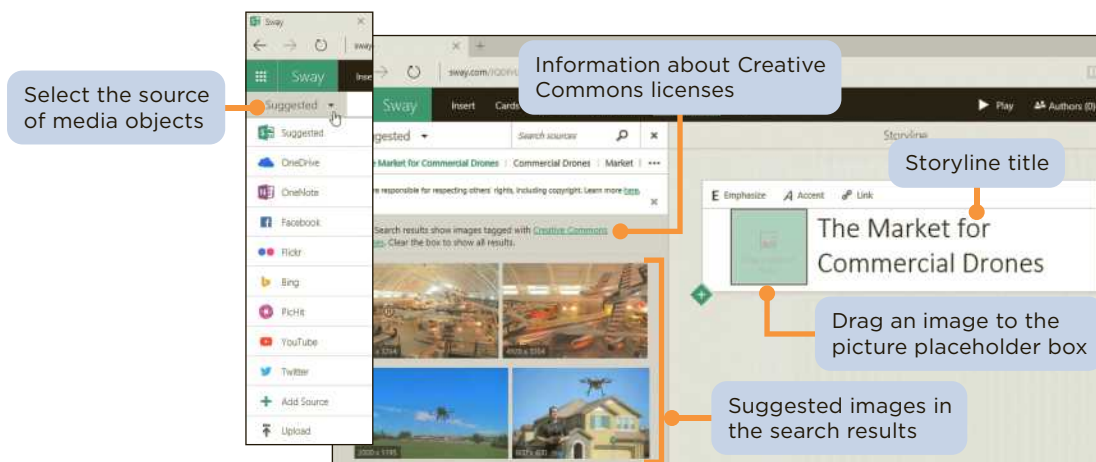
As you work, Sway searches the Internet to help you find relevant images, videos, tweets, and other content from online sources such as Bing, YouTube, Twitter, and Facebook. You can drag content from the search results right into the Storyline. In addition, you can upload your own images and videos directly in the presentation. For example, if you are creating a Sway presentation about the market for commercial drones, Sway suggests content to incorporate into the presentation by displaying it in the left pane as search results. The search results include drone images tagged with a **Creative Commons license** on online sources as shown in **Figure 8**. A Creative Commons license is a public copyright license that allows the free distribution of an otherwise copyrighted work. In addition, you can specify the source of the media. For example, you can add your own Facebook or OneNote pictures and videos in Sway without leaving the app.



### On the Job Now

If you have a Microsoft Word document containing an outline of your business content, drag the outline into Sway to create a card for each topic.

**Figure 8:** Images in Sway search results





### On the Job Now

If your project team wants to collaborate on a Sway presentation, click the Authors button on the navigation bar to invite others to edit the presentation.

## Designing a Sway

Sway professionally designs your Storyline content by resizing background images and fonts to fit your display, and by floating text, animating media, embedding video, and removing images as a page scrolls out of view. Sway also evaluates the images in your Storyline and suggests a color palette based on colors that appear in your photos. Use the Design button to display tools including color palettes, font choices, **animation emphasis effects**, and style templates to provide a personality for a Sway presentation. Instead of creating your own design, you can click the Remix button, which randomly selects unique designs for your Sway site.

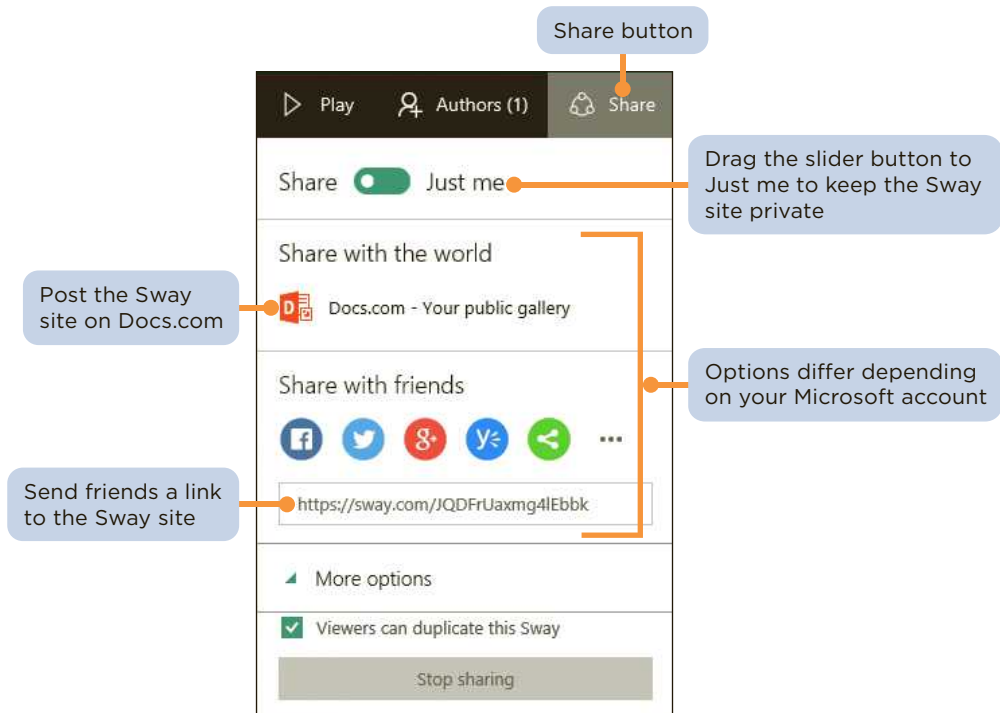
## Publishing a Sway

Use the Play button to display your finished Sway presentation as a website. The Address bar includes a unique web address where others can view your Sway site. As the author, you can edit a published Sway site by clicking the Edit button (pencil icon) on the Sway toolbar.

## Sharing a Sway

When you are ready to share your Sway website, you have several options as shown in **Figure 9**. Use the Share slider button to share the Sway site publicly or keep it private. If you add the Sway site to the Microsoft **Docs.com** public gallery, anyone worldwide can use Bing, Google, or other search engines to find, view, and share your Sway site. You can also share your Sway site using Facebook, Twitter, Google+, Yammer, and other social media sites. Link your presentation to any webpage or email the link to your audience. Sway can also generate a code for embedding the link within another webpage.

**Figure 9:** Sharing a Sway site



## Try This Now

### 1: Creating a Sway Resume

Sway is a digital storytelling app. Create a Sway resume to share the skills, job experiences, and achievements you have that match the requirements of a future job interest.

Perform the following tasks:

- a. Create a new presentation in Sway to use as a digital resume. Title the Sway Storyline with your full name and then select a background image.
- b. Create three separate sections titled **Academic Background**, **Work Experience**, and **Skills**, and insert text, a picture, and a paragraph or bulleted points in each section. Be sure to include your own picture.
- c. Add a fourth section that includes a video about your school that you find online.
- d. Customize the design of your presentation.
- e. Submit your assignment link in the format specified by your instructor.

### 2: Creating an Online Sway Newsletter

Newsletters are designed to capture the attention of their target audience. Using Sway, create a newsletter for a club, organization, or your favorite music group. Perform the following tasks:

- a. Create a new presentation in Sway to use as a digital newsletter for a club, organization, or your favorite music group. Provide a title for the Sway Storyline and select an appropriate background image.
- b. Select three separate sections with appropriate titles, such as Upcoming Events. In each section, insert text, a picture, and a paragraph or bulleted points.
- c. Add a fourth section that includes a video about your selected topic.
- d. Customize the design of your presentation.
- e. Submit your assignment link in the format specified by your instructor.

### 3: Creating and Sharing a Technology Presentation

To place a Sway presentation in the hands of your entire audience, you can share a link to the Sway presentation. Create a Sway presentation on a new technology and share it with your class. Perform the following tasks:

- a. Create a new presentation in Sway about a cutting-edge technology topic. Provide a title for the Sway Storyline and select a background image.
- b. Create four separate sections about your topic, and include text, a picture, and a paragraph in each section.
- c. Add a fifth section that includes a video about your topic.
- d. Customize the design of your presentation.
- e. Share the link to your Sway with your classmates and submit your assignment link in the format specified by your instructor.

#### Learn to use Sway!

Links to companion **Sways**, featuring **videos** with hands-on instructions, are located on [www.cengagebrain.com](http://www.cengagebrain.com).

## Introduction to Office Mix

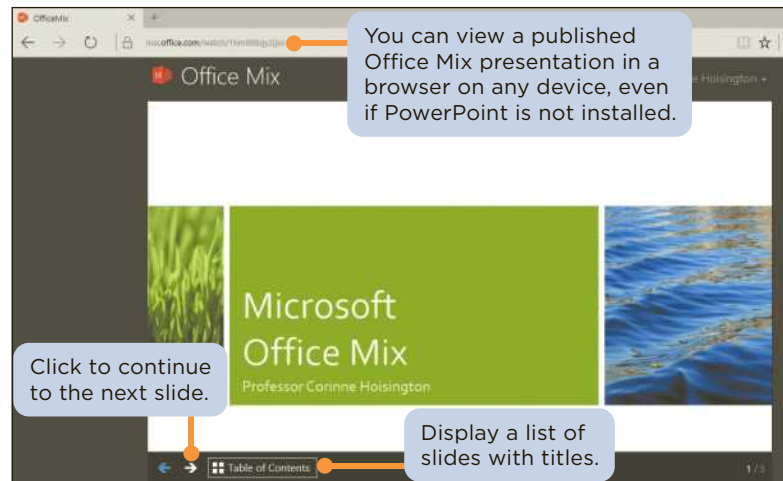
[add-in](#) | [clip](#) | [slide recording](#) | [Slide Notes](#) | [screen recording](#) | [free-response quiz](#)

### Bottom Line

- Office Mix is a free PowerPoint add-in from Microsoft that adds features to PowerPoint.
- The Mix tab on the PowerPoint ribbon provides tools for creating screen recordings, videos, interactive quizzes, and live webpages.

To enliven business meetings and lectures, Microsoft adds a new dimension to presentations with a powerful toolset called Office Mix, a free add-in for PowerPoint. (An **add-in** is software that works with an installed app to extend its features.) Using Office Mix, you can record yourself on video, capture still and moving images on your desktop, and insert interactive elements such as quizzes and live webpages directly into PowerPoint slides. When you post the finished presentation to OneDrive, Office Mix provides a link you can share with friends and colleagues. Anyone with an Internet connection and a web browser can watch a published Office Mix presentation, such as the one in **Figure 10**, on a computer or mobile device.

**Figure 10:** Office Mix presentation



### Learn to use Office Mix!

Links to companion **Sways**, featuring **videos** with hands-on instructions, are located on [www.cengagebrain.com](http://www.cengagebrain.com).

## Adding Office Mix to PowerPoint

To get started, you create an Office Mix account at the website [mix.office.com](http://mix.office.com) using an email address or a Facebook or Google account. Next, you download and install the Office Mix add-in (see **Figure 11**). Office Mix appears as a new tab named Mix on the PowerPoint ribbon in versions of Office 2013 and Office 2016 running on personal computers (PCs).

**Figure 11:** Getting started with Office Mix



## Capturing Video Clips

A **clip** is a short segment of audio, such as music, or video. After finishing the content on a PowerPoint slide, you can use Office Mix to add a video clip to animate or illustrate the content. Office Mix creates video clips in two ways: by recording live action on a webcam and by capturing screen images and movements. If your computer has a webcam, you can record yourself and annotate the slide to create a **slide recording** as shown in **Figure 12**.



### On the Job Now

Companies are using Office Mix to train employees about new products, to explain benefit packages to new workers, and to educate interns about office procedures.

**Figure 12:** Making a slide recording



When you are making a slide recording, you can record your spoken narration at the same time. The **Slide Notes** feature works like a teleprompter to help you focus on your presentation content instead of memorizing your narration. Use the Inking tools to make annotations or add highlighting using different pen types and colors. After finishing a recording, edit the video in PowerPoint to trim the length or set playback options.

The second way to create a video is to capture on-screen images and actions with or without a voiceover. This method is ideal if you want to show how to use your favorite website or demonstrate an app such as OneNote. To share your screen with an audience, select the part of the screen you want to show in the video. Office Mix captures everything that happens in that area to create a **screen recording**, as shown in **Figure 13**. Office Mix inserts the screen recording as a video in the slide.



### On the Job Now

To make your video recordings accessible to people with hearing impairments, use the Office Mix closed-captioning tools. You can also use closed captions to supplement audio that is difficult to understand and to provide an aid for those learning to read.

**Figure 13:** Making a screen recording

