



## Executive Summary

If your school is implementing Microsoft® OneNote® as a learning and collaboration tool, be sure to choose your mobile device carefully. OneNote is available across the device spectrum, **but not all devices support the full breadth of OneNote functionality.**

Prowess Consulting compared OneNote on four different devices, but only one of them makes the grade—the Dell™ Latitude™ 10, powered by Intel® hardware and Windows 8.

The Dell Latitude 10 enriches learning:

- Audio and video recording
- Advanced search capabilities
- Stylus support
- OneNote customization
- Image import via scanner

## OneNote and Classroom Productivity

Today's generation of students have grown up with computers and the Internet at their fingertips, so they expect a certain level of technology to be present in the classroom. They don't go to encyclopedias or libraries for their information anymore—they turn to computing devices to tap into the well of information present on the Web. Microsoft OneNote is ideal for students because, on a mobile device, it enables them to organize their schoolwork in one virtual place. Gone are the days of lugging around pounds of spiral notebooks and binders stuffed with paper—OneNote on a mobile device can literally lighten a student's burden.

For teachers, OneNote presents a unique classroom tool that encourages collaboration and interaction, in addition to providing a repository for lesson plans and notes. Teachers can create notebooks, sections, and pages that correspond to textbook chapters, lectures, quizzes, and more, and then teachers can share those materials with students (or other teachers).

However, OneNote functionality is not the same across devices, and some of the most powerful features for academic use are only available to users running OneNote on Windows. These features are enhanced by performance and security provided by Intel hardware. Even when used on companion devices, schools will find that teachers and students get the best experience using OneNote on 2 in 1 devices, Ultrabook™ devices, and tablets running Windows 8 and powered by Intel processors.

Because OneNote functionality varies across platforms, Prowess Consulting put three mobile devices to the test to determine which platform will give students and teachers the fullest OneNote experience.

Table 1. Microsoft® OneNote® across three different mobile platforms (for full configuration and test environment description, see Appendix A)



Dell™ Latitude™ 10 powered by Intel® architecture and Windows® 8	Samsung® Nexus™ 10 powered by an ARM® based processor and Android™	Samsung® Chromebook™ powered by an ARM based processor and Google™ Chrome™	Apple® iPad® powered by an ARM based processor and iOS®
Intel® Atom™ processor Z2760	Dual-core A15 processor	Samsung® Exynos® 5 Dual (ARMv7)	Dual-core A6X processor

Our tests showed that the best, most learning-centric user experience with OneNote is on a tablet running Windows 8 and powered by Intel processors. When you deploy OneNote on these platforms, users can enjoy the following capabilities they cannot get from OneNote on alternative platforms:

- **Record audio and video**—Teachers and students can record lectures, demonstrations, or labs and embed the files in notes.
- **Intelligent media processing**—OneNote can recognize and process text inside handwritten notes, pictures, scanned documents, and even audio and video files, making it available for search and indexing.
- **OneNote add-ins**—Schools can extend and customize OneNote capabilities through add-ins and custom apps.
- **Attached scanner support**—Students and teachers can easily capture documents or images and add them to notes.
- **Stylus support**—Students and teachers can use a stylus to handwrite notes.

## Use Case: Microsoft® OneNote® and Handwritten Notes

The desktop version of OneNote supports digital pen input, so the classroom platform really matters. Not all mobile devices are compatible with digitized pens, and not all devices support ink drawing in OneNote.

Studies show that students who use a tablet and stylus, rather than a pen and paper, explore more spatial content.<sup>1</sup> In other words, with OneNote, students can think beyond the margins of a ruled sheet of paper. Teachers no longer need to erase a whiteboard, chalkboard, or overhead projector, so questions asked during a lesson can be investigated right away simply by creating a new page or section.<sup>2</sup> This method has the potential to let students expand and change the way they think, and teachers are able to encourage that free thinking with the flexibility that OneNote and a stylus offers.

At a chalkboard, teachers have their back to students, so face-to-face interaction is inconsistent. When a teacher uses a stylus and docking station with their tablet, they can more fully engage with their students. They can make eye contact and ensure that each student feels included in the discussion.<sup>2</sup>

In addition, using OneNote on devices powered by Windows and Intel, like the Dell Latitude 10, provides the following advantages over mobile apps and the web app found on Android™, Apple®, and Chromebook™ devices:

- Extensive formatting and proofing tools**—Teachers and students can customize the look and feel of their notes with rich, easy-to-use tools.
- Advanced notebook organization features**—Teachers and students can stay organized with multiple ways to create, copy, and move notebooks and sections.
- Integration with other Microsoft software**—Teachers can synchronize Microsoft® Outlook® tasks and meeting details with OneNote, e-mail OneNote pages, and edit Microsoft® Office files embedded in OneNote.
- Document security**—OneNote can apply and consume data-protection schemes such as password protection for notebook sections. This capability can help teachers keep student information confidential.

## What OneNote Brings into the Classroom

Based on the analogy of a tabbed notebook, OneNote lets users assemble typed and hand-written notes, drawings, screen clippings, and files anywhere on pages, which are then sorted into sections. Pages can be as large as the user requires, and OneNote does not enforce any uniform layout or structuring on pages. Multiple users on a variety of platforms can work in the same notebook and on the same pages simultaneously.

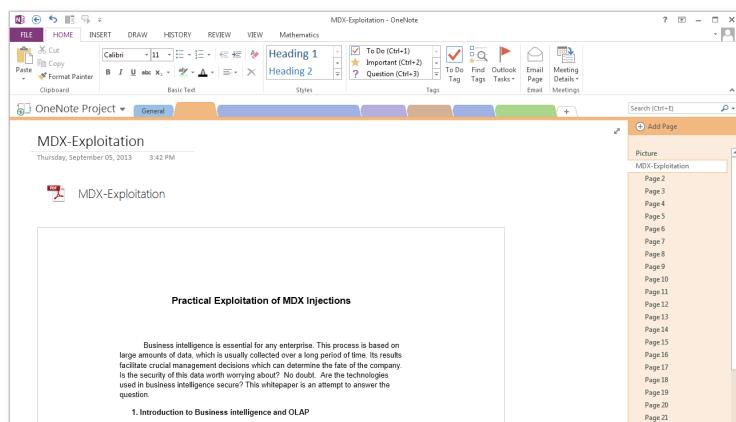


Figure 1. Microsoft® OneNote® 2013 user interface on a computer running Windows® 8 and powered by Intel® architecture

## One Application, Several Versions

OneNote comes in five different versions, each with different functionality.<sup>3</sup> It is available for Windows computers, iOS® devices, Android devices, Windows Phone® devices, and Symbian™ mobile devices. A browser-based version of OneNote is provided as part of Microsoft® OneDrive® and Microsoft® Office Web Apps for users who either do not or cannot install the desktop OneNote app on their devices. To distinguish between OneNote versions, table 2 shows the terminology and definitions we use in this paper:

Table 2. Versions of Microsoft® OneNote® and the devices we tested

Microsoft® OneNote® Versions		
Version	Description	Tested On
Desktop version	<ul style="list-style-type: none"> <li>A full installation of OneNote 2013 on devices running Windows® 8 (or Windows 7) and powered by Intel® architecture</li> <li>Available as part of the Microsoft® Office 2013 suite, or with Microsoft® Office 365™, or as a standalone application</li> </ul>	<ul style="list-style-type: none"> <li>Mobile device running Windows 8 and Intel architecture</li> </ul>
Mobile app	<ul style="list-style-type: none"> <li>A version designed for the iOS® and Android™ operating systems</li> <li>Available from various app stores for Apple® iPhone® devices, Apple® iPad® devices, and Google™ Android™ devices</li> </ul>	<ul style="list-style-type: none"> <li>Mobile device running Android and ARM®</li> <li>Mobile device running Google™ Chrome™ and ARM</li> </ul>
Web app*	<ul style="list-style-type: none"> <li>A lightweight, browser-based version of OneNote built into Microsoft® OneDrive® and Microsoft® SharePoint® Online</li> <li>Available to view and edit OneNote notebooks in a browser session when the user is signed in to his or her Microsoft account</li> </ul>	<ul style="list-style-type: none"> <li>Mobile device running Windows 8 on Intel architecture</li> <li>Mobile device running Android on ARM architecture</li> </ul>

\*Though all tested devices support some functionality within the OneNote Web App, it is useful primarily as a notebook viewing tool on iPads and Android mobile devices using mobile Apple® Safari® and Google™ Chrome™ browsers. At time of testing, editing and notebook creation using the web app on these platforms was difficult and erratic.

## Microsoft® OneNote® Enhances Classroom Collaboration

But device choice can limit the collaborative capability

### Want Full Features? Deploy the Desktop Version

The most fully featured version is the OneNote desktop version, which runs on Windows tablets like the Dell™ Latitude™ 10. Users will also find the desktop version on , Ultrabook devices, 2 in 1 devices, and PCs running Windows 7 or Windows 8 and powered by Intel hardware. This version supports advanced features and capabilities not available in other versions, as you'll see in the section A stylus, the OneNote desktop version, Intel® hardware, and Windows® 8. For example, it supports intelligent processing of graphics, video, and audio files embedded in OneNote pages. This processing, called optical character recognition (OCR), enables advanced search features and indexing of text inside media files. OneNote can also replay audio concurrently with notes taken during the recording.

### Why Your Hardware Platform Matters

Your school's platform choice dictates the version of OneNote that students and teachers can use, and therefore defines the limits of your users' ability to maximize the tool for collaboration and learning. These differences can have profound impacts on the usefulness of OneNote for a group of students or teachers. To underscore this impact, this section shows the experience that students and teachers using OneNote can expect to have on various mobile platforms:

- A stylus, the OneNote desktop version, Intel® hardware, and Windows® 8
- The OneNote mobile app, iOS® and Android™ devices
- The OneNote Web App on Google™ Chromebook™
- Which devices and OneNote version make the grade?

### A Stylus, the OneNote Desktop Version, Intel® Hardware, and Windows® 8

Highest marks go to a Windows device on Intel hardware, like the Dell® Latitude 10, paired with a stylus. The desktop version of OneNote is the only version to. A provide students and teachers with a full set of collaboration and organizational tools and advanced functionality. Users will only find this experience on Windows devices that support a digitized pen.

Windows devices can also access and use the Windows Store version of OneNote. This OneNote version has an aesthetic appeal because of its radial menu, but it falls short of the full functionality found in the OneNote desktop version.

### Record Audio and Video

Students and teachers equipped with the desktop version and a mobile device powered by Intel hardware and Windows can record audio and video files—from within the OneNote interface—and embed the files in notebooks for playback and sharing. This is an easy and effective way to capture and share lectures, labs, demonstrations, or other audio or video content, all without leaving OneNote.

### Handwrite Notes

On devices with pen-input support and the OneNote desktop version, students and teachers can use a stylus to handwrite notes or mathematical formulas or equations. When students take notes using a virtual keyboard, they are often unable to recall the content of the lesson, but handwriting notes on a tablet can help keep students engaged and can expand their ability to learn.<sup>1</sup>

Students and teachers will find that using a stylus with OneNote on a Windows tablet is comfortable and natural, and it's okay to rest your hand or wrist on the tablet screen. In comparison, on an Apple tablet, students and teachers must hold their hand or wrist away from the tablet screen to avoid creating stray marks. Using a stylus with the OneNote desktop version supports (and encourages) learning in a digital environment—even in math class.

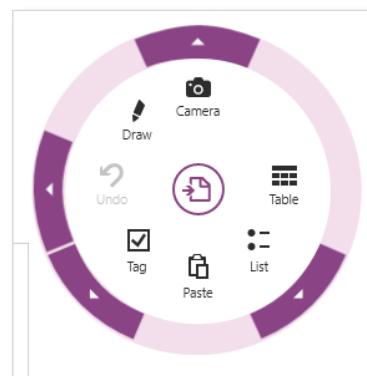


Figure 2. Radial menu in Windows® Store version of Microsoft® OneNote®

## Extend OneNote Capabilities

The desktop version of OneNote is also unique in its support for add-ins both from Microsoft and from third-parties. Add-ins extend the functionalities of OneNote and can enhance OneNote as a collaborative organizational tool. For example, a mathematics add-in for OneNote could simplify the insertion of equations into OneNote and also graph and solve those equations. The OneNote development team recommends an add-in called Onetastic, was created by one of its team members. This add-in provides features, such as a calendar view, that can be inserted and used in your notes. Schools can also create their own add-ins for OneNote to customize it and optimize its usefulness—but only the desktop OneNote version, which runs on devices with Windows and Intel hardware, can use them.

## Expand the Usefulness of Media Files

Users of any OneNote version can view images embedded in notes. However, students or teachers using the desktop version on a device powered by Intel hardware and Windows can do more with embedded media than users on alternative platforms. That's because OneNote 2013 indexes the text in embedded documents, pictures, and recordings so that it is searchable and, in some cases, available for copying through the following technologies:

- **Optical character recognition (OCR)**—When you place pictures, screen clippings, or scanned documents into OneNote 2013, OneNote automatically uses OCR to make text in the picture or document searchable. You can also choose to copy scanned text out of the picture or document or select specific portions of text to copy to your clipboard.
- **Phonetic indexing**—When you embed or record audio or video clips in OneNote 2013, you can choose to make those clips searchable. When this option is selected, text searches in OneNote 2013 will also return results from audio and video clips, along with the time marker for where they occur in the recording; clicking these results will play the clip at that point.

These features make a wider assortment of content searchable, and then the OneNote desktop version can complement that assortment with search options that are not available in the mobile apps or the web app. In addition to searching by word or phrase, users can search by tag, author, or date—options that are not available in the mobile apps. In the desktop and mobile versions, OneNote searches span all of the notebooks users can access (as opposed to just searching within the current section—a limitation of the web app). This greatly increases the value of OneNote for users with access to many notebooks with a lot of content in them.

OneNote desktop version users on platforms powered by Intel hardware and Windows also enjoy capabilities that are either limited or not available with mobile apps or the web app, including advanced formatting and proofing, notebook organization, and integration with other Microsoft software.<sup>3</sup>

## Use Advanced Formatting and Proofing Tools

All versions of OneNote provide some capabilities for formatting text in notebooks. However, the desktop version provides a complete assortment of formatting and proofing features that are not found in most other versions. These capabilities are more than cosmetic—they are comprehensive, granular options for paragraph formatting, and styles help make raw text more readable and help users collaborate effectively. For example, plain text extracted from a scanned document can be formatted to look like the original document or to emphasize key ideas.

Proofing options on these platforms also extend beyond the cosmetic. In addition to simply pointing out spelling and grammatical problems, OneNote provides the same multilingual thesaurus and dictionary features as Microsoft Word, in addition to translation features.

Additionally, the full assortment of tags available on Windows and Intel platforms can make notes and research materials easier to find, easier to organize, and easier to share with peers.



## Take Advantage of More Notebook Organization Options

Users of the OneNote desktop version on Windows and Intel mobile devices have the complete range of options for creating, moving, and rearranging notebook sections and pages. Mobile apps and the web app version can create, rename, and delete notebooks, sections, and pages.

Users of the desktop version can also do much more in terms of organization. They can move entire notebooks, move and copy sections and pages, view previous versions of pages, and merge pages to keep things simple. Additionally, this version allows users to create, manage, and store OneNote notebooks as local files. Local creation and storage can enhance productivity by allowing users to create new notebooks when there is no Internet connectivity—while on the bus, for example.

## Integrate with Other Microsoft Software

OneNote integration with Outlook in the desktop version also provides additional value. Teachers can send tasks and e-mails from Outlook to OneNote and sync completion of those tasks with Outlook. They can also easily import meeting details from Outlook into notes and can choose to take meeting notes independently or share the meeting notes with colleagues. If they choose to share notes with colleagues, integration between OneNote 2013 and Outlook inserts a link to the shared notes in the Outlook invitation, which helps simplify communication and collaboration as meeting attendees can quickly view and edit shared notes. Users of the desktop version can also e-mail OneNote pages through Outlook with the click of a button.

## Use Case: Team Research

When students and teachers store Microsoft® OneNote® notebooks on Microsoft® OneDrive® and Microsoft® SharePoint® and share them with peers, OneNote can become a super-wiki for a study group, classroom, or department. OneNote accepts text, ink, images, audio, video, files, or any combination to meet team needs at any stage of a project.

For example, a group of high school seniors are working on a project for an upcoming debate competition. They don't want their information to fall in the competition's hands, so they could use a dedicated, password-protected notebook for the project stored on the school SharePoint site or OneDrive. Within the notebook, the students can create new sections as necessary, to which they can post video from previous winning debates or clips of the competition, audio recordings of mock debates, and pictures of visual aids. The data put into OneNote is also fully searchable. Students can search for key words in specific sections or across notebooks for raw text, handwritten text, text in embedded images and document files (including PDF files and scanned documents), and even phonetic searches of audio and video files. They can also limit their searches to data inserted by specific users. Only the OneNote desktop version, which runs on devices powered by Windows and Intel, can combine all of these features with the flexibility of 2 in 1 devices, Ultrabook™ devices, and tablets.

## Import from an Attached Scanner

Users of the OneNote desktop version can import scanned images directly from an attached scanner without switching to another app. This capability lets users capture scans more efficiently than on other platforms, contributing to overall productivity.

## Protect your Notes

Users of the desktop version can secure sensitive information stored in notebooks by adding password protection to specific sections. This feature can help protect information from unauthorized access. Users of the web app can view and edit password-protected content, but they cannot apply password protection. Mobile versions of OneNote can neither open password-protected content nor apply password protection.

## The OneNote Mobile App on iOS® and Android™ Devices

Schools that deploy Android tablets for their students and teachers limit their users' access to OneNote features to ones offered by the mobile apps or the web app. These users enjoy the sleek, lightweight form factor, but they make a significant tradeoff because their interface and editing tools are rather basic: users can perform simple editing and tagging, can create and delete notebooks, sections, and pages, and can work in notebooks at the same time as other users. What surprises a lot of users, however, is that while they can view "inked" drawings and handwriting in notebooks, the OneNote mobile app does not support drawing with a stylus or finger. Worse still from a productivity perspective, the mobile app cannot open password-protected notebook sections.

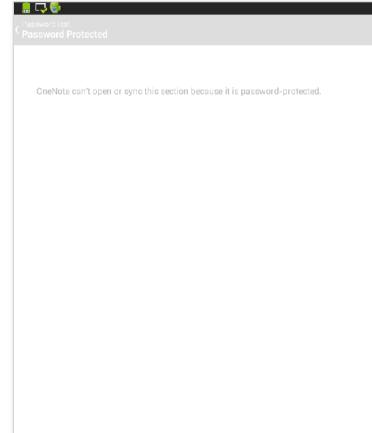


Figure 3. The Microsoft® OneNote® mobile app for Android™ tablets cannot open or sync password-protected notebooks

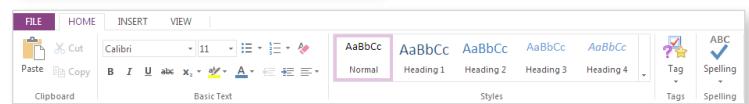


Figure 4. Microsoft® OneNote® Web App Home ribbon

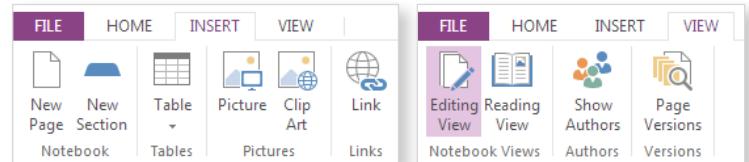


Figure 5. Microsoft® OneNote® Web App Insert and View ribbons

## The OneNote Web App on Google™ Chromebook™

Teachers and students who do not or cannot install the full-featured desktop version can use the OneNote Web App through most browsers. For Chromebooks, the OneNote Web App is the only option available. This version provides rich text formatting, tagging, proofing tools, the ability to insert tables and pictures, and access to previous versions of notebook pages. Users can also create new notebooks in either consumer OneDrive accounts or on SharePoint, and can take advantage of some features not available in OneNote mobile apps.

For example, the web app provides proofing tools and lets users toggle author tags indicating which authors inserted which text.

The OneNote Web App can also leave much to be desired. The biggest drawback for users of the OneNote Web App is the lack of any offline viewing and authoring. Moreover, notebooks created with the web app must reside on the cloud or the school network; they cannot be saved locally. Even when connected to the network, OneNote Web App users still lack some useful capabilities such as embedding files into notebooks, searching notebooks by tags or authors, and OCR to enhance searching and to get more use from media files. However, in contrast with peers using the OneNote mobile apps, users in the OneNote Web App can open password-protected notebooks.



## Platform Matters

Microsoft designed OneNote to work on a variety of platforms so that users can access, consume, and share their data with the best device for a given situation. That said, OneNote functionality across these platforms is not uniform. Schools that choose, for reasons of fashion or finance, to standardize on mobile devices not running Windows 8 needlessly diminish the value that their teachers and students can gain from OneNote. Schools can give their students and teachers the full potential of OneNote only with a device powered by Intel hardware and Windows 8, such as the Dell™ Latitude™ 10 we tested.

## Appendix A

We examined OneNote in its various iterations across three different devices.

Table 3. Device details

Device Model	Basic Configuration	Microsoft® OneNote® Version(s)
Dell™ Latitude™ 10	Windows® 8 Pro Intel® Atom™ processor Z2760 2 GB RAM	OneNote 2013 (desktop version) installed under volume licensing agreement (15.0.4517.1003)
Samsung® Nexus™ 10	Android™ 4.2.1 Dual-core A15 2 GB RAM	OneNote for Android (15.0.2416.2300)
Samsung® Chromebook™	Google™ Chrome™ 31.0.1650.67 Samsung® Exynos® 5 Dual (ARMv7) 2 GB RAM	OneNote Web App
Apple® iPad® 4	iOS® 6.1.3 Dual-core A6X 1 GB RAM	Microsoft OneNote for iPad (mobile app) version 2.1.2

All usability tests were performed while the devices were connected to a wireless (802.11n) network under normal business-use conditions.

## Appendix B

This appendix gives more detail about the features available on the different versions of OneNote. It is not an exhaustive list, but captures significant points of overlap and divergence between the various OneNote versions on different devices.

Table 4. Features by mobile device and Microsoft® OneNote® version

	Samsung® Nexus™ 10	Dell™ Latitude™ 10	Samsung® Chromebook™	Apple® iPad® 4	Lenovo® IdeaTab™	All Devices
Microsoft® OneNote® Version	OneNote for Android™ (15.0.2416.2300)	OneNote 2013	OneNote Web App	OneNote 2.1.2 for iOS® 6	OneNote for Android™ (15.0.2020.2302)	OneNote Web App
Feature	Compatibility					
Advanced collaboration						
New content shows as unread		√				
Presence		√				
Identify concurrent authors		√	√			√
Show or hide authors		√	√			√
Microsoft® Outlook® integration		√				
Share		√	√			√
View previous page versions		√	√			√

	Samsung® Nexus™ 10	Dell™ Latitude™ 10	Samsung® Chromebook™	Apple® iPad® 4	Lenovo® IdeaTab™	All Devices
Microsoft® OneNote® Version	OneNote for Android™ (15.0.2416.2300)	OneNote 2013	OneNote Web App	OneNote 2.1.2 for iOS® 6	OneNote for Android™ (15.0.2020.2302)	OneNote Web App
Feature	Compatibility					
Advanced capture functions and file management						
Record audio and insert in notes	√	√			√	
Record video and insert in notes		√				
Embed files	√  (from camera or camera roll; recorded audio)	√	√  (Images only)	√  (from camera or camera roll)	√  (from camera or camera roll; recorded audio)	√  (Images only)
Download copies of embedded files		√	√			√
Edit embedded Microsoft Office files		√				
Clipping experiences		√	√			√
Playback embedded audio	√	√			√	
Playback embedded video	√	√			√	
Note formatting and editing						
Bullets and numbering	√  (1 bullet, 1 number style)	√  (many styles)	√  (several styles)	√  (1 bullet, 1 number style)	√  (1 bullet, 1 number style)	√  (several styles)
Equations (add, edit, view)		√				
Insert hyperlinks		√	√	√		√
Proofing tools		√	√	√		√
Styles		√		√		
Tables (create)		√	√	√		√
Apply page templates		√				
Undo and Redo		√	√			√
Search capabilities						
Apply tags		√	√	√		√
Search by tag		√				
Search by author		√				
Search by date		√				
Image optical character recognition (OCR)		√				



## Microsoft® OneNote® Enhances Classroom Collaboration

But device choice can limit the collaborative capability

	Samsung® Nexus™ 10	Dell™ Latitude™ 10	Samsung® Chromebook™	Apple® iPad® 4	Lenovo® IdeaTab™	All Devices
Microsoft® OneNote® Version	OneNote for Android™ (15.0.2416.2300)	OneNote 2013	OneNote Web App	OneNote 2.1.2 for iOS® 6	OneNote for Android™ (15.0.2020.2302)	OneNote Web App
Feature	Compatibility					
OCR enables searching text embedded in images	√	√		√	√	
OCR enables searching text embedded in audio		√				
OCR enables searching text embedded in video		√				
Digital ink support						
Ink viewing	√	√		√	√	
Ink input		√				
Convert ink to text and math		√				
Customizable pens		√				
Drawing tools		√				
Notebook management						
Create and manage notebooks, pages, and sections	√ create pages only	√		√	√ create pages only	
Cross section/notebook page filing		√				
Section re-order		√	√			√
Create/delete section groups		√				
Offline viewing and authoring		√		√		
Security						
Apply and consume IRM		√				
Open password-protected notebooks		√				

## Advanced Collaboration

Users can identify and authenticate other authors more easily with the integrated profiles in OneNote, and they can simultaneously edit notebooks with people in other locations. Users can search for notebook changes and revisions by authors' names and view all recent edits when they return to a shared notebook.

- **New content shows as unread:** OneNote shows pages that have content on them unread by the user.
- **Presence:** OneNote integrates with Microsoft® Lync® to show the presence information of authors.
- **Identify concurrent authors:** Users can see a listing of authors currently working in a given notebook at a given time.
- **Show or hide authors:** Users can turn off the author tags that appear when a user edits a notebook. This will remove the initials that appear next to new notes on a page. Author tags are turned on by default.
- **Microsoft Outlook integration:** OneNote supports commands that work with Outlook, such as e-mail page, Outlook tasks, or meeting details.
- **Share:** Users can share notebooks saved to a consumer OneDrive account or a SharePoint document library with other users.
- **View previous page versions:** Users can view and restore previous versions of a page, including who wrote the page and when. Changes relative to previous versions of a page are automatically highlighted.

## Advanced Capture Functions and File Management

- **Record audio and insert in notes:** From within OneNote, users can record audio notes that are directly linked to any text notes they take while the recording is made.
- **Record video and insert in notes:** From within OneNote, users can record video notes that are directly linked to any text notes they take while the recording is made.
- **Embed files:** Users can insert files as attachments (the actual file is embedded in the notebook) or printouts (an image of the file is embedded) to store them as part of the notebook. Users can also insert pictures taken from

cameras embedded on their devices, and they can insert Outlook meeting details and Outlook tasks into OneNote or e-mail a OneNote page to Outlook.

- **Download copies of embedded files:** Users can download embedded files to their devices to open them.
- **Edit embedded Microsoft Office files:** Users can create or import Microsoft® Excel® spreadsheets and Microsoft® Visio® diagrams within OneNote and edit their information in place in their notes. Inserted files show up as icons on the notes page. Users can double-click any icon to open the associated file.
- **Clipping experiences:** Users can clip whatever they see on their screen; for example, to send a web page or an entire document to a notebook section, or to jot down quick notes that are automatically saved and filed as part of a notebook.
- **Playback embedded audio:** Users can play embedded audio.
- **Playback embedded video:** Users can play embedded video.
- **Clipboard:** Users can cut, copy, and paste content in a notebook.

## Note Formatting and Editing

- **Bullets and numbering:** Users can apply bullet styles or numbering styles and can use the Increase Indent and Decrease Indent buttons to change the list level for existing bulleted and numbered lists in a notebook.
- **Equations:** Users can write or type math equations into OneNote and it can calculate the results within the notebook.
- **Insert hyperlinks:** Users can insert a hyperlink to a web address or apply a link to selected text. They can also right-click a page tab to copy a direct link to that page.
- **Proofing tools:** OneNote automatically checks spelling as users type and applies a wavy red underline to misspelled text. Common autocorrect actions are included, such as correcting misspellings or converting characters to symbols. Additionally, users can set the proofing language or turn off the spelling checker for selected text.

- **Styles:** Users can apply text styles, change paragraph alignment, increase or decrease the indent from left margin, or change text direction from left to right.
- **Tables:** Users can insert tables, edit table text, and edit basic table structure (such as by adding or deleting rows and columns). This can also include advanced table features, such as converting a table to an Excel spreadsheet, cell shading, header rows, and data sorting within table cells.
- **Template support:** Users can utilize a template as a page design that can be applied to new pages in their notebooks to give them an appealing background, a more uniform appearance, or a consistent layout.
- **Undo and redo:** OneNote has undo and redo actions for each page that is edited in the active notebook. OneNote gives users a separate undo history for each page edited in the active notebook; users can undo an infinite number of actions per page during the current editing session, until either a picture is inserted or an edit is received from another author. Moving and deleting pages cannot be undone.
- **Linked notes:** Users can link note-taking to files.

## Search Capabilities

Users can use the instant-search feature to recall anything they have ever created or saved in OneNote.

- **Apply tags:** OneNote enables users to apply a variety of tags to notes for easy organization and follow-up. For example, flagging notes as questions, to-do items, or contact information.
- **Search by tag:** Users can use advanced search features to search by tag.
- **Search by author:** Users can use advanced search features to search by author.
- **Search by date:** Users can use advanced search features to search by date.
- **OCR enables searching text embedded in images:** OCR automatically translates images of text, such as scanned documents, for indexing. Users can also copy the extracted text from the indexed file to a notebook page.

- **OCR enables searching text embedded in audio:** OCR can phonetically scan embedded audio files for indexing.
- **OCR enables searching text embedded in video:** OCR can phonetically scan embedded video files for indexing.

## Digital Ink Support

- **Ink viewing:** Users can view ink.
- **Handwriting-to-text and match:** Users can draw, erase, and edit with their finger, stylus, or mouse and can convert handwriting to text or equations.
- **Customizable pens:** Users can customize their “pen,” or digital ink input method, such as by changing its color or width.
- **Drawing tools:** OneNote includes tools that let users do more with digital ink, such as a lasso select, panning hand, and eraser.

## Notebook Management

- **Create and manage notebooks, pages, and sections:** Users can add to new or existing notebooks and create new pages in sections or new sections in notebooks.
- **Cross section/notebook page filing:** Users can customize, format, move, and copy pages between notebooks and sections, in addition to using drag-and-drop page filing.
- **Section re-order:** Users can re-order sections.
- **Create/delete section groups:** Users can create and delete section groups.
- **Offline viewing and authoring:** Users can view and edit notebooks while disconnected from the Internet.

## Security

- **Apply and consume Information Rights Management (IRM):** OneNote can apply IRM security with technologies such as Active Director® Rights Management Services (AD RMS), and it can display notebooks protected with IRM technologies.
- **Open password-protected notebooks:** OneNote can apply password protection and can open and edit notebooks that are encrypted with a password.

<sup>1</sup> Oldenburg, Michael C. "Teaching with OneNote: How students benefit." *Office Blogs*. July 2011. <http://blogs.office.com/2011/07/28/teaching-with-onenote-how-students-benefit/>.

<sup>2</sup> Prowess Consulting only tested three of the five different OneNote versions, so untested versions (Windows® Store version and Microsoft® Office 2013 RT version) have been omitted from Table 3.

<sup>3</sup> The next capabilities discussed in this section are also available in Microsoft® OneNote® 2013 RT. We include them here because our experience in testing found that the advanced features that are exclusive to the desktop version (OneNote 2013) are most useful within the full context of a rounded user experience that includes advanced features that are also available in OneNote 2013 RT, but not on mobile apps or the web app.

The analysis in this document was done by Prowess Consulting and commissioned by Intel.

Results have been simulated and are provided for informational purposes only. Any difference in system hardware or software design or configuration may affect actual performance.

Prowess, the Prowess logo, and SmartDeploy are trademarks of Prowess Consulting, LLC.

Copyright © 2014 Prowess Consulting, LLC. All rights reserved.

Other trademarks are the property of their respective owners.

