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How to Choose E-Books & E-Readers for Accessibility – 2014

Note: This guide was last updated in March, 2014. Manufacturers release new devices often. Check features before buying.

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Introduction to E-Books

The world of E-books can be difficult to navigate. The variety of devices and formats can be dizzying, and it only grows more confusing if you also need to use Assistive Technology. You would think that digital books would be the perfect solution for Assistive Tech users, but unfortunately they are often not accessible, especially for text-to-speech software.

This guide will highlight the main types of E-books and E-reader devices that are available today, along with the accessibility concerns to help you understand your options.

Publishers and Copyright Concerns

One of the most important things to grasp is the publishers' concerns that their books will fall victim to piracy. This leads them to protect their files with encryption and to restrict the devices you can read their books on.

Each publisher or online bookstore has a different delivery method for the encrypted files. Unfortunately, this impacts how accessible their books are for use with Assistive Technology such as text-to-speech software.

It is vital to know about these restrictions before you spend money on a book or on an E-reader so that you can choose the right kind.

Types of E-Books

Mainstream Fiction & Nonfiction

The most widely available E-books today are fiction or nonfiction books available at retailers such as Amazon.com or BarnesandNoble.com. With books from retailers, you usually have to buy books from the same store that you buy your device unless you're using an app.

The main dedicated E-reader devices for fiction and nonfiction are:

- Kindle by Amazon – Formats are MOBI, AZW, AZW3, PDF*.
- Nook by Barnes & Noble – Formats are EPUB, PDF*.
- Kobo by Kobo – Formats are EPUB, MOBI, PDF*
- [Sony – has pulled out of the U.S. market but is still a good choice internationally – Formats are EPUB, PDF*.]

*Caution. Although PDFs are supported on all devices, they do not display well on E-readers. Other formats are recommended.

Aside from Sony, these retailers offer both E-readers and Tablets (we'll get to the differences later). Amazon uses its own file formats (MOBI, AZW, AZW3, TPZ). The other retailers use the more standard EPUB format, which is compatible with more devices and stores.

eTextbooks

Not all textbooks are offered in a digital format. For those that are, compatibility with devices and accessibility will vary depending on security features used by publishers and on the layout and content of the textbook itself.

Mainstream fiction and nonfiction are both mainly text, and therefore display well on the E-reader devices mentioned above. However, E-books get more complicated when you need to display textbooks with images and columns, or with math and science.

PDF and Graphics Display

Dedicated E-reader devices are not recommended if textbooks are your primary eBook type unless they are text only. Their success at displaying PDFs is limited. The best solution for e-textbooks is a computer or a tablet with a browser or app, depending on the format offered by the publisher.

Inaccessible Digital Textbooks Directly from Publishers

When you purchase a textbook as an electronic book, you will most likely have to login on a website or an app to read it, and the files are not available for you to download. These books are often protected so that you cannot copy and paste text – which also means that they are not accessible to text-to-speech software.

This varies depending on the publisher, so check before buying a book.

- The [Accessible Textbook Finder \(https://www.accesstext.org/resources.php\)](https://www.accesstext.org/resources.php) is a website that lets you search for a specific textbook by ISBN. It gives you the book's publisher information and accessibility policies.
- Ask at the bookstore where you buy the book what they know about the book's accessibility.

Publishers that are known to be more accessible are:

- Pearson

If you buy an eTextbook that is not accessible:

- Request an accessible file from the alternative format office on campus just as you do for your print textbooks.

Online Stores that Sell eTextbooks

These stores sell eTextbooks. They are compatible with their reading apps for computers and/or mobile devices:

- [Amazon](#)
 - Textbooks are available for the Kindle Fire and on the free Kindle Apps for iPad, Android, PC and Mac. Rental prices are available.
 - Text-to-speech capability is determined by the publisher for all Amazon E-books. Check the Product Details to see if this feature is enabled before buying.

Product Details

File Size: 1346 KB

Print Length: 353 pages

Page Numbers Source ISBN: 0451417550

Publisher: NAL (March 4, 2014)

Sold by: Penguin Group (USA) LLC

Language: English

ASIN: B00DMCV160

Text-to-Speech: Enabled

X-Ray: Enabled

Lending: Not Enabled

Amazon Best Sellers Rank: #1,638 Paid in Kindle St

#11 in [Books](#) > [Mystery, Thriller & Suspense](#) >

#16 in [Kindle Store](#) > [Kindle eBooks](#) > [Mystery,](#)

- [iBooks](#) – Apple has textbooks from 12 publishers available through iBooks for iPad. iBooks is accessible with VoiceOver, but individual books may not be accessible.
- [Barnes & Noble](#) – “Nook Study” is an app for PC or Mac. eTextbooks are not available for Nook mobile devices because they do not display well, according to B&N. A 7 day trial and rental prices on e-textbooks are available. No internet is needed after downloading the book. No accessibility information available.

Independent Websites that sell eTextbooks:

- [Kno](#) – iPad & Android apps are free, and available through web browser on computer. Limitations on copy and paste. No accessibility information available.
- [CourseSmart](#) – iPad, Android, and Kindle Fire apps are free, and available through web browser on computer. Allows copy and paste and claims compatibility with Assistive Technology.
- [Chegg](#) – Web-based textbooks from some publishers. Best on PC, Mac or iPad. No accessibility information available.
- [eCampus.com](#) – iPad, Android Apps, and web browser delivery. Allows copy and pasting of text. No accessibility information available.

Types of Devices

E-Readers

E-readers are dedicated reading devices, designed to be a direct replacement for print books.

- Limited internet access.
- No ability to install apps.
- Good for text-only books.
- E-Ink screen feels like reading text on paper.

E-Reader Tablets

Each of the main E-Reader manufacturers also offers an E-Reader Tablet. These are more limited than tablets like the iPad, but are more versatile devices than dedicated E-readers.

- Internet
- Apps (may be restricted to retailer's apps)
- Audio books
- Movies, TV, and music
- Like reading on a computer screen.

Device Comparisons

Guiding Questions and Accessibility Considerations

Following are some questions to consider that may impact your decision. These questions address physical and accessibility concerns, and purpose of the device.

1. What are my physical needs?
 - a. Weight of device?
 - b. Method of turning pages (Buttons? If buttons, are they in an awkward location? Touchscreen? Swipe or tap?)
 - c. Length of time to read? (short or long – eye fatigue)
 - d. Text-to-speech capability?
 - e. Audiobooks availability?
 - f. Zoom levels?
 - g. Type and size of fonts needed? How customizable is the device?
 - h. Does reading on a computer screen for a long time bother you?
2. What do I want out of the device?
 - a. Just for reading?
 - b. Textbooks vs. mainstream fiction and nonfiction?
 - c. Multiple uses – apps, internet, multiple locations to buy books, audio books, text-to-speech?
 - d. Be able to read for a long time without eye fatigue?

- e. Be able to read outdoors without glare?
- f. Have built-in reading light?
- g. Be able to sleep after reading at night? (Back-lit devices like computers and tablets can make it harder to sleep.)

E-Reader vs. Tablet Comparison

Whether you choose an E-reader or a Tablet as your eBook device really depends on your needs and preferences. The following chart shows some of the differences between E-readers and Tablets:

E-Reader	Tablet
e-ink screen – this technology makes the screen look just like a print book. The experience is not like reading on a screen at all.	LCD or led (like a computer screen)
No light or front-lit (light shines downward towards the text – easier on eyes.)	Back-lit (light shines outward towards you – creates more fatigue when reading for extended periods.)
No flicker – the screen refreshes only on page turns.	Flicker – the screen refreshes faster than your eyes can see, just like a computer screen.
No glare – can read outdoors.	Glare – difficult to read outdoors.
Smaller, lighter	Bigger, heavier
Dedicated for reading E-books.	Can install variety of apps, watch videos, listen to audio books, have text-to-speech capability, internet – various purposes are possible.

E-Reader	Tablet
No text-to-speech	More accessibility options.
Have to get books from compatible stores.	Can use apps to read books from variety of stores, so not limited on where to buy books. (Apps are limited on some tablets and may not be accessible.)
Can add non-encrypted books from other sources easily with usb	Not as easy to load your own books into apps.
Textbook options are limited to compatible file downloads with compatible security features. No web-based textbooks will work. PDFs are possible, but formatting is poor.	Better textbook options – can use apps provided by some textbook publishers, and can access web-based textbooks. Text-to-speech may still not be possible, depending on the book.
Single built-in reading app. Wireless access is mainly good for downloading books to the device, not for browsing the web.	Other reading apps are also available, like iBooks, Blio, Stanza, each with their own options for fonts, contrast, etc. Many mainstream apps are also available for activities besides reading, including movies, TV, music, audiobooks, and internet.
Grey-scale – no color	Color screen, can change contrast, etc.

General Features Comparison

This is not an exhaustive comparison – there are other features that may be important that are not listed here, such as battery life, storage size, etc.

Feature	Kindle	Kindle Paperwhite	Kindle Fire HD / HDX	Nook GlowLight	Nook HD / HD+	Kobo Aura / Aura HD	Kobo Arc / Arc 10 HD
Type of Device	E-reader	E-reader	Tablet (Kindle Apps Only, Android Based)	E-reader	Tablet (Android)	E-reader	Tablet (Android)
Cost of Device	With ads: \$69 No ads: \$89	With ads: \$119 No ads: \$139	\$139 – \$379	\$119	\$129-\$179	\$139.99 / \$169.99	\$99.99 – \$399.99
Book Selection (Stores are comparable on newer books)	Millions Newly released books tend to cost \$10-14	Millions Newly released books tend to cost \$10-14	Millions Newly released books tend to cost \$10-14	Over 3 Million Newly released books tend to cost \$10-14	Over 3 Million Newly released books tend to cost \$10-14	Over 4 Million Newly released books tend to cost \$10-14	Over 4 Million Newly released books tend to cost \$10-14
Screen Type	E-Ink	E-Ink	LCD Color	E-Ink	LCD Color	E-Ink	Color
Light Source	None	Front-lit (LED)	Back-lit (LCD)	Front-lit (LED)	Back-lit (LCD)	Front-lit (LED)	Back-lit (LCD)
Main File Format	mobi	mobi	mobi	epub	epub	epub	epub
Others	azw3, azw, txt, pdf, prc	azw3, azw, txt, pdf, prc	azw3, azw, txt, pdf, prc (Plus audio & video)	pdf	pdf Microsoft Office Capable	mobi pdf	mobi pdf
Where you can buy books	Amazon	Amazon	Amazon	Barnes & Noble + any online store that offers epub with Adobe	Barnes & Noble + any online store that offers epub	Kobobooks.com + any online store that offers epub	Kobobooks.com + any online store that offers epub

Feature	Kindle	Kindle Paperwhite	Kindle Fire HD / HDX	Nook GlowLight	Nook HD / HD+	Kobo Aura / Aura HD	Kobo Arc / Arc 10 HD
				Digital Editions (ADE)	with ADE	with ADE	with ADE
How you get books onto the device	Wireless Delivery Buy at Amazon & send to device or from device itself	Wireless Delivery Buy at Amazon & send to device or from device itself	Wireless Delivery Buy at Amazon & send to device or from device itself	Wireless Delivery, Connect to computer via USB	Wireless Delivery, Connect to computer via USB	Wireless Delivery, Connect to computer via USB	Wireless Delivery, Connect to computer via USB
Library Lending	Yes (on web with sign-in to Amazon. Wireless delivery)	Yes (on web with sign-in to Amazon. Wireless delivery)	Yes (on web with sign-in to Amazon) or with OverDrive app	Yes – with download to computer then transfer by USB (epub, pdf)	Yes – with transfer from computer or OverDrive app	Yes – with download to computer then transfer by USB (epub, pdf)	Yes – with transfer from computer or OverDrive app
App for PC, Mac & Mobile without Device Purchase	Yes	Yes	Yes	Yes (no Mac)	Yes (no Mac)	Yes	Yes
Sync Across Devices & Apps	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Apps, Internet, Movies, TV	No	No	Yes (Amazon Apps Only)	No	Yes (Android Apps, Google Play, Chrome)	No	Yes (Android Apps, Google Play)

Accessibility Features Comparison

Features change as new E-readers are released, so be sure to double-check at the source before you buy anything. The details included in these charts are relevant to the most recent models. Older models may not have all features.

Note: As of 2014, Sony has pulled out of the US market for E-readers. This comparison deals with Kindle, Nook, and Kobo E-readers and Tablets.

Accessibility Feature	Kindle	Kindle Paperwhite	Kindle Fire HD / HDX	Nook Glowlight	Nook HD / HD+	Kobo Aura / Aura HD	Kobo Arc / Arc 10 HD
Screen Type	E-Ink Pearl	E-Ink Pearl (higher contrast, sharper text)	LCD Color	E-Ink Pearl	Laminated HD LCD	E-Ink Pearl (contrast is less sharp than others)	LCD Color (IPS HD)
Light Source	None	Front-lit (LED)	Back-lit (LCD)	Front-lit (LED)	Back-lit (LED)	Front-lit (LED)	Back-lit (LCD)
Light Control	None	Always on, but can adjust	Always on, but can adjust	Can adjust AND turn off	Always on, but can adjust	Can adjust AND turn off	Always on, but can adjust
Screen Size	6"	6"	7" or 8.9"	6"	7" or 9"	6"	7" or 10"
Weight	5.98 oz	7.3 oz	14 oz or 20 oz	6.2 oz	11.1 oz / 18.2 oz	6.14 oz	12.7 oz / 22.12 oz
Page Turning	Buttons on the sides and front of device	Touchscreen – tap or swipe (capacitive)	Touchscreen	Touchscreen – tap or swipe (infrared, so less accurate)	Touchscreen	Touchscreen – tap or swipe (capacitive, but can be unresponsive)	Touchscreen (capacitive)
Font Styles	3 Fonts	6 Fonts	5 Fonts	6 Fonts	6 Fonts	10 Fonts (1 designed for Dyslexia)	3 Fonts
Font Sizes	8 Sizes	8 Sizes	11 Sizes	7 Sizes (largest)	8 Sizes (largest)	24 Sizes, pinch to	15 Sizes

Accessibility Feature	Kindle	Kindle Paperwhite	Kindle Fire HD / HDX	Nook Glowlight	Nook HD / HD+	Kobo Aura / Aura HD	Kobo Arc / Arc 10 HD
				around 22-24pts)	around 24pts)	resize	
Screen Magnifier in Menus	No	No	Yes	No	Unknown	No	Some menus (not in store)
Contrast Settings	No	No	Yes	No	Yes	No	Yes
Sync Across Devices & Apps	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Highlight / Notes (May not be able to export)	Yes (can export, copy & paste from web)	Yes (can export, copy & paste from web)	Yes (can export, copy & paste from web)	Yes (no export)	Yes (no export)	Yes	Yes
Text-to-Speech	No	No	Yes (When available from Publisher)	No	Yes (When available from Publisher)	No	Yes (When available from Publisher)
Audio Books	No	No	Yes – Audible in sync with Kindle	No	Yes	No	Yes
Closed Captioning	N/A	N/A	Yes (When available in the video file)	N/A	Unknown	N/A	Unknown
Bluetooth Keyboard Navigation	No	No	Yes	No	No	No	No
Voice Recognition (Level of Function Untested)	No	No	Yes (Newer models with microphone)	No	Yes, with Android “Assistant” app	No	Yes, part of Jellybean OS as of March 2013

Accessibility Feature	Kindle	Kindle Paperwhite	Kindle Fire HD / HDX	Nook Glowlight	Nook HD / HD+	Kobo Aura / Aura HD	Kobo Arc / Arc 10 HD
Screen Reader	No	No	Yes, with IVONA Natural Voice & speed control options	No	Yes, with Android's TalkBack (available in book content, home, library, web browser, and email.)	No	No (Android's Talkback does not work for book content or Kobo store)
Explore By Touch	No	No	Yes, with speed control options	No	No	No	No
Refreshable Braille (Bluetooth)	No	No	Yes, with free BrailleBack app	No	No	No	No

Note: The Kindle Fire has improved its accessibility options for users who are visually impaired, outclassing its E-reader tablet competitors (but not necessarily mainstream tablets such as the iPad). Check reviews by other users on their experiences with the accessibility of the device such as this one on the [National Federation of the Blind's website](#).

Borrowing E-Books from the Public Library

Some libraries offer E-books on loan through a service called OverDrive. As long as you have a library card, and your library offers OverDrive E-books, you can check out a book for a period of 1-3 weeks, and the book will expire automatically – so there are no late fees. In the U.S., libraries offer E-books for both Kindle and EPUB compatible devices.

Audiobooks are also available through OverDrive, but this guide only covers borrowing E-books.

Several libraries in Northern Colorado offer E-books through OverDrive. You can browse their collections at the links below.

- Fort Collins: [Poudre River Public Library District \(http://overdrive.poudrelibraries.org\)](http://overdrive.poudrelibraries.org).
- Greeley: [High Plains Library District \(http://highplains.lib.overdrive.com\)](http://highplains.lib.overdrive.com).
- Boulder, Longmont, Loveland & Others: [Front Range Downloadable Library \(http://frontrange.lib.overdrive.com\)](http://frontrange.lib.overdrive.com).
- Denver: [Denver Public Library \(http://downloadmedia.denverlibrary.org\)](http://downloadmedia.denverlibrary.org).

The process for getting library books will be slightly different depending on your device, but here are some general guidelines:

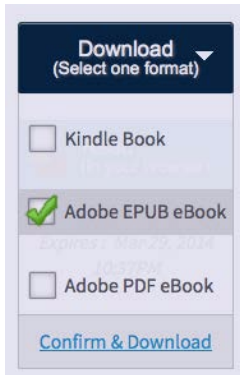
Library Books on a Tablet

There is an [App for OverDrive](#), so you can download E-books directly onto any tablet. You will need to search for your local library and then login with your library card number or the account login you create for your library.

Library Books on EPUB Compatible Devices

To read OverDrive books on an EPUB device, you have to download the file to a computer and then transfer it by USB to your device. Specific software must be installed on your computer to make the transfer (and unlock the file for your device).

1. First, sign up for a [free Adobe ID](#).
2. Install [Adobe Digital Editions](#) software on your PC or Mac.
3. Surf your library's collection online and **select "Adobe EPUB Book"** as the download option (PDF is not recommended if available)
4. Click **"Confirm & Download."**

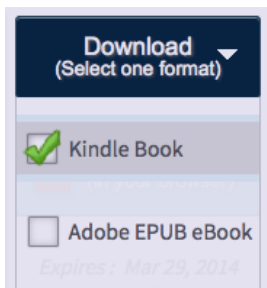


5. Your computer may ask you what to do with the .acsm file that downloads. **Choose “Open Now.”**
6. Adobe Digital Editions (ADE) should open and download the book.
7. Connect your device to the computer while ADE is open.
8. Let ADE register the device to your Adobe ID (This is only necessary the first time. If you skip this, you will get an access denied error when you open the book).
9. Transfer the book to your device.
10. Eject the device properly when finished.
11. Once the book has expired, you still have to delete it manually from the device.

Library Books for Kindle

Kindle is a little different with library books.

1. Enable your Kindle email address at Amazon.com > Manage My Kindle.
2. Check out a book at your library's OverDrive. **Select “Kindle Book”** as the download method.



3. This will prompt you to sign in to Amazon.
4. The book will then be sent wirelessly to your Kindle.

5. Once the book has expired, manually delete it from your Kindle.

Library Books for PC or Mac

You can also read OverDrive E-books directly on your PC or Mac by downloading the EPUB format of the book using [Adobe Digital Editions](#) or the [OverDrive App](#).

There are some limitations – you cannot highlight or copy and paste text due to copyright concerns. Because of this, text-to-speech software also may not work (untested) even though both types of software claim compatibility with major screen readers such as JAWS and VoiceOver.

Other eBook Sources

E-Book Retailers for EPUB Devices

Although with Kindle, you're locked into buying books at Amazon using their formats (MOBI, AZW, etc.), EPUB devices are more forgiving. Look for stores that use Adobe Digital Editions to deliver the EPUB files, as ADE can transfer them to any EPUB device.

These online stores use Adobe Digital Editions to authorize their books. You need to have an Adobe ID, and your device must be registered to your ID.

- Blio.com
- Fictionwise.com
- BooksOnBoard.com
- Diesel-E-books.com
- Smashwords.com
- Baenbooks.com (Mostly fantasy/sci fi.)
- See also the-eBook-Reader.com for a more [extensive list of E-book retailers \(http://www.the-ebook-reader.com/ebooks.html\)](http://www.the-ebook-reader.com/ebooks.html).

Free Books for Kindle and EPUB Devices

There are also some free eBook websites for Public Domain books (copyright falls off after 95 years, so you can get them for free):

- Manybooks.net
- Epubbooks.com
- Gutenberg.org

These books are sometimes badly formatted or contain a lot of errors, since they are usually scanned and manually corrected from print texts by volunteers. Whatever device you have, you'll need to transfer the files from your computer using a USB cable. Select the appropriate format for your device when you download. (E.g., MOBI for Kindle or EPUB for Nook.)

Links

Device Product Pages

- [Amazon.com Kindle](#)
- [BarnesandNoble.com Nook](#)
- [Kobo.com Kobo](#)

Free Software Downloads

- [Adobe Digital Editions \(http://www.adobe.com/products/digital-editions.html\)](http://www.adobe.com/products/digital-editions.html)
- [OverDrive Library Apps \(http://omc.overdrive.com\)](http://omc.overdrive.com)
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- [Kobo Apps](#)

OverDrive Libraries in Northern Colorado

- Fort Collins: [Poudre River Public Library District \(http://overdrive.poudrelibraries.org\)](http://overdrive.poudrelibraries.org).
- Greeley: [High Plains Library District \(http://highplains.lib.overdrive.com\)](http://highplains.lib.overdrive.com).
- Boulder, Longmont, Loveland & Others: [Front Range Downloadable Library \(http://frontrange.lib.overdrive.com\)](http://frontrange.lib.overdrive.com).
- Denver: [Denver Public Library \(http://downloadmedia.denverlibrary.org\)](http://downloadmedia.denverlibrary.org).

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- [The eBook Reader Blog \(http://blog.the-ebook-reader.com/\)](http://blog.the-ebook-reader.com/)