

Is a Chromebook right for you?

Watertown Public Library
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Chromebooks are generally low-priced netbooks or laptops that run Google's quick and nimble Chrome operating system.

Chromebooks:

- Can run apps
- Can be used even without an Internet connection
- Are used in schools, too

But how do they compare to traditional laptops, tablets and cellphones?

About me:

Chris Lee

- Owner, Leemark Communications (since 1999)
- BS, Radio/TV/Film from UW Oshkosh
- Master's, journalism from University of Illinois
- Worked as radio reporter, newspaper correspondent, media specialist, TV assignment editor, and now Web designer/video producer/computer consultant
- Built my first Web site in 1997
- "Techie guy" who helps with computer and video problems

Conventions for today's talk:

- **Computer** = laptop, desktop, tablet, iPod, or smart phone (unless differentiated as DESKTOP, LAPTOP computer, etc.)
- **Chromebook** = both Chromebooks and Chromeboxes, unless stated otherwise
- **OS** = operating system -- the behind-the-scenes instructions that run the day-to-day operations of the computer and allow it to run apps and perform tasks

Computers today: lots of choices, lower prices:

Not-too-distant past: two or three choices when buying a computer ...
desktop or **laptop** running an OS from:

- Microsoft (Windows 3.1, 95, 98, 98SE, ME, XP ...)
- Apple Macintosh (Mac OS)
- Linux (if you were ambitious or had a techie friend to help you)

Computers today: lots of choices, lower prices:

Today, **many** more choices, including:

- **Desktop or laptop** running:
 - Microsoft (newest versions are Windows 8.1 or 10)
 - Apple Macintosh (macOS versions 10.11 El Capitan or 10.12 Sierra)
 - Linux (much easier to install and use now than in past)
 - Google's **Chrome OS** (Chromebook/Chromebox)
- **Tablet** running:
 - Microsoft (Windows 8.1 or 10)
 - Apple iOS (iPad, iPod; version iOS 9 or 10)
 - Google's Android OS (based on Linux; versions KitKat, Lollipop, Marshmallow, 7 Nougat)
 - Amazon's FireOS (based on Android)
- **Mobile phone** running:
 - Microsoft (Windows 10 Mobile)
 - Apple iOS (iPhone; version iOS 10)
 - Google's Android OS (based on Linux; same versions as listed above for Android tablets)
 - Amazon's FireOS (based on Android)

So ...

What is a Chromebook/Chromebox?



- Computer running Google's Chrome OS
 - Based on Linux operating system
 - Lean and mean
- Developed from Chrome Web browser (available for Windows, Mac & Linux computers, Android phones & tablets, and iPhones & iPads)
- Chromebook -- netbook or laptop
- Chromebox -- "desktop" (but smaller than typical hardcover book)
- First Chromebooks came on the market in mid-2011
- Currently in third generation

Chromebook strengths:

- **Price/performance**
 - Often inexpensive (as low as \$150 or less)
 - Yet still quick at Web browsing and basic tasks
- **Quick boot up time**
 - 8 - 9 sec. from completely powered down to login screen
 - About 29 sec. from completely powered down to finished loading Madison Public Library Web page
 - **Why?** It's often not top-spec. hardware. It's that Chrome OS tries to do fewer things and thus can do them quickly.

Boot-up time comparison:

Time to go from completely powered down to 1) login screen ... 2) logged in and finished loading Madison Public Library Web site front page.

OS	Device	CPU	1) Login screen	2) MPL Web page loaded
Android 5.1	Motorola Moto E smartphone	Dual-core, 1.2GHz, 1GB RAM	0:57 - 0:59	1:37
Android 4.4.2	Lenovo tablet	Quad-core, 1.86 GHz, 2GB RAM	0:43 - 0:64	1:23
Windows 10	Toshiba laptop	Dual-core Pentium T4400, 2.2 GHz, 4GB RAM	0:30	1:10
Windows 8.1	Nextbook Flexx10 tablet	Quad-core Intel BayTrail-T CR GEN7, 1.8 GHz, 2GB RAM	0:29	0:52
Chrome	Acer Chromebook 11 (CB3-131-C3SZ)	Dual-core Celeron N2840, 2.16 GHz, 2GB RAM	0:09	0:29

Disclaimers: **Rough** times. Devices **not** newest available. Results **not** scientifically precise.

Chromebook strengths:

- **Capable computers** -- even with a slower processor such as a Celeron (compared to Windows running on a Celeron)
- **Security** -- Reputation as very secure, hard to hack, all without your intervention
- **Update themselves behind the scenes** -- no user intervention needed except rebooting

Chromebook strengths:

- **Small and lightweight** -- Acer Chromebook 11 weighs less than 2.5 pounds
- **Long battery life** -- often 6 to 11 hours
- **Solid State (or eMMC) hard drive** -- can take some jostling
- **No moving parts** -- no CD-ROM/DVD/Blu-Ray drive, no traditional spinning hard drive and no fan = less battery drain and fewer things to break down

Chromebook strengths:

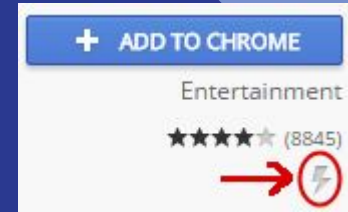
- **Connectivity**
 - Usually at least two USB ports (one or both USB 3.0)
 - Some have full-size SD card slot, making it easy to add storage or view photos from a digital camera
 - Often has full-size HDMI output -- to connect HDTV/monitor
- **Plug-and-play** -- most external keyboards, mice, thumb drives, SD cards, external hard drives (via USB), and monitors (via HDMI cable) will work with Chromebooks

Chromebook strengths:

- **Great for doing most things you do via a Web browser**
 - Watch Web-based TV services -- Netflix, YouTube ...
 - Book hotels & airline flights
 - Bank online
 - File income taxes
 - Take educational courses/training
 - Reserve books or read magazines/newspapers via public library Web site
 - Check on your child's education progress
 - Read and watch news reports
 - Play some kinds of online games
 - Create letters, reports, spreadsheets, slides with Google Docs

Chromebook strengths:

- **Apps from Chrome Store**
 - A lot fewer apps than for iPad or Android.
 - Some can be used offline (look for lightning icon)
 - Some free, some cost money
- **Android apps coming?** – Reportedly, Google will make Android apps available on some Chromebooks in late 2016 or early 2017



"Support for Android apps will arrive on many Chromebooks in late 2016 or early 2017 via a software update from Google, which means that touchscreens and sensors currently uncommon in Chromebooks, like GPS and NFC, are about to become much more important."
Source: <http://thewirecutter.com/reviews/best-chromebook/>

Chromebook weaknesses/caveats:

- **Software** -- cannot install or run programs specifically built for Microsoft Windows or Apple Macintosh computers
- **Internet connection** -- Needed at least to set up Chromebook for the first time (unless you just want to look at content from USB thumb drive or SD card and not add any apps or surf Web)
 - Needed to download and install apps
 - A Chromebook is really much more useful when connected to the Internet, but so are most computers nowadays

Chromebook weaknesses/caveats:

- **Number of Apps**
 - Not as many apps as there are for Windows, Apple and Android
 - But this may change if/when Android apps become available for some(?) Chromebooks
- **Best when keeping things comparatively simple**
 - Often have less expensive, slower processor, so they are generally meant to keep things simple
 - Not for editing complex HD video effects or playing complex action games (XBox or PlayStation more suited to this)

Chromebook weaknesses/caveats:

- **More cumbersome to set up printing**
 - Can't plug printer into Chromebook via USB cable and print to it
 - Must set up Google Cloud Print account
 - Must print to Google Cloud Print compatible printer, or else via Internet to a printer connected to a powered-on Mac or Windows PC
 - You need an Internet connection to print
 - But you can get around these inconveniences by “printing” to PDF on a thumb drive and then using that PDF file to print a paper copy at a copy shop, library, or on a Windows or Mac computer you have that has a printer connected to it

Chromebook weaknesses/caveats:

- **Versatility**

- Not able to handle every file type right out of the box -- may require app or plugin to do so and sometimes there might not be one available
- Won't work with many older types of hardware (printers, etc.)

- **Privacy Concerns?**

- Some criticise Google's privacy policy or terms of use, which of course can also change at any time
- Of course, other OS manufacturers also face similar criticisms (Apple, Microsoft)

Chromebook weaknesses/caveats:

- **On-board storage space**
 - Having only a 16GB or 32GB Solid State/eMMC hard drive means you'll have to add USB or SD card storage or use Google Cloud storage if you store a lot of photos, video or other content
 - Using USB thumb drives, SD cards or microSD cards means there may be multiple small storage devices to mix up or lose

Why buy a Chromebook?

- You need a computer that works well for surfing the Internet and some other basic tasks, at a low cost
- To use as a spare computer for your kids, or guests in your house
- To make your HDTV or space monitor into a “Smart” Internet device
- As a second/third computer for your kitchen, shop or garage
- To use as lightweight, inexpensive, secure portable computer when you visit coffee shops, the library or when you travel

Why buy a Chromebook?

- To take with you on trips to view your photos and home videos on a bigger screen than your camera provides (note -- may require VLC or another app for video compatibility)
- You or your child needs one for grade school, high school or college
- To use guest mode as public computer in waiting room of your business
- To use the built-in Web cam to chat with someone using Google Hangouts
- You like trying new devices

Which should you choose?

- **Traditional PCs/Macs:**
 - Can be very powerful but often more expensive, or else slower
 - Lots of software/apps and hardware compatibility, especially for Microsoft Windows
 - Might be easier to use that software offline
- **Chromebooks:**
 - Often not as powerful as traditional laptops
 - Often less expensive yet still quick at surfing Web & basic tasks, but can't run as much software
 - Smaller and lighter than many traditional laptops
 - Printing not as straightforward
- **Tablets/iPads:**
 - Small, easier to carry than most laptops; often fit in a purse
 - Generally less expensive than traditional laptops
 - Many apps available (Android and Apple iOS)
 - Harder to type lots of text, unless you buy add-on keyboard
 - Printing not as straightforward
 - Usually no full-size outputs for HDMI or USB, usually microSD slot rather than full-size SD slot
- **Smartphones:**
 - Smallest and most portable of these four device types, but harder to type lots of text
 - Easier to conceal for security, can take with you into the bathroom at coffee shop
 - Smaller screens
 - Printing not as straightforward

School districts using Chromebooks:

- Appleton
- Oshkosh
- Kimberly
- Marshall
- Sun Prairie

These are just a sampling in Wisconsin. There are many others.

Further reading:

Chromebook for Dummies

Hoboken, NJ : John Wiley & Sons, Inc., 2015.

Middleton Library

Monroe PL-Green County

Sun Prairie Library

Wis. Rapids - McMillan Library

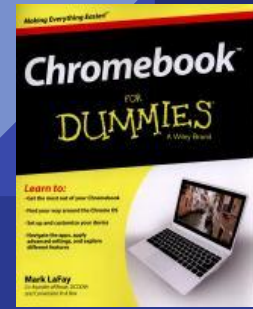
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by Mark LaFay



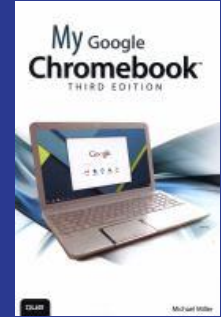
My Google Chromebook, 3rd ed.

Indianapolis, IN : Que, 2016.

Fitchburg Public Library

call #: 004.165 MILLE

by Michael Miller



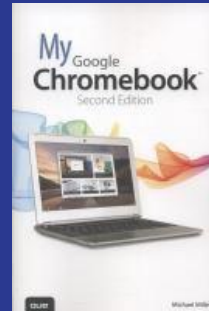
My Google Chromebook, 2nd ed.

Indianapolis, IN: Que Publishing, 2013.

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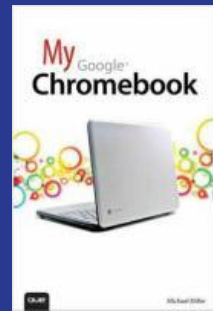
My Google Chromebook

Indianapolis, IN: Que: Pearson Education, Inc., 2012.

Middleton Library

call #: 005.4 CHROME

by Michael Miller



Also see www.consumerreports.org/chromebooks/access-to-google-play-store-chromebook-users/