

Even for the true expert, that willingness and ability is essential since however much they know, the problem may not be exactly what they thought it was.

As you search for help online, it's almost as useful to keep an awareness that not all "experts" keep that attitude of openness as it is to cultivate it yourself. For example, in online forums, you will see questions about problems that look very much like yours getting answers along the lines of "You have to do X, Y, and then Z." Here it's useful to maintain Habit 6 from the next section and not do X, Y, and then Z until you can at least see how that might work for you.

Habits to cultivate

1. Install all updates to your apps/applications and to the system.

This is important for both functionality and security. The **updates** fix bugs and security holes, so you definitely want to install them.

Delaying on **upgrades** might be reasonable. Generally, the manufacturer of an app/application of the OS will continue to support and update the older version for a while after an upgraded version comes out. When support ends, however, then you should upgrade anything that requires up-to-date security.

2. Get a good antivirus program and don't disable it.

A couple of sites that test antivirus software:

- Virus Bulletin (<https://www.virusbulletin.com/testing/>)
- AV Test (<https://www.av-test.org/en/>)

3. Related to antivirus is anti-malware and general "cleaning" of the system and apps.

Malwarebytes (<https://www.malwarebytes.com/>) and CCleaner

(<https://www.piriform.com/ccleaner/>), respectively, seem to get recommended for these purposes by nearly everyone. The free versions will need to be run by hand every so often, but the paid versions allow you to automate the process. Each of them has versions for both Windows and macOS.

4. When installing new software, take your time in the installation process to uncheck/check boxes as needed. For example, you probably don't want any of the toolbars that your new software wants to install.
5. Use https (secure http) instead of plain http whenever possible. A browser extension like HTTPS Everywhere (<https://www.eff.org/https-everywhere>) can help with this.
6. Though you quite likely are more capable of fixing more than you think you can (especially

when you're willing to do some Internet searching for good information), if you're unsure about whether a particular fix that you find is appropriate or whether you're doing it right, then *don't do it*. The attitude you want here is a kind of cautious hubris: be willing to break things but only as far as your skills will be sufficient for putting them back together.

And always back your hard drive up before doing anything that has a real risk of deleting essential items from it.

Sources for information

Several of the sites here are recommended in "Top 10 Sites For Computer Troubleshooting & Tech Support" from *MakeUseOf* at (<http://www.makeuseof.com/tag/top-10-resources-for-computer-troubleshooting-advice-remote-help/>).

Note that where to find information is not so cut-and-dried as the following list might imply, but the list gives an idea of what sorts of places might have good information on various types of problems.

Often the most efficient way to get information would be a general search with a search engine. Just be careful about which links to follow and how much trust to place in a given site's advice. Avoid paid links.

For system help¹

- MacOS or iOS

Apple Support Communities (<https://discussions.apple.com/>)

- Windows

Microsoft Community (<https://answers.microsoft.com/>)

- Android

Android Help Center (<https://support.google.com/android/>)

For help with a particular app/application

Look for forums at the application's manufacturer's Website.

General sources

- Bleeping Computer Forums (<https://www.bleepingcomputer.com/forums/>)
- Computer Hope Forums (<https://www.computerhope.com/forum/>)

¹ Or for help with other aspects of the system that affect several applications

Pretty much useful only for Windows.

- Google Groups (<https://groups.google.com/>)

Use the search box to look for messages on your topic.

- Yahoo! Answers (<https://answers.yahoo.com/>)

You can get to more specific topical areas by using the TOC in the left sidebar. Computers (desktop, laptop, & tablet) are under “Computers & Internet”, cell phones (including smartphones) are under “Consumer Electronics”.

- Reddit (<https://www.reddit.com/>)

On politics, social issues, and other non-technical topics, reddit is often described as being at or near the bottom of the Internet (think aquatic bottom feeders). On tech, though, it can be a good source for information.

Some specific things to try

General

- Quit a troublesome app/application and reopen it
- Turn the machine off (complete shutdown) and restart it

Software

Whether you have apps/applications that keep crashing or just have to put up with everything being slow, problems with the software are no fun.

1. Is it a virus?

People tend to jump to the idea that their computer has a virus. While that's not so likely, it is possible. Malware is more likely, and while it may not be the cause of your immediate problem, it's one of those things that very well might be on your system.

Either way, running a virus scan and a malware scan is part of computing hygiene, so it's a good place to start.

2. Know what apps/applications/processes are running and whether they are needed

The Control Panel (Windows) or Activity Monitor & System Preferences (macOS) are what you need here.

- a. In particular, paring down the set of startup items is a good starting point.

- b. Turn off graphic effects that you don't need.
- c. Other system changes that can reduce the load on the system.

3. Dealing with the Web browser

A Web browser is, in ways, an operating system for its own subenvironment. As such, the fixes to the system as a whole have parallels within the Web browser environment.

- a. Clear Your Browser's Cache
- b. Delete Your Browser's Cookies
- c. Get rid of extensions that you don't need

If unsure of whether or not to remove, you can disable to see whether you actually need the extension.

- d. Get rid of any extraneous toolbars (and that includes just about all of them)

4. Cleaning up the hard drive

The machine crunches everything in the hardware where the CPU does the actual processing, and the RAM acts as memory for rapid exchange back and forth. However, as RAM fills up, the system uses hard drive space to store data that doesn't have to be immediately available at the moment.

The upshot of this is that if the hard drive is too close full or too messy, the system can't work as fast because it's harder to make room for this swap space. The general rule of thumb is that if your hard drive is more than 85% full, you need to either toss some files or get a bigger drive.

- a. Defragging
- b. Removing unneeded files or apps/applications

Here it's useful to have an application that can show you who the main offenders are.

- c. Removing bloatware

PC Decrapifier is a Windows application to help identify bloatware (<https://www.pcdecrapifier.com/>).

Even if you need a particular piece of bloatware, you can often use less bloated software (for example, WordPad instead of Word) for most purposes, just using the dinosaur for the tasks only it can do.

5. Clean the registry (Windows)

Don't try this by hand, kids. Use something like CCleaner & make a backup of the current state of the registry before making changes (CCleaner will offer to make a backup before it makes changes).

6. Deleting corrupted preference files (macOS)

7. Adjust virtual memory (Windows only?)

8. Reinstall the program that's causing trouble

9. The nuclear option: a clean install of the system

Hardware

1. Physically cleaning the machine

"You're a dirty, dirty, dusty PC" from *PC World*

<https://www.pcworld.com/article/2037100/youre-a-dirty-dirty-dusty-pc.html>

2. Printer

a. Check the print queue

b. Check that "Use Printer Offline" is not checked in the print queue box

c. Turn the printer off & on

3. Replace mechanical hard disk with a solid state drive (SSD)

4. Get a bigger hard drive

5. Increase RAM

These days, 4 GB is a minimum amount of RAM. Note that if RAM goes above 4 GB, you need to have the 64 bit version of your OS.

6. Graphics card upgrade

Probably only helpful for gamers.

Wi-fi

1. Move closer/move around

2. Update drivers for wireless card

3. Troubleshoot

a. Windows:

Right-click the Wi-Fi icon in the taskbar and select Troubleshoot problems.

b. MacOS:

Search for “Wireless diagnostics” using Spotlight.

Links to more articles on improving your devices' performance

General

- “How to service your own computer: 7 easy things computer repair places do” from *How-To-Geek* (<https://www.howtogeek.com/132470/how-to-service-your-own-computer-7-easy-things-computer-repair-places-do/>)
- “Five simple fixes for most computer problems” from *Lifewire* (<https://www.lifewire.com/simple-fixes-for-most-computer-problems-2618166>)
- “How to solve the 10 most common tech support problems yourself” from *PC World* (<https://www.pcworld.com/article/2047667/how-to-solve-the-10-most-common-tech-support-problems-yourself.html>)

Windows

- “Windows 10 quick tips: 6 ways to speed up your PC” from *Computerworld* (<http://www.computerworld.com/article/3029168/microsoft-windows/windows-10-quick-tips-5-ways-to-speed-up-your-pc.html>)
- “How to speed up laptop: Make your Windows computer faster” from *PC Advisor* (<http://www.techadvisor.co.uk/how-to/desktop-pc/how-speed-up-windows-fix-slow-pc-3502902/>)
- “7 ways to tweak your Windows 10 taskbar” from *PC Magazine* (<http://www.pcmag.com/article/355897/7-ways-to-tweak-your-windows-10-taskbar>)
- “Windows 10: The best tricks, tips, and tweaks” from *PC World* (<http://www.pcworld.com/article/2875600/windows/windows-10-the-best-tips-tricks-and-tweaks.html>)
- “4 hidden Windows tweaks to speed up your computer” from *Popular Science* (<http://www.popsci.com/windows-tweaks-improve-performance>)

macOS

- “10 things to tweak when setting up a new MacBook” from *C|Net* (<http://www.cnet.com/how-to/10-things-to-tweak-when-setting-up-a-new-macbook/>)
- “Speed up your Mac with these 11 tips and tricks” from *Digital Trends* (<http://www.digitaltrends.com/computing/how-to-speed-up-your-mac/>)
- “Best Mac tips, tricks and timesavers” from *Macworld* (<http://www.macworld.co.uk/feature/mac-software/best-macos-tips-tricks-timesavers-3616306/>)
- “4 hidden Mac tweaks to speed up your computer” from *Popular Science*

<http://www.popsci.com/mac-os-tweaks-improve-performance>)

Android

- “How to speed up your Android device without root?” from *Android Crush*
(<http://www.androidcrush.com/make-android-run-faster/>)
- “Hidden tricks you didn't know your Android phone could do” from *Popular Science*
(<http://www.popsci.com/hidden-android-tricks>)
- “Android performance tips and tweaks: Speed up your phone in a few easy steps” from *Techspot* (<http://www.techspot.com/article/1407-android-performance-tweaks/>)
- “Best apps to maximize Android's performance” from *Tom's Guide*
(<http://www.tomsguide.com/us/pictures-story/708-android-optimization-apps.html>)

Amazon Fire

- “15 handy Amazon Fire tablet tips and tricks” from *Digital Trends*
(<http://www.digitaltrends.com/mobile/amazon-fire-tablet-tips-and-tricks/>)

iOS (iPhone and iPad)

- “How to tweak iOS 11's visuals, multitouch gestures, and sounds to your liking” from *iMore*
(<http://www.imore.com/how-tweak-ios-visuals-multitouch-gestures-and-sounds-your-liking>)
- “How to speed up your iPad and improve the performance” from *Lifewire*
(<http://www.lifewire.com/speed-up-ipad-improve-performance-1994298>)
- “How to improve your iPhone or iPad battery life with iOS 11” from *ZDNet*
(<http://www.zdnet.com/pictures/how-to-improve-iphone-ipad-battery-life-ios-11/>)