

Computer Basics

Basic Troubleshooting Techniques



Troubleshooting

Do you know what to do if your screen goes blank? What if you can't seem to close an application—or can't hear any sound from your speakers? Whenever you have a problem with your computer, **don't panic!** There are many **basic troubleshooting techniques** you can use to fix issues like this. In this lesson, we'll show you some simple things to try when troubleshooting, as well as how to solve common problems you may encounter.

General tips to keep in mind

There are many different things that could cause a problem with your computer. No matter what's causing the issue, troubleshooting will always be a process of **trial and error**—in some cases, you may need to use several different approaches before you can find a solution; other problems may be easy to fix. We recommend starting by using the following tips.

- **Write down your steps:** Once you start troubleshooting, you may want to **write down** each step you take. This way, you'll be able to remember exactly what you've done and can avoid repeating the same mistakes. If you end up asking other people for help, it will be much easier if they know exactly what you've tried already.
- **Take notes about error messages:** If your computer gives you an **error message**, be sure to write down as much information as possible. You may be able to use this information later to find out if other people are having the same error.
- **Always check the cables:** If you're having trouble with a specific piece of computer **hardware**, such as your monitor or keyboard, an easy first step is to check all related cables to make sure they're properly connected.
- **Restart the computer:** When all else fails, one of the best things to try is to **restart the computer**. This can solve a lot of basic issues you may experience with your computer.

Using the process of elimination

If you're having an issue with your computer, you may be able to find out what's wrong using **the process of elimination**. This means you'll make a list of things that could be causing the problem and then test them out one by one to eliminate them. Once you've identified the source of your computer issue, it will be easier to find a solution.

Scenario:

Leonardo is trying to print out invitations for his son's birthday party, but his printer won't print. He has some ideas about what could be causing this, so he goes through them one by one to see if he can **eliminate** any possible causes.

First, Leonardo checks his printer to see that it's turned on and plugged into his **surge protector**. He sees that it is, so that's not the issue. Next, he checks to make sure his printer's **ink cartridge** still has ink and that there is paper loaded in the **paper tray**. In both cases, things look good, so he knows the issue has nothing to do with ink or paper.

Now Leonardo wants to make sure his printer and computer are **communicating correctly**. If he had recently downloaded an **update to his operating system**, it might interfere with his printer. But he knows there haven't been any updates since last week and his printer was working yesterday, so he'll have to look elsewhere. Leonardo checks the printer's **USB cord** and finds that it's not plugged in. He must have unplugged it when he plugged his phone into the computer earlier. Once Leonardo plugs in the printer's USB cord, his printer starts to print. It looks like his printer issue is solved.

This is just one example of an issue you might encounter while using a computer. On the following pages of this lesson, we'll go over other common computer problems and some ways to solve them.

Simple solutions to common problems

Most of the time, problems can be fixed using simple troubleshooting techniques, like **closing** and **reopening** the program. It's important to try these simple solutions before resorting to more extreme measures. If the problem still isn't fixed, you can try

other troubleshooting techniques.

Problem: Power button will not start computer

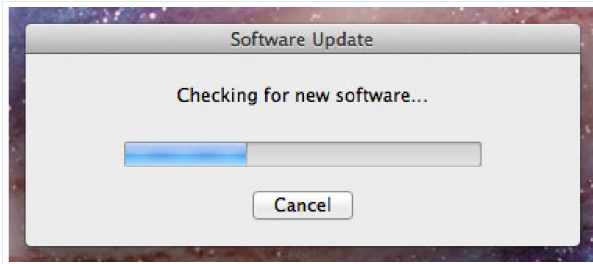
- **Solution 1:** If your computer **does not start**, begin by checking the power cord to confirm that it is plugged securely into the back of the computer case and the power outlet.
- **Solution 2:** If it is plugged into an outlet, make sure it is a **working outlet**. To check your outlet, you can plug in another **electrical device**, such as a lamp or cellphone, and see if it receives electricity properly.
- **Solution 3:** If the computer is plugged into a **surge protector**, verify that it is turned on. You may have to **reset** the surge protector by turning it off and then back on. You can also plug a lamp or other device into the surge protector to verify that it is on.



- **Solution 4:** If you are using a **laptop**, the **battery** may not be charged. Plug the **AC adapter** into the wall, then try to turn on the laptop. If it still doesn't start up, you may need to wait a few minutes and try again.

Problem: An application is running slowly

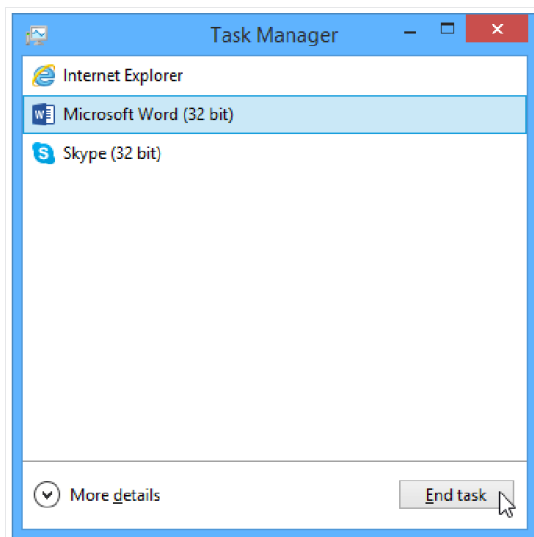
- **Solution 1:** Close and reopen the application.
- **Solution 2:** Update the application. To do this, click the **Help** menu and look for an option to check for **Updates**. If you don't find this option, another idea is to run an online search for application updates.



Problem: An application is frozen

Sometimes an application may become stuck, or **frozen**. When this happens, you won't be able to close the window or click any buttons within the application.

- **Solution 1:** Force quit the application. On a PC, you can press (and hold) **Ctrl+Alt+Delete** (the Control, Alt, and Delete keys) on your keyboard to open the **Task Manager**. On a Mac, press and hold **Command+Option+Esc**. You can then select the unresponsive application and click **End task** (or **Force Quit** on a Mac) to close it.



- **Solution 2:** Restart the computer. If you are unable to force quit an application, **restarting** your computer will close all open apps.

Problem: All programs on the computer run slowly

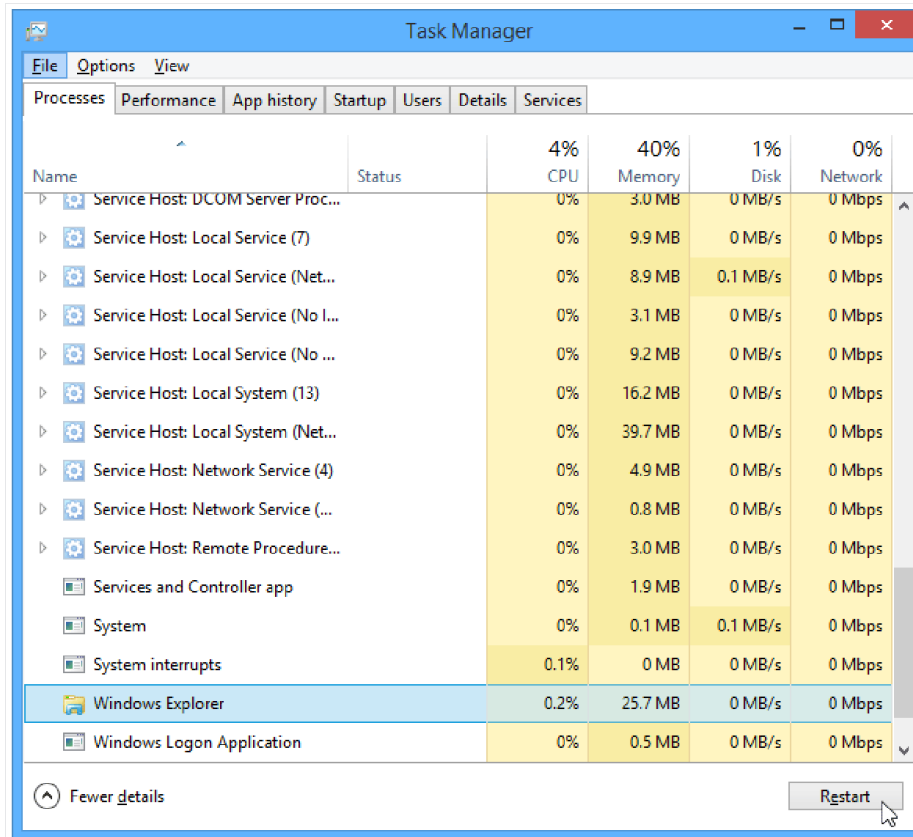
- **Solution 1:** Run your **virus scanner**. You may have **malware** running in the background that is slowing things down.
- **Solution 2:** Your computer may be running out of hard drive space. Try **deleting** any files or programs you don't need.
- **Solution 3:** If you're using a **PC**, you can run **Disk Defragmenter** (called **Optimize Drives** in Windows 8). Doing so will make sure all pieces of each file or program are stored close together in your computer, so the computer will be able to access them more quickly. In most versions of Windows, the Disk Defragmenter can be found in the **Start** menu. In Windows 8, you can find it by typing **defragment** from the **Start screen**.

To learn more about **Disk Defragmenter**, check out our lesson on [Computer Safety and Maintenance](#).

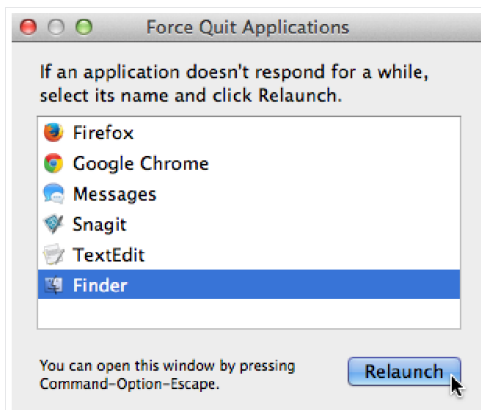
Problem: The computer is frozen


Sometimes your computer may become completely unresponsive, or frozen. When this happens, you won't be able to click anywhere on the screen, open or close applications, or access shut-down options.

- **Solution 1 (Windows only):** Restart Windows Explorer. To do this, press and hold **Ctrl+Alt+Delete** on your keyboard to open the **Task Manager**. Next, locate and select **Windows Explorer** from the **Processes** tab and click **Restart**. If you're using Windows 8, you may need to click **More Details** at the bottom of the window to see the Processes tab.



- **Solution 2 (Mac only):** Restart Finder. To do this, press and hold **Command+Option+Esc** on your keyboard to open the **Force Quit Applications** dialog box. Next, locate and select **Finder**, then click **Relaunch**.



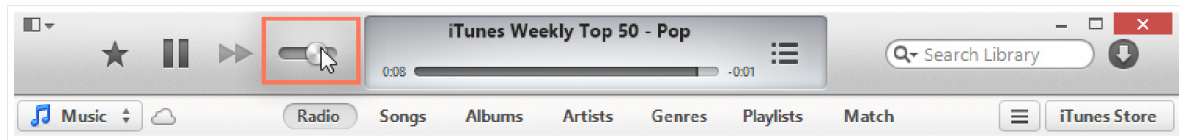
- **Solution 3:** Press and hold the Power button. The Power button is usually located on the front or side of the computer, typically indicated by the **power symbol** . Press and hold the Power button for **5-10 seconds** to force the computer to shut down.
- **Solution 4:** If the computer still won't shut down, you can **unplug the power cable** from the electrical outlet. If you're using a laptop, you may be able to remove the battery to force the computer to turn off. **Note:** This solution should be your **last resort** after trying the other suggestions above.

Problem: The mouse or keyboard has stopped working

- **Solution 1:** If you're using a **wired** mouse or keyboard, make sure it's correctly plugged into the computer.
- **Solution 2:** If you're using a **wireless** mouse or keyboard, make sure it's turned on and that its batteries are charged.

Problem: The sound isn't working

- **Solution 1:** Check the volume level. Click the audio button in the top-right or bottom-right corner of the screen to make sure the sound is turned on and that the volume is up.
- **Solution 2:** Check the audio player controls. Many audio and video players will have their own separate audio controls. Make sure the sound is turned on and that the volume is turned up in the player.



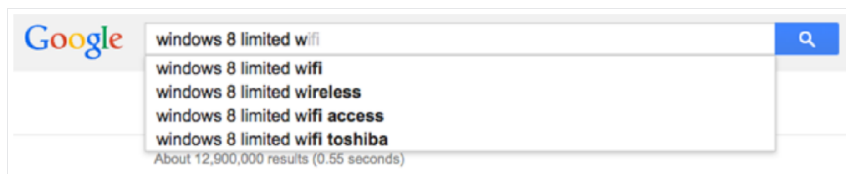
- **Solution 3:** Check the cables. Make sure external speakers are plugged in, turned on, and connected to the correct audio port or a USB port. If your computer has **color-coded** ports, the audio output port will usually be **green**.
- **Solution 4:** Connect headphones to the computer, and see if you can hear sound from the headphones.

Problem: The screen is blank

- **Solution 1:** The computer may be in **Sleep** mode. Click the mouse or press any key on the keyboard to wake it.
- **Solution 2:** Make sure the monitor is **plugged in** and **turned on**.
- **Solution 3:** Make sure the computer is **plugged in** and **turned on**.
- **Solution 4:** If you're using a desktop, make sure the monitor cable is properly connected to the computer tower and the monitor.

Solving more difficult problems

If you still haven't found a solution to your problem, you may need to ask someone else for help. Try **searching the Web** for the problem you're having because other users may have had similar problems. Also, if you have a friend or family member who knows a lot about computers, they may be able to help you.



Keep in mind that most computer problems have simple solutions, although it may take some time to find them. For difficult problems, a **more drastic solution** may be required, such as reformatting your hard drive, reinstalling programs, or reinstalling your operating system. If you're not a computer expert, it's possible that you could make the situation worse, so it's best to **consult a professional** if you believe a drastic solution is needed.

Challenge!

- What do you do if a program on a PC is **completely unresponsive**? What about a program on a Mac?
- What should you do if you've tried everything and the problem **still isn't fixed**?
- Do you have a **family member** or **friend** who knows a lot about computers and would be able to help you with a computer problem?