**Computer Maintenance: Protect and Clean Your Computer**

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| **Objectives** *Learners will be able to…* | **Materials** | |
| ***Computer skill: identify appropriate cleaning methods for laptops, desktops, and other hardware***  ***Computer skill: identify common forms of malware***  ***Computer skill: identify the purpose and importance of anti-virus software as well as the many options available.***  ***Computer skill: Run disk cleanup and disk defragmenter***  ***Computer skill: Use the task manager to close frozen programs***  ***Computer skill: install and uninstall software***  ***Computer skill: Run the Help and Support tool to troubleshoot problems*** | **Make Student Copies**   * **Malware Terms to Remember** * **Malware Quiz** * **Reference Sheet**   **Props, Technology or Other Resources**   * Projector * Computer for every student * USB Drives | |
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| **Lesson Plan** | | Vocabulary |
| **Presentation: Protect and Clean Your Computer**  Description: This class is presentation driven. Students will learn about cleaning computers, malware, system tools, and how to install/uninstall programs. | | * Malware * Virus * Anti-virus * Spyware * Trojan Horse * Disk Cleanup * Disk Defragmenter * Install * Uninstall * Spotify |

**Teacher Directions: Protect and Clean Your Computer**

Before starting make sure all students have a gmail account and can successfully log in. It will be needed for the next few classes. The following steps will guide through the presentation.

Go here for the presentation:

<https://drive.google.com/open?id=1tkduONwuexiVV73wnUFYaJnJd29EI22H6r5dM4DhY3M>

**Keep It Clean**

1. Play the video, this gives students the main ideas about cleaning the computer.
2. Hand out the reference packet, it includes info for students on cleaning as well as topics relevant to tonight’s other sections.
3. For the cleaning activity, pre dampen paper towels or use cleaning cloths if you have them available. The teacher should demonstrate first. Just clean the plastic parts of the computer by wiping it down with dampened paper towel or cloth. Students should then follow. If possible, I would recommend providing them with a second laptop/desktop that is shut down to do the cleaning on.

**Malware**

1. Play the video.
2. The malware slide is really a quick review of the video, just stress the points again. Pass out the Malware Terms handout.
3. For anti-virus, after covering the slide, open up the Trend Micro anti-virus program. Explain that it provides real time protection and is on constant guard against malware. Also explain that is must be updated regularly as new viruses are created very frequently. To practice scanning for information, ask questions such as when was the update completed? How many files were scanned?
4. Next mention to students that there are free anti-virus software programs out there that work well. In most cases, new computers will come with anti-virus, but there may be situations when students will obtain a computer without anti-virus or maybe a paid subscription expires. The ones mentioned here are rated top programs by pcmag.com and this information is included in the reference sheet for students to take home.
5. There is also a free program called Malwarebytes which is a malware removal tool. It is considered the best tool for removing malware, even better than paid programs. However, it does not include real time protection for free, so it is not a stand alone solution. Students should run Malwarebytes if they are getting a lot of popups or their computers are running slow. This info is also in the reference sheet.
6. Hand out the malware terms activity, this can be done as a class.

**System Tools**

1. Explain to students that there are many system tools on a computer. We will be talking about some of the most useful ones.
2. After going over Disk Cleanup, open it up and show students what they can do. Students can open up the tool as well to see how to get to it. However, do not actually run it because it will most likely take too long!
3. Same with Disk Defragmenter. Open it up and explain what it does. You can run analyze and so students may as well, it shouldn’t take very long. However, do not run the defrag process.
4. Explain to students that Task manager (Ctrl+Alt+Delete) is the most useful tool for frozen programs. Demonstrate to students how it works (including ending programs). Students should practice this as a class and/or on their own as well.
5. Show students the Help and Support Center. Explain that it is one method for troubleshooting problems. Try searching for an example problem, such as hooking up a printer or use your own idea. Then mention that Google is another great option for finding answers to problems. The reference sheet will explain to students more on what to search for.

**Install & Uninstall**

1. Talk about Spotify based on the slide
2. If you haven’t already, make sure students have a gmail account.
3. Demonstrate for students to navigate to spotify.com. Then have all students follow.
4. Demonstrate to click on Download Spotify. Students will need to make a username and password and fill in their email. The download will then start. After it is installed, give students a few minutes to test out Spotify and use their headphones.
5. Then demonstrate to students on how to uninstall Spotify by using the control panel. Students should then uninstall Spotify from their computers.

**Malware Terms to Remember**

**Malware**: Short for "malicious software" and is used as a term to refer to any software which causes damage to a single computer, server, or computer network.

**Spyware**: Computer software that collects personal information about users without their informed consent.

**Adware**: Any advertising software which automatically plays, displays, or downloads advertising material to a computer after the software is installed on it or while the application is being used.

**Virus**: A virus is a software program capable of reproducing itself and usually capable of causing great harm to files or other programs on the same computer.

**Trojan horse**: A computer program that pretends to do one thing (like claim to be a picture) but actually does damage when one starts it (it can completely erase one's files). Trojan horses cannot replicate automatically.

**Anti-Virus**: Computer software used to prevent, detect and remove malicious software.

**Malware & Anti-virus Quiz**

1. Malware is good for my computer.
   1. True
   2. False
2. Which of the following is **not** malware?
   1. Virus
   2. Broken headphone jack
   3. Trojan horse
   4. Spyware
3. Which of the following can remove malware? **Check all that apply**.
   1. Anti-virus
   2. Malware Bytes
   3. Microsoft Word
   4. Spyware
4. Anti-virus software can be obtained for free.
   1. True
   2. False