

REVIEW LESSON

MTA Course: 10753 Windows Operating System Fundamentals

Lesson name: Windows Operating System Fundamentals 5.4

Topic: Understand system devices (One 50-minute class period)

File name: 10753_WindowsOS_RL_5.4

Lesson Objective

5.4: Understand system devices. *This objective may include but is not limited to:* understanding video, audio, and infrared input devices, understanding Device Manager.

Preparation Details

Prerequisite student experiences and knowledge:

This MTA Certification Exam Review lesson is written for students who have learned about Microsoft Windows fundamentals. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the “Resources” section at the end of this review lesson.

Instructor preparation activities:

- Make copies of the Student Activity document 10753_WindowsOS_SA_5.4.
- The instructor should have access to an existing system running Windows 7 Professional or a virtual machine with Windows 7 Professional installed for the purpose of demonstrating how to use system devices.

Resources, software, and additional files needed for this lesson:

- 10753_WindowsOS_SA_5.4
- 10753_WindowsOS_PPT_5.4

Teaching Guide

Essential Vocabulary

device—any piece of equipment that can be attached to a network or computer, such as a printer, joystick, adapter, modem card, or any other peripheral equipment. A device requires a device driver to function with Windows.

device driver—a component that Windows uses to provide I/O services for, and interact with, a device such as a modem or network adapter. Rather than access the device directly, Windows loads device drivers and calls functions in the drivers to carry out actions on the device. The driver functions contain the device-specific code needed to carry out actions on the device.

device manager—software that provides a graphical view of the hardware that is installed on your computer. All devices communicate with Windows through a piece of software called a *device driver*. You can use the device manager to install and update the drivers for your hardware devices, modify hardware settings for those devices, and troubleshoot problems.

disable—to make a device nonfunctional. For example, if you disable a device in a hardware configuration, you cannot use the device when your computer uses that hardware configuration. Disabling a device frees the resources that were allocated to the device.

Lesson Sequence

Activating prior knowledge/lesson staging (5 minutes):

Direct students to answer each question in their notes.

1. What can be used to install, manage, and troubleshoot system devices? (Device Manager.)
2. What does the “Compatible with Windows 7” logo mean? (The logo means that this product passed Microsoft's compatibility tests for the 64-bit and 32-bit versions of Windows 7.)
3. What can be used to shut down some devices to save power? (In Device Manager, some devices have a Power Management feature, which allows the operating system to shut down the device to save power.)

Lesson activity (40 minutes):

1. Teacher instruction (20 minutes; see the “Suggested best practices” section below regarding this presentation.)
 - a. Use the included Microsoft PowerPoint presentation to review system devices.

2. Guided practice (20 minutes)

Direct the students to complete the Student Activity document 10753_WindowsOS_SA_5.4.

Note to the instructor: Answers for this activity will vary. The objective of the activity is for students to become familiar with investigating device compatibility issues and the processes for identifying device features and settings.

Assessment/lesson reflection (5 minutes):

1. In the same notes that they created for the “Activating prior knowledge/lesson staging” section at the beginning of the class, direct students to check their initial answers and make any changes if necessary.
2. Instruct students to write and submit any questions they have or any topics on which they would like more assistance.
3. After class, look through student responses and follow up with any students requiring additional help.

Resources:

- **Microsoft: Enable infrared connection**
<http://windows.microsoft.com/en-US/windows7/Turn-on-an-infrared-connection>
- **Microsoft: TechNet: What is a device driver?**
[http://technet.microsoft.com/en-us/library/cc776246\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc776246(WS.10).aspx)
- **Microsoft: TechNet: Windows 7: Troubleshooting and support**
[http://technet.microsoft.com/en-us/library/dd349404\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/dd349404(WS.10).aspx)
- **Microsoft: TechNet: Windows 7 TechCenter**
<http://technet.microsoft.com/en-us/windows/dd361745.aspx>
- **Microsoft: Windows 7 Compatibility Center**
<http://www.microsoft.com/windows/compatibility/windows-7/en-us/default.aspx>

Suggested best practices:

- This module expands the learning in module 5.1-5.2. System devices are hard to demonstrate other than with a demonstration machine. If possible, demonstrate removing a system device with Device Manager, and then have Device Manager scan for hardware changes. This will illustrate how hardware is detected automatically.
- Windows 7 Compatibility Center is a great starting point to determine whether hardware or software will be compatible with the operating system. Even though hardware and software listed as “not compatible” may still work with Windows 7, it may not be supported.