IT Fundamentals Pro: Chapter 3.5 Storage

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Grade	**11/12**
Unit of Study	**Information Technology Fundamentals**
Length of Unit	**96 Min**

Missouri Learning Standards	
15.1202-D1: Describe computer parts and functions (e.g., ports)	15.1202-E2: Analyze and modify system configuration files
15.1202-E3: Perform and interpret diagnostics	

Unit 3.5: Learning Targets

I can:
• Compare and contrast the features of different external storage devices, including hard disk drives, optical drives, flash storage, and solid state drives.
• Describe common file system features, including compression, encryption, permissions, journaling, and file naming rules.
• Compare and contrast common file systems, such as NTFS, FAT32, HFS, and Ext4.
• Describe disk partitioning and formatting methods.
• Describe disk maintenance procedures, including defragmentation, repair, and cleanup.
• Describe emerging storage technologies.
• Install SATA hard drives in a computer.
    o Connect drives to the motherboard.
    o Plug in the power connector from the power supply.
• Install an eSATA port connector to a computer by connecting the cable to an available motherboard port.
• Boot a computer into the BIOS and verify that newly installed hard drives are detected.
• Initialize new disks using the MBR partition style.
• Create a volume on a disk with a specific volume size, drive letter, file system, and volume label.
• Format a flash drive with the FAT32 file system.
• Convert a drive to use NTFS instead of FAT32 without destroying any existing data on the disk.
• Run Disk Cleanup on a local hard drive.
• Configure disk defragmentation to run on a schedule.

Intervention and Enrichment

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Assessments	
MLS (Learning Goal)	**Description or Location**
• 15.1202-D1 • 15.1202-E2 • 15.1202-E3	Ch. 3 Exam
	ITF+ (FC0-U61) Exam

Vocabulary			
Hard Disk Drive (HDD)	Optical Drive	Flash Storage	Solid State Devices (SSD)
External Hard Disk Drives	Heat-Assisted Magnetic Recording	3D Flash Memory	Synthesized DNA Strands
File	File Format	File System	Compression
Encryption	File Permissions	Journaling	Drive

Instructional Materials

Video/Demonstration
3.5.1 Storage Types
3.5.4 Install SATA Devices
3.5.6 Files and File Systems
3.5.7 File System Features
3.5.10 Disk Defragmentation
3.5.11 Create Volumes
3.5.13 Format Drives
3.5.15 Perform Disk Maintenance

Lab/Activity
3.5.5 Install SATA Devices
3.5.12 Create Volumes
3.5.14 Format Drives
3.5.16 Perform Disk Maintenance

Additional Instructional Resources

3.5.2 Storage Facts
3.5.3 Emerging Storage Technologies
3.5.8 File System Facts

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3.5.9 Drives and Partitions

Reflections for Future Revisions