In this lesson you'll get into some of the deeper parts of your computer to change the way Windows works with your hard drive.

One of the slowest things about your machine is your hard drive. It takes a computer forever (comparatively) to read the disk and write things to it. So it makes sense that anything you can do to speed up your drive will also speed up your computer.

In this lesson, we'll cover two permanent changes you can make that affect how Windows works with your hard drive. The first upgrades your *file system* — the way Windows stores information on your drive. The second speeds up how Windows moves that information from place to place.

It's possible your computer is already set the right way. Let's find out.

The file system is how Windows stores your files on your hard drive, and it's akin to the way a library arranges books on a shelf. Older versions of Windows used a file system called FAT32 (File Allocation Table, if you must know). Newer versions use one called NTFS (New Technology File System).

NTFS has several benefits. Most importantly, files don't get *fragmented* as much, so you won't have to defrag as often.

You can't tell which way your drive is set up just by using it. But to get the most out of your machine, you'll want to make sure that you're using NTFS.

Losing FAT

First, check to see if you're already using it. Go to My Computer, then right-click on your hard drive and choose Properties. On the window that appears, you'll see either "File system: FAT32" or "File system: NTFS."

If it's FAT32, you should convert it. Here's how:

- Shut down any running programs.
- Click Start, then choose Run.
- In the box, enter **cmd**, which will bring up a black command-line window. You'll see a prompt that says something like "C:\WINDOWS" with a blinking cursor. (If you've ever used DOS, you'll recognize this.)
- Enter the following: **convert c: /fs:ntfs** (If your hard drive isn't drive C:, substitute the correct letter, and don't forget the space between the colon and the slash.)
- When you press Enter, you'll probably see a message saying the conversion will take place next time you start Windows. So click Start, choose Shut Down, and choose Restart. Windows will convert your drive--and it will also reboot your computer twice.

Hook into DMA

Next, let's make sure your computer is transferring data efficiently by using a technology called DMA (*direct memory access*).

- Go to your Control Panel and double-click System, then choose the Hardware tab. Click Device Manager. This will bring up a list of every type of hardware your computer has, from "Computer" to "Disk Drives" to "Monitors," and more.
- Click the plus sign next to "IDE ATA/ATAPI Controllers."
- Double-click "Primary IDE Channel." (If you have two of them, don't worry. Just repeat this procedure.)
- Click the Advanced Settings tab. You'll probably see two devices listed (0 and 1).
- For each one, click the drop-down arrow next to Transfer Mode and choose "DMA if available." Then click OK. (If you have another Primary IDE Channel, repeat this procedure.)
- Close Device Manager and reboot your computer.

Congratulations! You've just made two simple changes that most people have never heard of, that will add a bit more speed and stability to your system.