Resources

http://bit.ly/terrifiedhardwareresources

These include:

Hardware Presentation	PowerPoint that describes can be used throughout the lesson

Hardware

Hardware refers to the physical components of a computer system, such as memory, graphics cards, display screens and disk drives. A device outside of the main computer can be called a peripheral.

All devices function as input, process and output systems. There is an extra dimension of memory which computer need to complete some processes. Learners should be able to distinguish between which devices are input, output and process and know the names and functions of these devices.

A good way of teaching learners about hardware is to use a technician. They will actually be able to take a computer apart, bring 'bits' of computer with them and answer some of the more technical questions that might arise.

This lesson uses this idea providing a structure and resources for both teacher and the technician.

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Load the PowerPoint presentation—Hardware and Networks

Display **Slide 2** and ask the class to name things that input data into a computer. These could be keyboard, touch screen, mouse, game controller or button on a digital watch and so on.

Display **Slide 3** and ask the class to name things that input data into a computer. These could be monitor or printer.

Devices that work outside of the computer can sometimes be called a **peripheral.** The definition is integral to the computer, so a peripheral can be within the case of the computer or be on the same motherboard. The definition is loose.

Display **Slide 4** and ask the question What does the work in the middle?

The replies to this will probably be 'chip' and you need to expand a little on this. You might like to refer to work that has been completed on logic gates and binary. Try to expand on what a chip does and avoid the work 'think' using 'process' instead.

Display **Slide 5** and ask how does a computer game remember a high score in a game.

There should be two answers to this—one of which deals with when the computer is turned on and then one when the power is turned off.

If the power is turned on the score may well be held in the computers Random Access Memory (RAM) - special chips that because electricity is always going through it remembers what the score is. When the electricity is turned off it will forget what is stored so another memory is used. This has been a magnetic hard drive but is increasingly becoming solid state—another special type of chip.

Display Slide 6 to summarise the four bits to a computer system.

Now say that you are going to look at some components of a computer system in more detail.

To do this you have a technician who spends all his time dealing with issues and fixing problems.

The technician will follow the ideas in the slides numbered xx to yy. These slides have been written in a general format and there is quite a variety of ways that this could be delivered.

You can use the question below to help the learners ask questions. They are on xxxx if you want to distribute them around the class)

Hopefully the technician will bring along components for the learners to touch

Slide 8—Input—the keyboard

How does a keyboard work? What are the main problems with a keyboard? How do I connect a keyboard? How do I connect a wireless keyboard?

Slide 9—Input—the Mouse

Are all mice the same? How do I connect a mouse to the computer? Are there alternatives?

Slide 10—Output—monitors and displays

Are all monitors the same? What is the best size for a monitor? If I play games on my computer what is the best monitor? What are the costs? What is a graphics board?

Slide 11—Process—chips

Who makes computer chips? What is an i5 processor? What is the best chip for a new computer in school?

Slide 12—Memory—Hard Drives

How does a hard drive work? Does it wear out? Why should I backup a drive?

Slide 13—Laptops and tablets

Are laptops the same as computers? Are tablets the same as computers? What is different? What do you think the next big thing will be in personal computing?

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