HANDOUT: BASICS OF A COMPUTER

In this handout, you will find some background information on:
1. what a computer is.
2. the history of a computer.
3. the different parts of the computer.
4. how to use a mouse.

1. What is a Computer?

A computer is a machine that handles information or data. Data can be texts, letters, pictures, images, drawings, sounds and even complete films. It can also be games or programs that give the computer machine instructions to do something with the data that are already inside.

For example, if you type in all your friends' addresses and run a certain program on your machine, the program can make your computer put the addresses in alphabetical order or find an address for you if you give it only the first two letters. Of course, you can write all your friends' addresses in a notebook too, so why would you use a computer? Well, if you have them in your computer, you can print them out as many times as you want to and you can add or change addresses without making a mess of your notebook.

The amount of data a computer can hold differs from machine to machine. Better computers are developed and sold in computer shops all the time. 'Better' means * that the machine can hold more data, before it is full; * that the machine can handle data faster; and * that the machine can run more programs without getting slow.

A computer cannot think for itself. **You have to give the machine an instruction** and the machine follows your instruction. If you make a mistake in your instruction, the machine will not know what to do.

For example, imagine you ask your friend to get you four oranges from a particular stall on the market and you were wrong about the exact spot of the stall: the oranges happen to be sold at the neighbouring stall. Your friend will probably think that you meant the neighbours and will buy your oranges over there. A computer will tell you that you have made an 'error' and you will not get your oranges.

This is how a computer basically works. It translates all the data you feed it into zeros and ones. If you forget to feed it just one dot, for instance, it will read a message that is totally different from the one you meant. So remember to be very precise in what you enter into the computer!

We could give you a thousand more examples and talk about what a computer is for months. But it is more important for you to start using it and then you will soon understand what a computer is, what data are and why computers are so useful.

In short: you can use a computer to type documents, save them in a folder, send e-mails, and surf the Internet. You can save work on the computer, find it back later and continue to work on it.

2. A Brief History of Computers

The first electronic computer, the Electronic Numerical Integrator and Computer (ENIAC), was developed in 1946. It filled a huge room, measured 18 feet by 80 feet and weighed 30 tons. Today's

desktop computers weigh much less, can store a million times more information, and are 50,000 times faster. The first personal computers (or PCs) were introduced in the 1970s. PCs came to be widely used in the 1980s as machines became more powerful and cheaper. The term PC is used most, but actually it is better to call them CCs: collective computers. You see many Internet cafés; these machines are being used by hundreds of people every day. You might be one of them in the near future.

In recent years, laptop computers have become popular. People who need to travel for their work mostly use these. With a laptop, they always carry their office with them.

3. Parts of the Computer

1) **The computer case** is the metal and plastic box that contains the main components of the computer. Computer cases come in different shapes and sizes. A desktop case lies flat on a desk, and the monitor usually sits on top of it. A tower case, pictured below, is tall and sits next to the monitor or on the floor.

   The front of the case usually has an on/off switch and two or more drives. On the back of the computer case, there are connection ports made to fit only one type of plug-in device. The ports include a monitor cable port, keyboard/mouse ports, network cable port, microphone/speaker/auxiliary-input ports and printer port (SCSI or Parallel). There is also a place for the power cord plug.

2) **The monitor**, which resembles a television, is where the computer displays text and pictures.

3) **The keyboard** allows you to type information into the computer. It resembles a typewriter keyboard.

4) **The mouse** is the hand-held device that lets you point, click, and move objects on the monitor screen. Some models have a ball underneath, which allows you to move it on a flat surface. The mouse got its name because of its shape and size. A mouse has two or three buttons, which are used to move a cursor on the screen. The trackball, touch pad, and touch screen are alternatives to the mouse. A trackball is similar to a mouse, but the ball that helps manoeuvre the cursor is on top instead of underneath. With a touch pad or touch screen, you can use your finger or a tool called a stylus to move around the screen. The mouse and keyboard can also be used together to navigate around the computer screen.

5) **The printer** is a machine that prints a paper copy of what you see on the monitor.

6) **A modem** allows you to connect to the Internet and communicate with other computers via a telephone line. An external modem plugs into the computer and sits on the desk. Most new computers come with an internal modem.

The printer & modem

4. Using the Mouse

The mouse is the hand-held device that lets you point to objects on the screen, click on them, and move them. Using your right hand, place your thumb on the desk or tabletop on the left side of the mouse. Your index finger should rest on the left-hand button of the mouse. Place your middle finger on the right-hand button of the mouse. Your ring finger and little finger should rest on the right side of the mouse. The base of your wrist should rest on the mouse pad or desktop for stability.

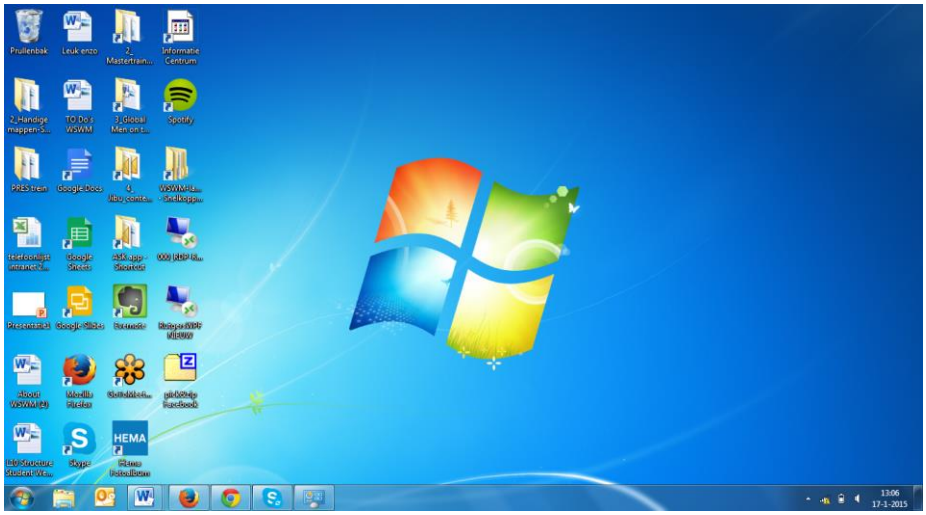
There are four techniques for using the mouse:

1. **clicking**: select an object on the screen by pressing the left mouse button down with your index finger and then release the button.
2. **dragging an object** on the screen by pressing and holding down the left mouse button with your index finger while moving the mouse; when the object is in the position where you want it, release the button.
3. **double-clicking**: rapidly press and release the left mouse button with your index finger. This will open the file or button 'under your cursor'.
4. **right-clicking**: press and release the right mouse button with your middle finger. This will open a 'context menu' of the thing under your cursor on the screen.

5. Software and hardware

A computer consists of hardware and software.
Hardware means all the physical components of the computer that are inside the computer case: this is the machine that makes the computer work. For instance it has a memory disk (hard disk), a fan to cool the computer, and several cards to make sure you see a nice illustrations and video's on your screen (videocard), or you have sound (soundcard).

Software means the programs that are running on your computer. The most important one is Windows. That is like the house of your computer, in which all other programs are displayed, a bit like the building of a library. Then there are programs you actually use to type documents (like Word), draw (Paint), or a browser to surf the internet (Explorer, Firefox, Google Chrome).



6. Turning the computer on and off

Turn it on: press the on and off switch on the computer case. This button may look different, and may be placed different depending on the computer you are using.
[plaatje switch]

Turn it off: close the computer by closing the windows program.
- Click on the Start-button bottom left. A menu will appear with several options (most likely a list of programs, and a button 'turn off computer')
- Click 'turn computer off' in the menu. The computer will turn off itself now.

Note: never turn off the computer by just pressing the on/off button, you first need to close down the program. Otherwise the software of the computer may be damaged.