



SUBJECT and GRADE	Computer Applications Technology - Grade 10	
TERM 1	Week 1	
TOPIC	Systems Technologies: Introduction to Computers	
AIMS OF LESSON	At the end of this lesson you should be able to: <ul style="list-style-type: none">• Understand ICTs and how they are being used in everyday life.• Identify the main concepts of a computer.• Describe the different types of computers and their uses.• Distinguish between data and information.• Explain the economic reasons for using computers.	
RESOURCES	<i>Paper based resources</i>	<i>Digital resources</i>
	Refer to your textbook (DBE Theory Book): <ul style="list-style-type: none">• Chapter 1: Concepts of computing, p 1 - 18 NB! You may also use your own textbook that refers to the sections above.	Links on the WCED ePortal Theory Book: https://wcedportal.co.za/eresource/88001
INTRODUCTION	<ul style="list-style-type: none">• We use various types of computers or computer-controlled devices every day.• This can range from smartphones to scanners used in retail stores.• In this lesson you will learn more about the different concepts used in computing.	
CONCEPTS AND SKILLS	1.1 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) <ul style="list-style-type: none">• An ICT system consists of hardware, software, data and the people that use it.• ICT systems need to receive, store, retrieve, manipulate and transmit data.<ul style="list-style-type: none">○ EXAMPLES OF ICT SYSTEMS IN EVERYDAY LIFE	

- Business: A POS (point of sales) terminal records purchases, credit or debit card payments, returns and updates the stock. A POS is a combination of a cash register, a printer and a bar code reader.
- Home: Family members uses a computer for online banking, e-file taxes, read e-books, etc.
- Cellphones: We use cellphones as cameras, audio and video players, internet communication, etc.

1.2 COMPUTERS AND ICT

- Computers are electronic devices that receive data, manipulate the data and then turn it into useful information.
- Hardware: The physical components of a computer, also referred to as the equipment of a computer.
- Software: More commonly known as apps (applications) or programs and consists of a list of instructions in a computer language that instructs the computer on what to do.
- Hardware components are grouped into the following five categories:
 - Input devices
 - Processing
 - Output devices
 - Storage devices
 - Communication devices

1.3 TYPES OF COMPUTERS

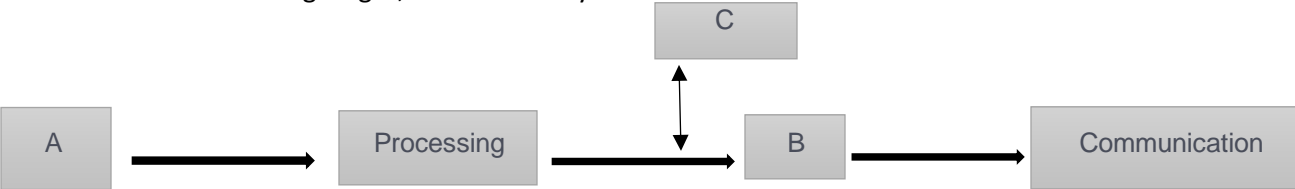
- Multi-purpose: These types of computers have an operating system that can run many applications at the same time. Some examples are devices, such as servers, laptops and smartphones.
- Dedicated devices: These are devices that can only run one task. Some examples are ATMs and processors embedded in devices, such as refrigerators and motor cars.



1.4 DATA AND INFORMATION

- Data needs to be processed before it can become useful. Data can be in the form of text, words, numbers or symbols.
- Information, on the other hand, is data that is processed and formatted in such a way that we can actually use it.
- GIGO is an acronym for Garbage in, Garbage out. Simply put, it means that bad input will result in bad output.
 - THE INFORMATION-PROCESSING CYCLE

	<ul style="list-style-type: none"> ▪ Input: In the first stage of computing, the computer receives some data or instructions to follow. ▪ Processing: In the second stage of computing, the computer follows the instructions programmed into it and manipulates the data in some way. ▪ Output: In the third stage of computing, the computer supplies the new, manipulated information in some way. This information can be displayed on the screen (for example, the message you see on the screen while you type), or it can be sent to a different part of the computer where it is received as input. ▪ Storage: An optional stage is where data is stored. The data can be stored permanently (on a hard drive), or temporarily (on RAM – i.e. the computer’s short-term memory). ▪ Communication: Another optional stage is communication, where the output created is sent across a network to other computers. <p>1.5 ECONOMIC BENEFITS OF COMPUTERS</p> <ul style="list-style-type: none"> • Saving paper • Saving labour • Communication speed and costs • Efficiency • Accuracy • Reliability 								
ACTIVITIES/ASSESSMENT	<p>REVISION ACTIVITY</p> <p>1. Match the user in Column A with the type of computer in Column B.</p> <table border="1" data-bbox="512 1000 1938 1398"> <thead> <tr> <th data-bbox="512 1000 1430 1036">COLUMN A</th> <th data-bbox="1430 1000 1938 1036">COLUMN B</th> </tr> </thead> <tbody> <tr> <td data-bbox="512 1036 1430 1110">1.1 A weather scientist working for the South African Weather Services</td> <td data-bbox="1430 1036 1938 1110">A. Tablet</td> </tr> <tr> <td data-bbox="512 1110 1430 1183">1.2. A sales representative who drives around visiting customers each day</td> <td data-bbox="1430 1110 1938 1183">B. Supercomputer</td> </tr> <tr> <td data-bbox="512 1183 1430 1398">1.3. A school teacher preparing work at home</td> <td data-bbox="1430 1183 1938 1398">C. Server D. Desktop E. Laptop</td> </tr> </tbody> </table> <p style="text-align: right;">(3)</p>	COLUMN A	COLUMN B	1.1 A weather scientist working for the South African Weather Services	A. Tablet	1.2. A sales representative who drives around visiting customers each day	B. Supercomputer	1.3. A school teacher preparing work at home	C. Server D. Desktop E. Laptop
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	<p>2. Your school has bought a new computer for the administration office. List two economic benefits of having a computer in the office. Explain how the school benefits in each case. (6)</p> <p>3. Define what is meant by an embedded device. (2)</p> <p>4. Give an example of an embedded device that will be found in a motor car. (1)</p> <p>5. List three ways of how computers have benefited the economy in South Africa. Motivate your answer. (3)</p> <p>6. Answer the questions based on the diagram below.</p> <p style="text-align: center;">Name the missing stages, as indicated by the letters below:</p> <div style="text-align: center;">  <pre> graph LR A[A] --> Processing[Processing] Processing --> B[B] B --> Communication[Communication] C[C] <--> Processing_B_Arrow style Processing_B_Arrow width:0px,height:0px </pre> </div> <p>6.1 A: (1)</p> <p>6.2 B: (1)</p> <p>6.3 C: (1)</p> <p>7. List one example of each of the following:</p> <p style="padding-left: 40px;">a. Hardware (1)</p> <p style="padding-left: 40px;">b. Software (1)</p> <p style="text-align: right;">TOTAL: [20]</p>
<p>CONSOLIDATION</p>	<ul style="list-style-type: none"> • You should have an understanding of the different types of computers. • You should be able to explain the concepts of the main components of a computer system.
<p>VALUES</p>	<ul style="list-style-type: none"> • To efficiently use the appropriate ICTs in everyday life.