INTRODUCTION TO THE WORLD OF ICT

Figure 1: ICTs

ICT is an acronym that stands for **"Information Communication Technology"**

In our daily lives we tend to ICT in one way or the other. People keep connected through telephone networks, the internet and the World Wide Web as shown in **fig1** above. ICT involves a wide range of electronic tools for creating, storing, displaying, exchanging digital information and communication.

ICT is not limited to computers. People can use other ICT tools without having computers. In other parts of the country where schools cannot access computers, other equipment of ICT should be applied.

Example:

Imagine making a phone call to your mum, to send her "**New Year Greetings**".

☞ In this case you and your mum are communicating using technology (mobile phone) and the information is "**New Year Greetings**"

ICT can be compared with other systems that are not electronic e.g. a water system

NB: **ICT is electronic while a water system is mechanical**

Comparison between a water system and ICT system

ICT system	Water system
Taps, water tank, pipes	Technology
Water	Information
Water flowing through pipes	Communication

DEFINITION OF INFORMATION AND COMMUNICATION TECHNOLOGY

ICT (information and communications technology) is the use of electronic computers and computer software/applications to convert, store, protect, process, transmit and retrieve digital information from anywhere at any time.

OR

ICT (information and communications technology) can also be defined as the combination of computer and communication technologies to process data into information.

OR

ICT (information and communications technology) maybe referred to the tools which can be used to create, manipulate, store, disseminate and transmit information in all forms including voice, text, graphics, and video.

ICT TOOLS/ ICTs

ICT Tools are devices/objects used in ICT for creating, storing, and manipulating, exchanging and transmitting digital information.

As people need Hammers, Hoes, Pangas to process, produce and manufacture "**food**", ICT tools are also needed to capture data, process data, store and communicate information. Therefore ICT tools are not one solid thing but rather a collection of several electronic tools as shown in **fig 2** below

Examples of ICT tools include;

- ☞ Radios
- ☞ Television (TV)
- ☞ Video
- ☞ DVD
- ☞ Telephone

- ☞ Digital cameras
- ☞ scanners
- ☞ Satellite systems
- ☞ Computers e.g. desktops, Laptops, etc.

Figure 2: common ICT tools in our society

ACTIVITY 1

1. In your community, identify at least 3 ICTs/ICT tools familiar to you and state the function of each in the table below;

ICT tool	Function
E.g. Camera	**Capturing photographs**
1.	
2.	
3.	
4.	
5.	

2. Identify any 5 ICT tool in fig.2 identify the kind of information they handle and practice using them.

Some examples of ICT Tools we interact with in our day-to-day activities

Figure 1.2: Desktop computer set

Figure 1.3: Television sets

Figure 1.4: Telephone handsets

Figure 1.5: Radio

Figure 3: Common ICTs

Activity 2

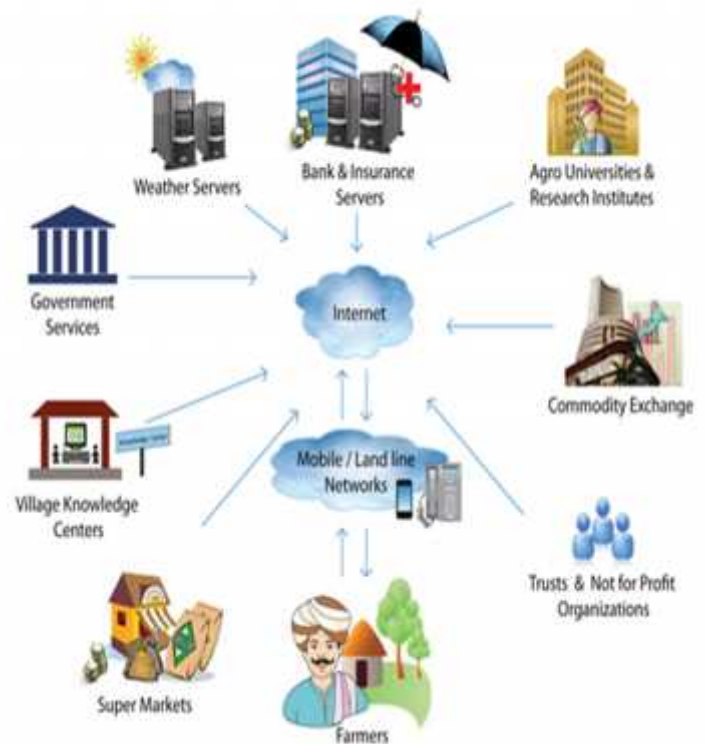Identify the ICT tools provided above and their characteristics. Summarise your findings in the table below;

Name of ICT tool	Characteristics
computer	• Electronic tool
	• Has hardware and software
	• Can store information temporarily or permanently
	•
	•
	•
	•
	•
	•

APPLICATION OF ICT IN SOCIETY/USES OF ICTs IN SOCITY

At the beginning of this chapter, you learnt that ICTs are used to collect and share information. In all situations ICT devices are used by people in various fields to simplify work.

In our societies today, use of ICT is on the increase in all areas/fields. ICTs are used to collect and communicate information in our homes, schools, hospitals, banks, transport, entertainment, security, agriculture and many other places.

In security, ICTs are used to monitor sensitive areas like banks and Airports, screening bags for unwanted materials and objects etc. however, good ICTs may in some cases pose challenges.

USES OF ICT IN THE VARIOUS FILDS/AREAS OF OUR SOCIETY

(a)   Homes

☞ Many people nowadays use computers for shopping (selling/buying) online without physically going to shops i.e. **online shopping**

☞ There is also a variety of entertaining information for those looking for leisure. This includes music, videos and games.

☞ ICT tools such as computers and printers can be used for creating and printing various home documents such as reports, budgets etc.

☞ ICTs can also be used at home for communicating with others in some other locations.

- ☞ Computers and internet can also be used to work from home i.e. **teleworking/telecommuting** where one works from home without going to the work place.
- ☞ People use computers in homes to pay bills through the payment by phone services (PPS).
- ☞ People use computers for education and research from home. People can take online courses.

(b) Education/Schools.

- ☞ Students use computers and appropriate software to learn at their own pace. This Learning is known as **Computer Assisted Learning (CAL).**
- ☞ They use them as learning aids. Through use of computers and internet, E-learning has been possible.
- ☞ They are used by researchers to quickly gather and analyze experimental data using the internet and World Wide Web.
- ☞ Teachers use ICTs to present teaching materials in a more interesting way i.e **computer assisted instruction (CAI)**
- ☞ Students can also use ICTs to attend to learn online without physically going to colleges and institutions of learning i.e. **online learning/distance learning**.
- ☞ Students can also use computers to create various documents e.g research documents etc.
- ☞ Students and teachers can also use ICTs to communicate to other students elsewhere using telephones or social communication websites such as Facebook.
- ☞ Computers can be used by teachers to search more knowledge concerning the subject they teach.
- ☞ They can be used in preparing presentations to be displayed in class.
- ☞ Computers can be used by teachers to keep students record.

(c) Health/Hospitals

☞ They are used to maintain patient's records in hospitals, clinics and other health centers.

☞ They are used to monitor patients 'vital signs in hospitals, at home and clinics.

☞ They are used to carry out computer assisted medical tests in clinics and hospitals.

☞ They are used in diagnosing medical conditions of patients.

☞ Computers can be used by doctors to perform surgery with the help of online support from more experienced doctors.

☞ Computerized devices such pacemakers, artificial organs and artificial limbs have enabled tens of thousands of people to live longer.

☞ Expert medical systems have been created to help doctors in diagnosis of medical conditions.

☞ Doctors use ICTs to communicate with patients and doctors in other areas of the world

(d) Security/Police and Army

☞ Police use computers to store databases on security controls such as fingerprints which are automatically analyzed by computers.

☞ Traffic Police uses computer controlled traffic lights to control traffic flow on the roads.

☞ They are used in computer based recognition and scene monitoring.

☞ Tracking wrong doers using their mobile devices like phones

☞ ICTs are also used by security personnel for communication e.g using mobile phones and radio calls

☞ Security uses ICTs to create various documents that are required for security purposes

☞ ICTs are also used by the military people when controlling and launching missiles in wars

(e) ENTERTAINMENT

ICTs and computers can be used in the entertainment field to perform a variety of tasks;

☞ Playing computer games using computers, phones and paly stations

☞ Listening to music using audio software

☞ Watching a video using a video software

☞ Reading eBooks, newspapers or magazines on the world wide web

☞ Chatting with friends using computers and social media websites like Facebook, Instagram, Whatsapp etc.

☞ Composing and editing music and videos using computers and music editing software

☞ ICT aids the wide distribution of music through download websites. This helps in disseminating content to many people at the same time.

(f) Office

☞ Managers use computers to create memos, letters and reports about their institutions.

☞ Bursars and cashiers use computers to calculate payroll, prepare income statements and balance sheets.

☞ Business managers use computers to track inventory and generate invoices and receipts.

☞ Computers have been used to present projects and ideas by means of presentation software.

☞ In offices, computers are used for communication through use of fax machines, electronic mails and videoconferencing.

☞ Through telecommuting, employees can work away from a company's standard workplace.

Activity 3

a) Identify the ICT devices used in each of the application areas shown in the table below and what they are used for. NB; each application area can have as many ICT devices as possible.

Application Area	Name of ICT device	What it is used for?
Home	Mobile phone	Sharing information in form of pictures, sms, email, voice messages etc.
School		
Entertainment		
Security		
Hospitals		
Transport		
Agriculture		

b) Give any advantages and disadvantages of using ICTs in our society?

Activity 4

a) Identify any ICT devices that are used in any business in your area and what they are used for.

ICT device in any business in your area	What it is used for?

b) Discuss and make a presentation of at least 5 slides on the different ways in which a mobile phone can be used as an ICT tool to support business.**[Parents can help the student to come up with the presentation]**

c) Define computer hardware and give any five computer hardware.

d) What is computer software?

e) Explain the use of any two computer software/application you have used before

HANDLING AND MAINTAINING ICT TOOLS

Taking care of your ICT tools is just as important as taking care of your books. The internal and external parts of the computer and other ICTs have to be cared for. Taking care of ICT tools is supposed to be done by all people who use them. However, as a learner you cannot do all care and safety activities. Activities that require one to open up these tools are left to people who have undergone specialized training on how to do it.

Computer Maintenance; this refers to performing regular/routine activities in order to prevent system problems. Computer maintenance is can also be called **preventive maintenance.**

Maintenance of computers is critical in ensuring that you have a reliable system that performs at top efficiency year after year.

Maintenance of computers includes;

- ☞ Cleaning your personal computer
- ☞ Routinely checking for viruses and file system corruption
- ☞ Backing up data
- ☞ Knowing how to fix problems and troubleshoot

As an ICT user, there are certain tasks you can perform to ensure your ICT tools clean.

These include;

- ☞ **Keep dust away;** dust your computer and other ICTs to keep them free from dust and dirt.
- ☞ **Keep food away;** Do not eat or drink while working on the computer
- ☞ **Use clean and dry hands;** make sure your hands are clean before you type on the keyboard or click the mouse.
- ☞ **Treat with respect;** if you are having problems with your computer, ask for help. Do not bang or hit the computer
- ☞ **Keep off;** seeing that when the computer is connected to electricity, means that lightening could be conducted to your computer through the electrical connection. For this reason it is best not to use your computer during a storm.
- ☞ **Stop virus attack; a computer virus** is a program written to cause harm or damage to other computer programs. A computer virus is passed from one computer to

another when you share and download files without the protection of antivirus software. For this reason you should get permission before downloading files.

☞ **Handle with care;** the way you handle your CDs will determine how long they will last. Always hold the CD correctly as shown in the picture.

NB: Some computer laboratory safety and maintenance tools and their functions

Maintenance Tool	Function
Dust blower	Can be used regularly to blow dust out of computer hardware
Air conditioner	Regulates computer lab temperatures

Activity 5

a) Other than a dust blower and an air conditioner, identify any other maintenance tools in the computer laboratory and their functions.

b) Identify a computer at home/computer laboratory which needs cleaning and clean it up with necessary tools

c) Make a report of the steps followed in (b) above and the tools used in the cleaning process

IMPORTANCE OF COMPUTER MAINTENANCE

☞ Maintenance of computers saves money that would be incurred in the long run incase on breakdown

☞ Maintenance of computers save time that would be wasted incase the computer got problems

☞ Preventive maintenance help safe guard data by backing it up

☞ Preventive maintenance improves performance of the system

Activity 5

ICTs are currently being employed in almost all fields in this modern era. Some of these fields are education, banking and security. In the area of education, it is possible for a teacher at home to virtually conduct a lesson in a school in Uganda.

Task

a) Explain how the lesson above can be conducted by the teacher with ICTs.

b) Explain the precautions that should be exercised when using the ICT tools in (a) above.