CPS | Primary ICT

New Curriculum

Information and Communication Technology

Grade 4 Learner's Book

4

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CPS | Primary IC

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Curric

Information and Communication Technology (ICT)

Grade 4

LEARNER'S BOOK

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CPS | CONSULTUS PUBLISHING SERVICES

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Foreword

The CPS Grade 4 Learner's Book aims to equip learners with a comprehensive and broad perspective on the basic knowledge of ICTs. The book was written in line with the new curriculum that was developed by the Ministry of Primary and Secondary Education.

In the book, learners should expect to find:

- objectives of the chapter that will enlighten learners with an idea of the knowledge that they should be equipped with at the end of the chapter
- assumed knowledge of what learners would have acquired in the previous grade, in other subjects or in their local or global environment
- a detailed introduction that will give learners a brief look at what is in the chapter as well as a recap of information learned in previous chapters
- clear photographs of ICT tools
- activities that encourage individual work, group work and class work which will promote the learner's social skills
- practical work with legible photographs of the instructions
- a summary of key points that will sum up the concepts learned in the chapter
- end of chapter questions that encompass all the concepts that were learned

Learners will find the book informative and educative.

Chapter 1 Information and communication technology tools

Objectives

By the end of this chapter, you should be able to:

a) identify input, output and storage devices
b) connect and use computer peripherals appropriately

Assumed knowledge

a) A computer is an electronic device used to process, store and retrieve information.
b) Laptops, desktops, palmtops, notepads and smart phones are some examples of computers.
c) ICT tools are all the equipment you use in information communication and technology like radios, television, laptops, DVD players, digital cameras and drums.
d) A computer has four main parts, a mouse, a keyboard, a system unit and a monitor.
e) The parts of a computer which you can touch are called hardware.

Introduction

Computers can work on their own. However, for them to work better, they need to have computer peripherals connected to them. These peripherals can be input, storage or output devices. The peripherals enhance the functioning of a computer so that the computer can be used in a better way. This chapter discusses the various types of input, output and storage devices.

Identifying input devices

Input devices are devices that are used to input information into the computer. They allow us to control and give commands to the computer. Input devices are part of computer hardware because you can touch them. The key board and mouse are the most common types of input devices. Some input devices include a scanner, a digital camera, a touch pad, and a microphone.

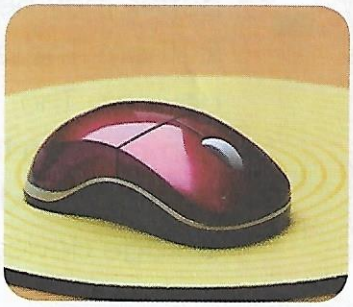
Types of input devices

A keyboard

It is used to enter data and instructions into the computer. The keyboard is divided into different types of keys, that is, the alphabetic keys, the numeric keys and the editing keys like delete, backspace, caps lock, space bar and enter. All these keys, when pressed, they enter data into the computer.

A mouse

A mouse is a pointing device. You can click, double click or drag the mouse. A mouse is used by following the movement of a cursor on the screen.

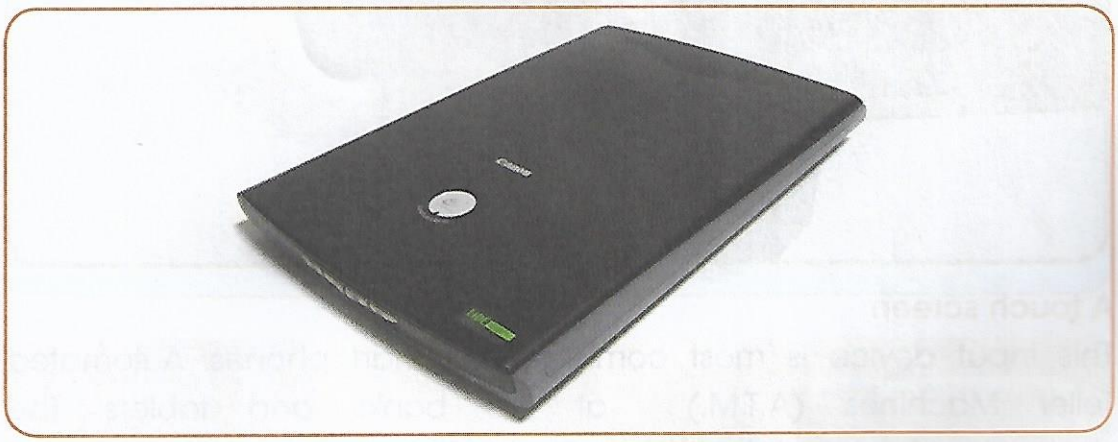


A microphone

It is used to input sounds into the computer. Where have you seen a microphone being used?

A scanner

It is used to save images and written text into the computer memory. Instead of retyping a text, the same text can be scanned into the computer then it is saved and edited later.

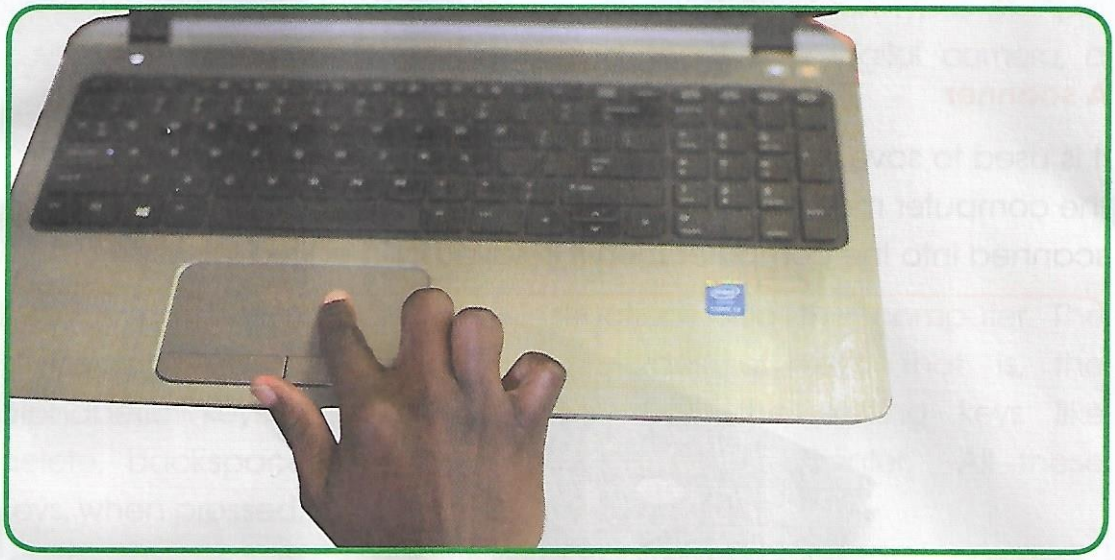


A digital camera

A digital camera is used to take pictures and videos. These pictures and videos are saved onto the digital camera's memory. They are then input into a computer by connecting a cable from the digital camera to the computer. They can be downloaded and saved in a computer.

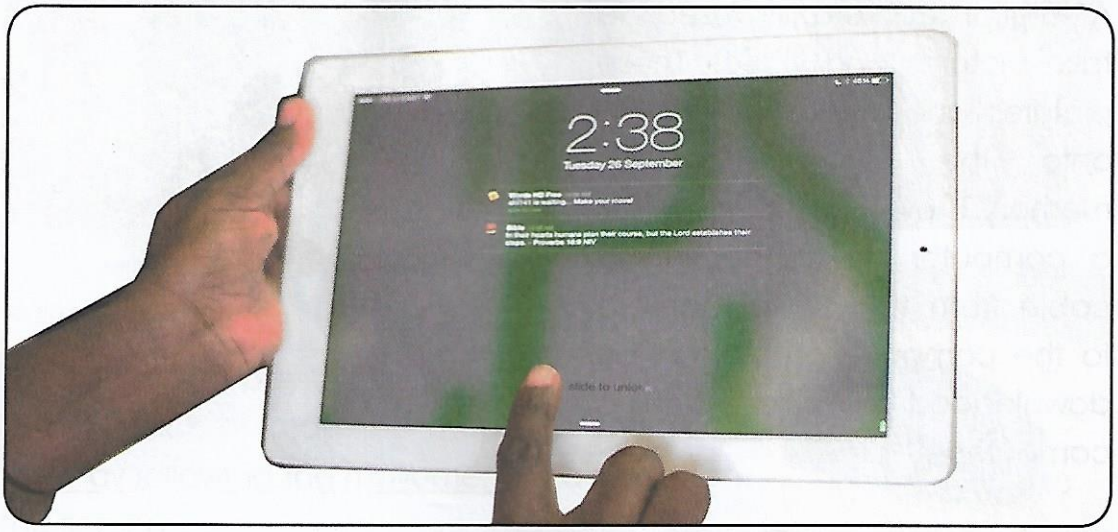
A touch pad

This input device can be used in place of a mouse. The touch pad is found on a laptop and it works like a mouse. It is used to move the cursor so that text can be typed into the computer.



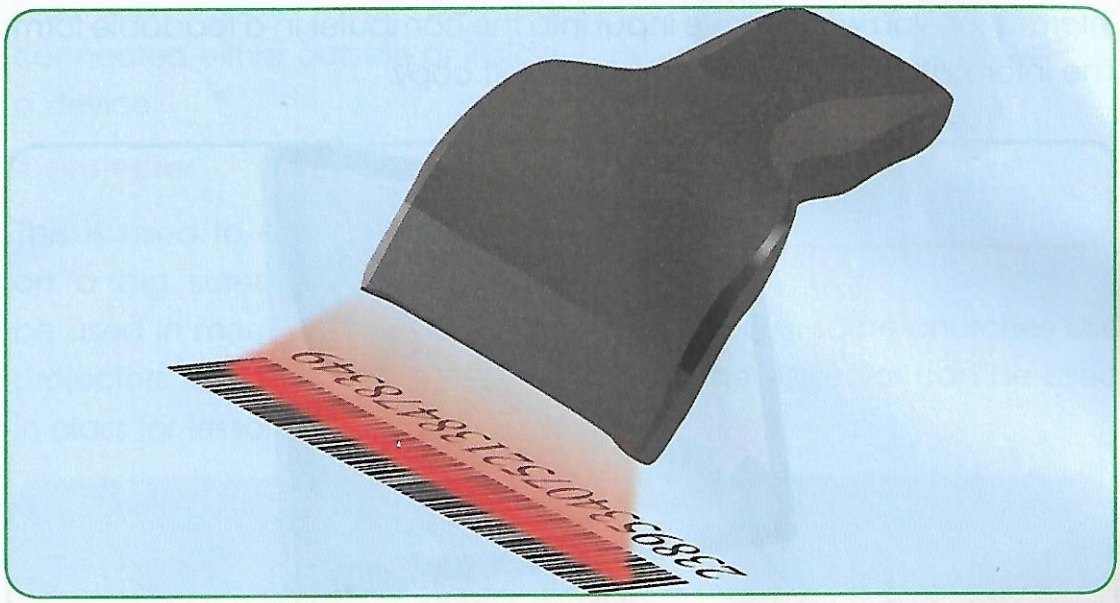
A touch screen

This input device is most common on smart phones, Automated Teller Machines (A.T.M.) at the banks and tablets. The device inputs data into the computer when the user touches the screen to input data on the required menu.



A bar-code reader

It is commonly found in shops at till points. It is used to read the barcode and to output the prices of goods.



Activity 1.1

1. Identify and name the various types of input devices in your computer lab.
2. Visit your nearest shopping center or town center and observe how input devices work.

Output devices

These are devices that enable you to see the data which has been processed by the computer. Output devices are important because they enable you to correct any errors that would have been made when inputting data into the computer. There are many types of output devices.

Types of output devices

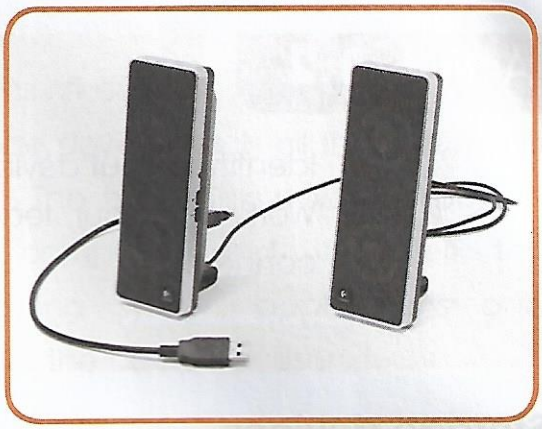
A monitor

This is the most common type of output device. It can also be called a screen or Visual Display Unit (V.D.U). The screen displays all the information you would have input into the computer in a readable form. The information being displayed is a soft copy.

A printer

A printer enables the user to produce information on paper. Information is called a hard copy. A printer can be connected to the computer using cables or it can be wireless. Once the command to print is sent, information will be produced on paper from the printer. There are many types of printers. Some print black and white and some are colour printers.

Speakers



Speakers enable you to hear sounds like music or even recorded voices. These can be connected either outside or inside a device.

A projector

This is used to output information on a big screen. Projectors can be used in meetings for presentations. Nowadays, some churches use projectors to output Bible verses. At school, the projector can be used in class for lessons.

Activity 1.2

1. Identify output devices in your computer lab.
2. Work with your teacher to find out how they are connected.

Storage devices

Storage devices are parts of computer hardware used to store and extract data from one device to another. Information on storage devices can be kept temporarily or permanently. Storage devices can be external or internal to the computer.

Types of storage devices

Storage devices can be put into two main groups and these are:

1. Primary storage devices
2. Secondary storage devices

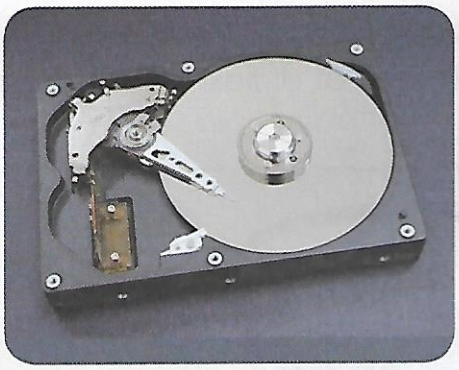
Primary storage devices are smaller in size. They are internal to the computer and they hold data temporarily. Secondary storage devices can be called back up storage devices.They can be internal or external. Secondary storage devices store large amounts of data because they are bigger in size.

Identifying storage devices

Magnetic disks

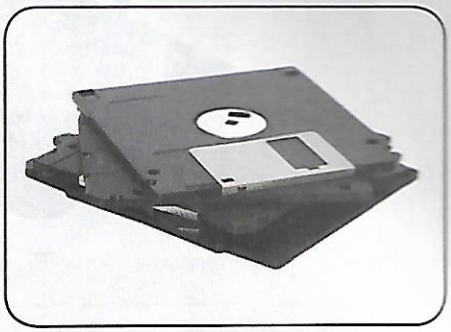
These are storage devices that use magnetic process to write, rewrite or access data. Hard disks and floppy disks are examples of magnetic disks.

A hard disk drive

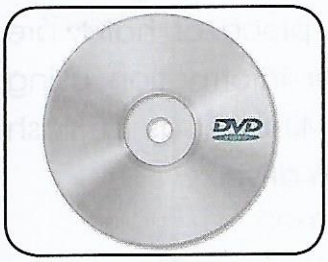


This is the most common type of storage device which all the computers have. The hard disk drive is inbuilt in the computer and it stores the operating system, applications and files for the computer users.

A floppy disk



This is a small plastic plate coated with magnetic material. It is used to store and transfer data from one computer to another. We can read and write data on a floppy disk. However, these have been replaced by Universal Serial Buses (USBs).



Optical disks

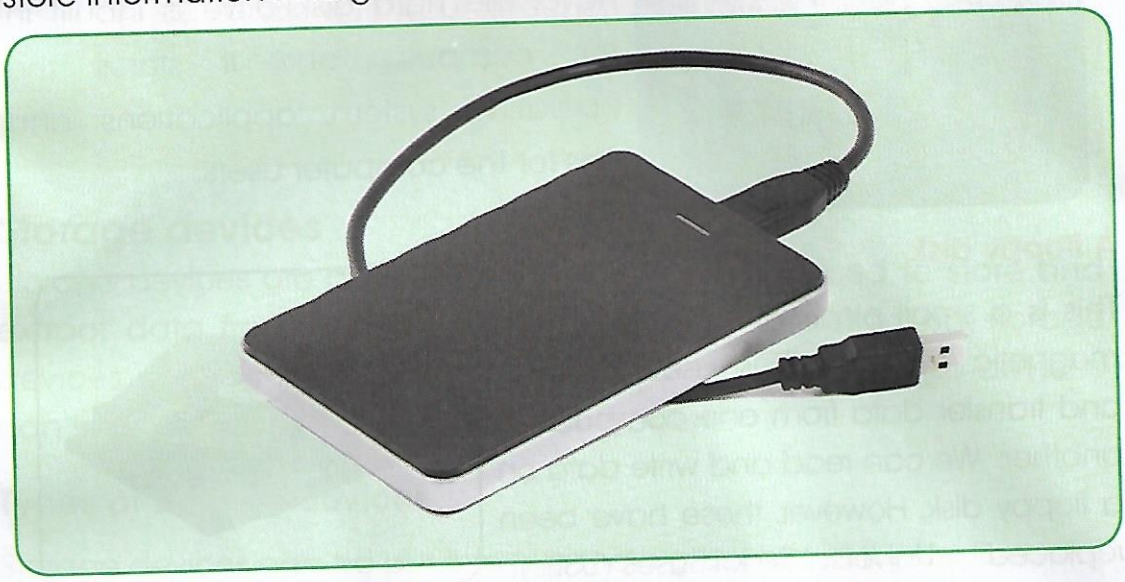
Optical disks are storage devices that are flat and circular in shape. These include Compact Disks (CD) and Digital Versatile Disks (DVD). These optical disks differ in the way they can be used as storage device.

Table 1.1 CD storage devices

Type	Meaning	Functions
CD-ROM DVD-R	Compact Disk Read only MEMORY Digital Versatile Disk Read only	You cannot edit the data on these disks.
CD-RW DVD-RW	Compact Disk-Read Writable Digital Versatile Disk Read Writable	The contents on these disks can be edited. You can delete and save new information.

External hard drive

It has a very big memory and is portable, therefore, it can be carried around. It has a memory much bigger than that of flash drives. It can store information in large amounts.



A memory stick

This is a small piece of hardware used to transfer information using USB. It is also known as a flash memory or flash drive.

A memory card

This can be inserted directly onto the device like a smart phone. It can also be inserted into a card reader then connected through a USB port. Memory cards vary in sizes depending on the amount of information you want to store.

Activity 1.3

1. Identify the various ICT devices in your computer lab. Connect some of the devices and see what happens. For example, you can give a command to your computer to print a document.
2. Work in groups to connect the various ICT devices.
3. Input data like numbers and alphabetical letters.
4. Connect a printer and print some documents.
5. Insert disks and read information or data on them. Also use RW disks.

Key points

a) Computer peripherals like input, output and storage devices make the computer work better.

b) Input devices include a mouse, keyboard and microphone. These help to give a command to the computer.

c) Storage devices differ in sizes. Some of the storage devices are hard disks, flash drives, memory cards and external hard drives. These store information so that you are able to retrieve and or edit it later.

d) Output devices enable you to see the information that has been processed by the computer in a readable form. Some of the output devices are, printers, projectors and speakers.

End of chapter questions

1. A _____ is an input device which can take videos and pictures.
   A. keyboard **B.** scanner **C.** camera **D.** bar-code reader
2. The name _____ is given to devices that allow you to view and edit information.
   A. storage devices **B.** input devices
   C. output devices **D.** ICT toys
3. _____ is the smallest storage device in terms of size?
   A. An external hard disk **B.** Flash drive
   C. Hard disk **D.** Memory card
4. _____ optical disk is writable?
   A. CD-R **B.** CD ROM
   C. DVD-R **D.** DVD-RW
5. You get a _____ after printing out information.
   A. photocopy **B.** hard copy
   C. data **D.** soft copy
6. A _____ is a storage device that can be used in a smart phone.
   A. memory card **B.** external hard drive
   C. DVD **D.** flash drive
7. List any two types of the following:

	Input devices	Output devices	Storage devices
a)			
b)			

8. State any device that can be used externally or internally by the computer.

Chapter 2 Creating and publishing: presentation and slide show

Objectives

By the end of this chapter, you should be able to:

a) create a presentation
b) import images into presentation
c) change slide layouts
d) add text description to the slides

Assumed knowledge

a) Images can be added to a presentation.
b) Basic presentation can be created using presentation software.

Introduction

There are many presentation softwares. The common presentation programs that are available are Microsoft PowerPoint, Open Source Presentation Software and Lotus Freelance graphics. For the purposes of our exercises, this book will only use Microsoft PowerPoint and deliberate on how it functions.

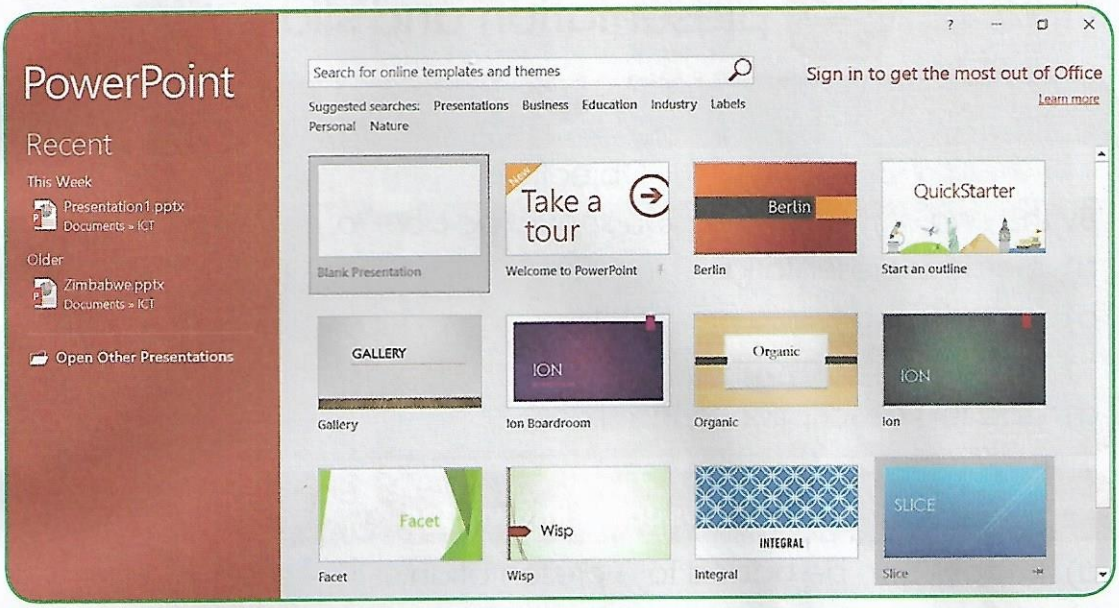
Creating a presentation

You are going to create a presentation consisting seven slides on the cities in Zimbabwe.

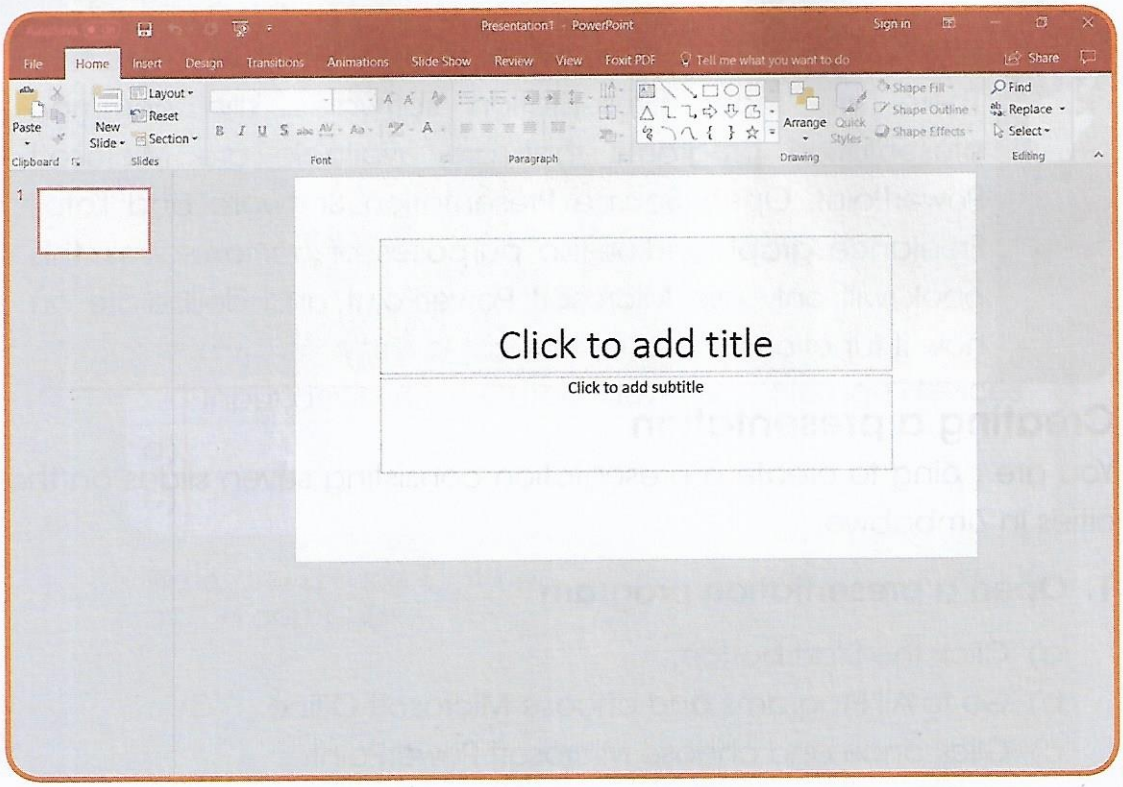
1. Open a presentation program

a) Click the Start button.
b) Go to All Programs and choose Microsoft Office.
c) Click once and choose Microsoft PowerPoint.

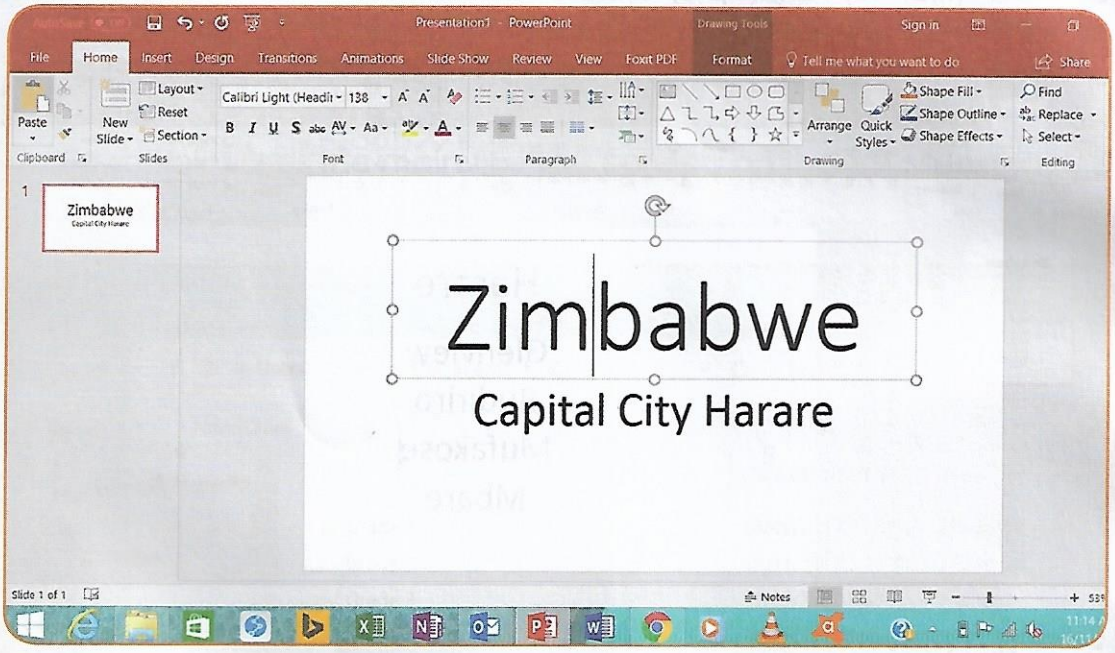
2. Open a blank presentation



a) Click blank presentation.

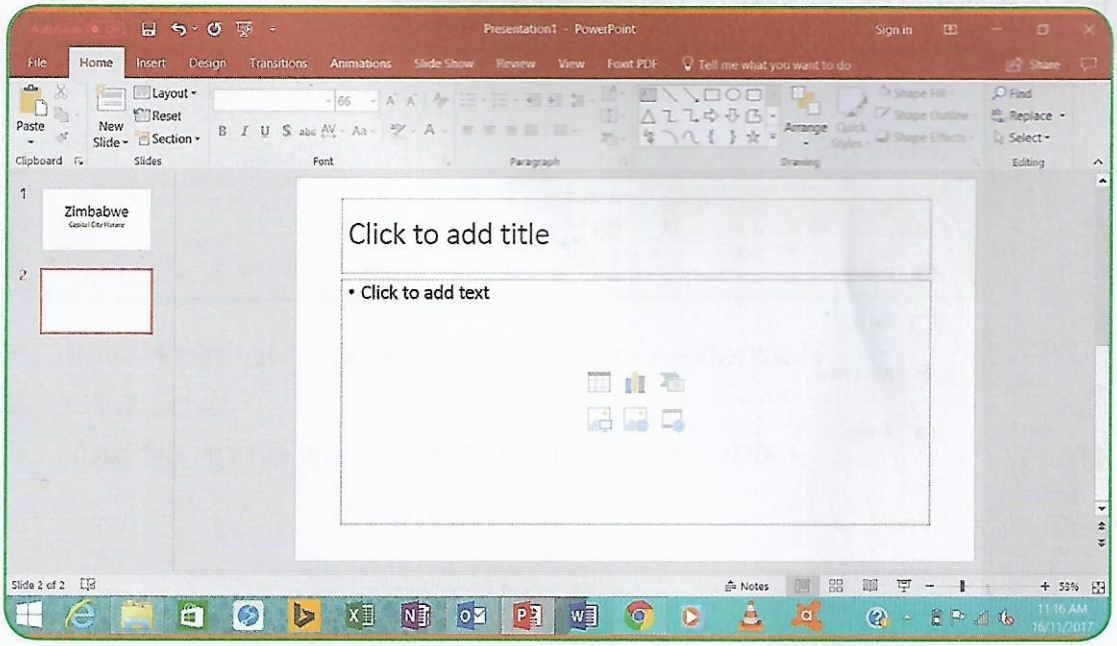


b) Add title, for example, Zimbabwe and subtitle, for example, Capital City Harare.



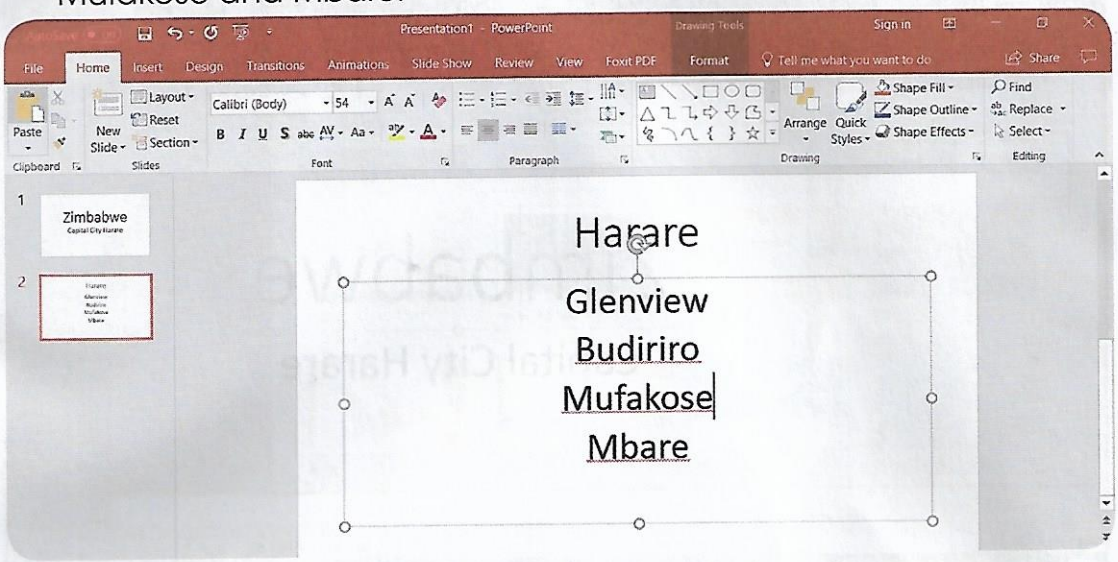
3. To add a slide to a presentation

a) Click New Slide.



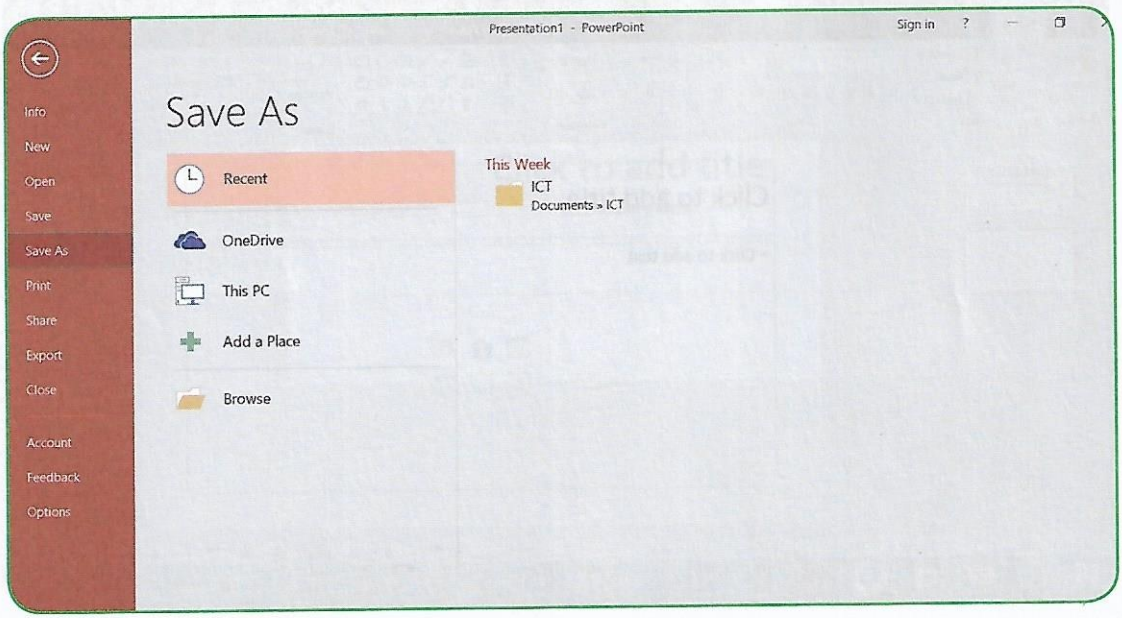
4. Select title slide

a) Add title, for example, Harare and subtitle Glenview, Budiriro, Mufakose and Mbare.



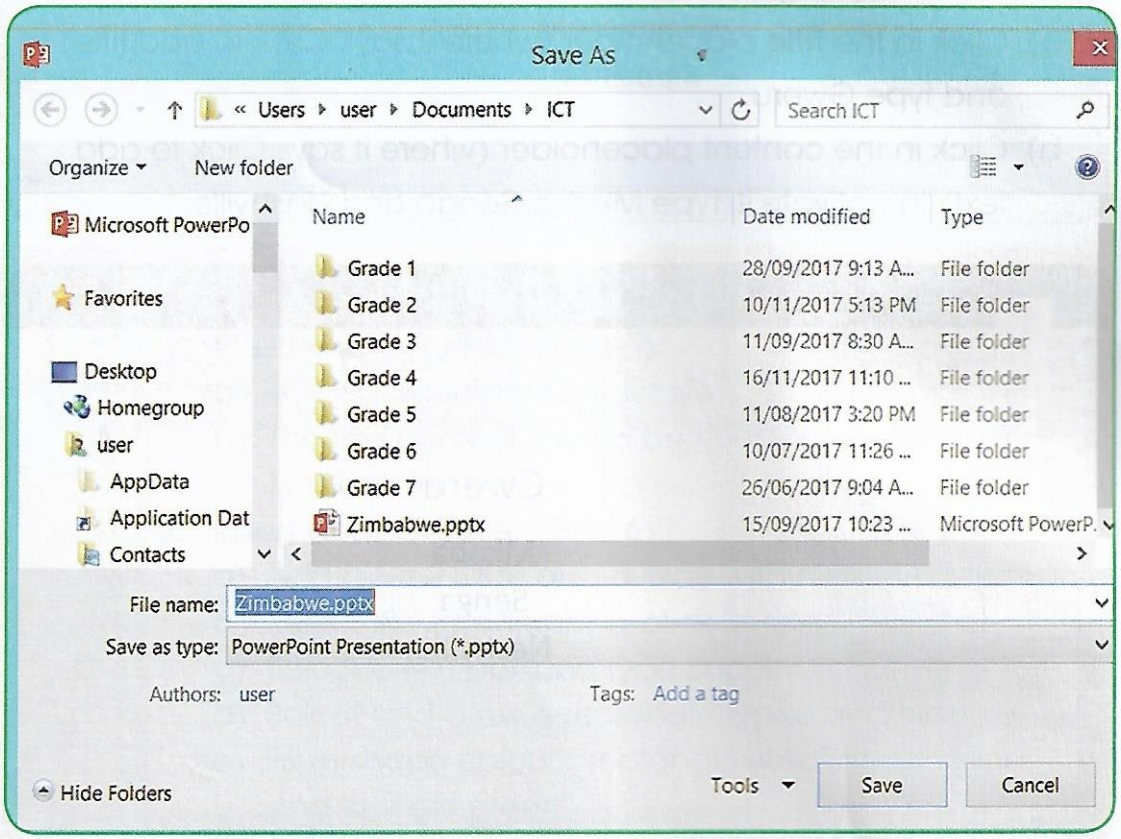
Saving a presentation

It is recommended that you save your work at regular intervals whilst you are working on it, rather than waiting until you have finished the last slide. For example, you can save after completing each slide.



Steps to save a presentation

1. Click on the File tab and choose Save As, as shown on page 16.
2. You shall be given an option to choose the folder in which you wish to save your presentation.
3. Click on the folder you wish to save your file in.
4. PowerPoint uses the main title you entered on the first slide, that is, Zimbabwe.



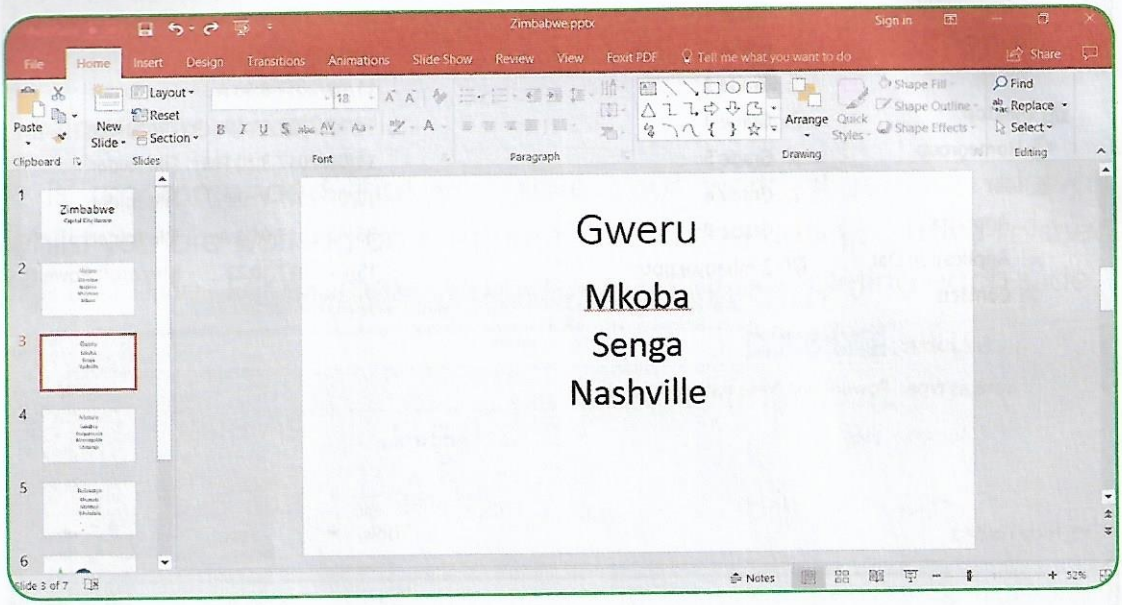
5. PowerPoint automatically adds a pptx extension.
6. Click Save.
7. Your file name will appear as Zimbabwe. pptx.

Adding slides

To add more slides onto an existing presentation.

Open **PowerPoint** and file **Zimbabwe**.

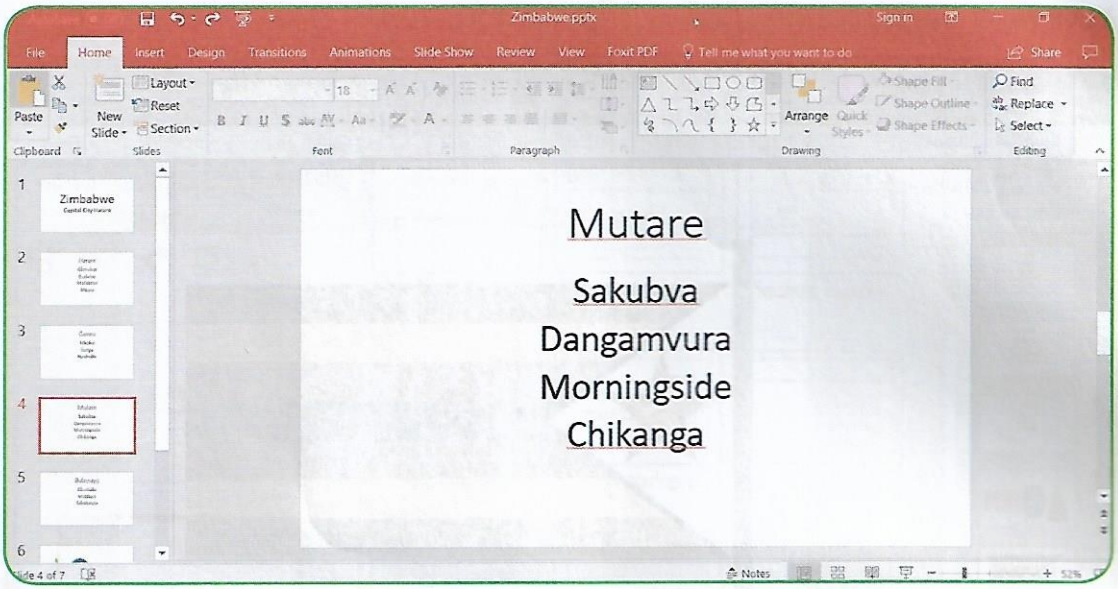
1. Add a New Slide.
2. Add a slide with a Title and Content.
3. Add title and text.
4. Enter the following text.
   a) Click in the **title** placeholder (where it says Click to add title) and type Gweru.
   b) Click in the content placeholder (where it says Click to add text) to activate it, type Mkoba, Senga and Nashville.



Insert another slide

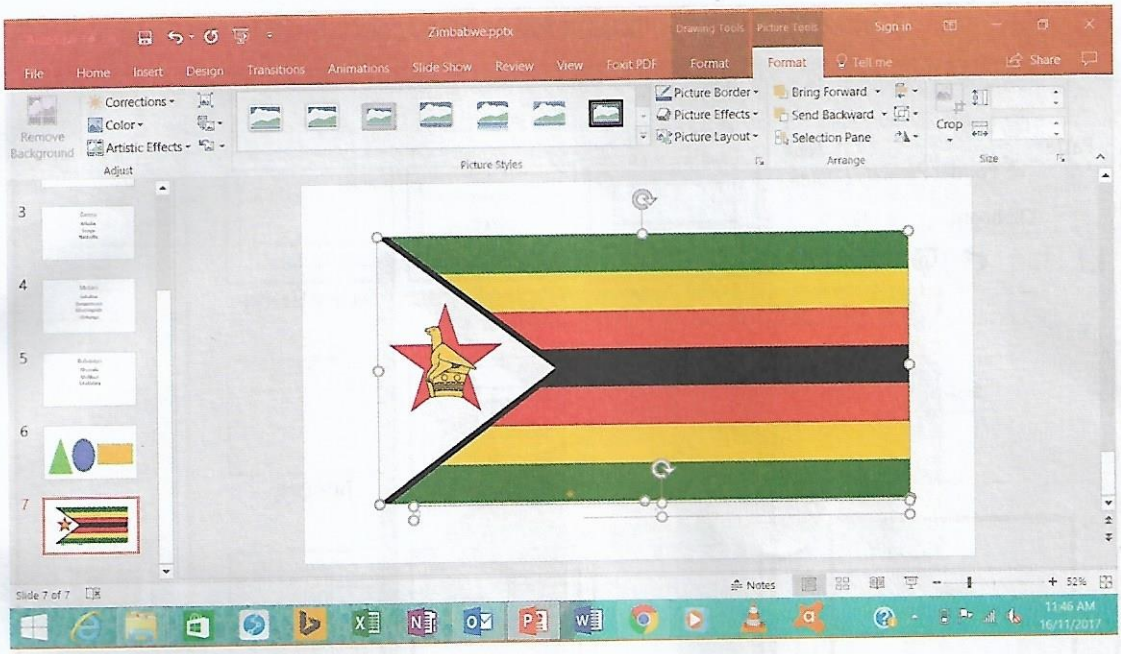
a) Click in the title placeholder (where it says Click to add title) and type Mutare.

b) Click in the content placeholder (where it says Click to add text) to activate it, type Sakubva, Dangamvura, Morningside and Chikanga.



Activity 2.1

1. Insert another slide. (Slide 5)
   a) The title should be Bulawayo.
   b) The title content should be Khumalo, Mzilikazi and Tshabalala.
2. Insert another slide. (Slide 6)
   a) Add a New Slide add a slide with a Blank layout.
   b) Select the Insert ribbon, click Shapes.
   c) Select a Text box and type Shapes.
   d) Select and draw a rectangle, cycle and triangle.
   e) Fill in shape colours: rectangle yellow; circle blue and triangle green.
3. Insert another slide. (Slide 7)
   a) Go to the Insert ribbon, click Online Pictures.
      NB: your computer should be connected to the Internet. If you are not connected, click Pictures and use the pictures that are on the computer.
   b) Search for the Zimbabwean flag.
   c) Click on the flag you like and click Insert.



To run your presentation

1. Select the Slide Show ribbon.
2. Click From Beginning.
3. Press any key to move slides or click the mouse button.
4. At the end of the show, it comes back to PowerPoint.

Activity 2.2

1. Create a presentation and give it the name Zimbabwe.
2. The first slide should be a title slide with the title. Zimbabwe.
3. Insert four slides, the layout should be Title and Content, Titles should be the four cities in Zimbabwe.
4. The content of each slide should be the region of that city, rainfall patterns and the identity of the city.
5. Save your presentation using the file name Zimbabwe 2.

Key points

a) When inserting a slide, it is very important to make the correct choice about the slide layout as this will determine the type of work which can be put on the slide.

b) When you want to make changes to a slide make sure the slide is selected.

c) When inserting a slide between two slides, Select the slide that is below and insert. The new slide will be placed above the selected slide.

d) The font and paragraph works the same in Microsoft Word and PowerPoint.

End of chapter questions

1. Microsoft PowerPoint is a _____ Software?
   - **A.** presentation
   - **B.** publishing
   - **C.** public
   - **D.** powerful
2. New Slide, Layout, Font and Font Size are found on _____ menu.
   - **A.** View
   - **B.** Home
   - **C.** Slide Show
   - **D.** Insert

3. A new presentation can be created from _____.
   A. blank presentation
   B. existing presentation
   C. design template
   D. title and content
4. Your work must be _____ at regular intervals.
   A. formatted
   B. updated
   C. saved
   D. deleted
5. Explain the importance of saving your work at regular intervals.
6. List the steps you would take to save a new PowerPoint presentation.
7. How do you insert pictures onto a presentation?
8. Harare, Gweru, Bulawayo and Mutare are major cities in Zimbabwe. Name the fifth city in Zimbabwe.

Chapter 3 Creating and publishing: databases

Objectives

By the end of this chapter, you should be able to:

a) add data to an existing database
b) use the data in an existing database to generate graphs and charts

Assumed knowledge

a) Data can be classified in various ways.
b) Branching databases can be created using prepared tables.

Introduction

A database is a structured set of data held in a computer, especially one that is accessible in various ways. Database is very important for schools, different organisations and our country. Imagine you have lost your birth certificate and you want to get another one from the registrar's office. The officers there simply search your name and get all your details in a short period of time. Hospitals, use the database to record a patient's details and the information will be used in different departments. For example, if they want to check your bills, the accounts department gets your details from the hospital database.

You can create a database for your class. This topic will take you through the steps required to come up with a database table.

Database

Database is a collection of information that is organized so that it can be easily accessed, managed and updated. A school may have a collection of names of all learners. However, these learners can be put into different clubs or groups. Here are examples of groups that can be found at a school.

a) traditional dance group
b) school choir
c) science club
d) soccer team
e) debate club
f) life skills club

This information is needed by the school administrators so that when they are doing their budgets, they have all the details of the students in these groups. Database makes the administrators' job easy. The table below shows how a database looks like.

Table 3.1 Database

Boys				
ID	**Surname**	**First name**	**DOB**	**Address**
1	Musoni	Farai	10/06/07	123 Chitepo P.O. Box 163 Msasa, Harare
2	Sibanda	Mthandazo	12/12/07	11221/7 Nkulumane 11 P.O. Nkulumane, Bulawayo
3	Chauke	Hlengani	24/01/07	49 Magamba Street P.O. Box 2340 Chiredzi

At the top of this table is the table name, Boys. Below the table name are column names: ID, Surname, First name, DOB and Address. These are known as field names in database. Many field names can be added depending on the information to be recorded. This means that a database can contain as much information as the data capture may want to record. A database can contain information like email address, cell phone number, as well as, age of a person. However, there is a slight difference with a word document. Information in database is made in

such a way that a field, for example, cell phone numbers, must contain information that is uniform. If numbers are written as +263 700 000 000 then all the numbers in that field must start with +263. The field would then be like the one below:

Table 3.2 Field numbers

Names	Cell phone number
Bakani	+263 777 777 777
Peter	+263 711 111 111
Themba	+263 733 333 333
Chamunorwa	+263 711 111 111

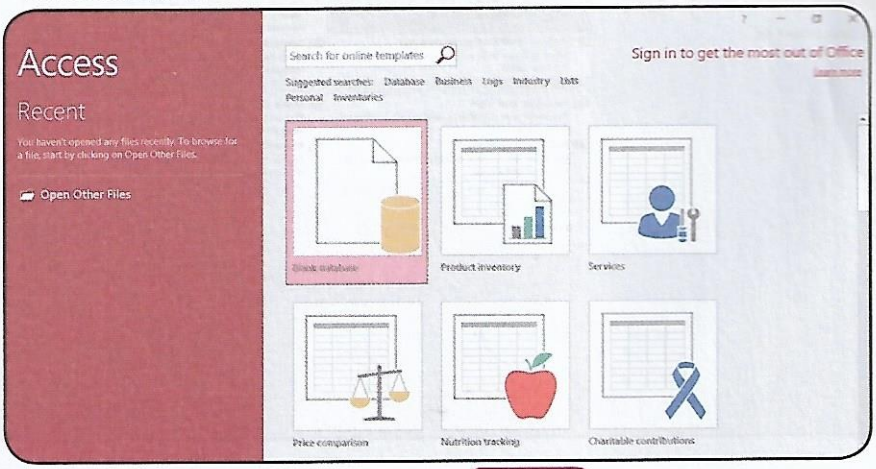
Activity 3.1

1. In pairs, create a database table of the subjects you do.
2. Write how many times you have each subject in a week and how long it takes.

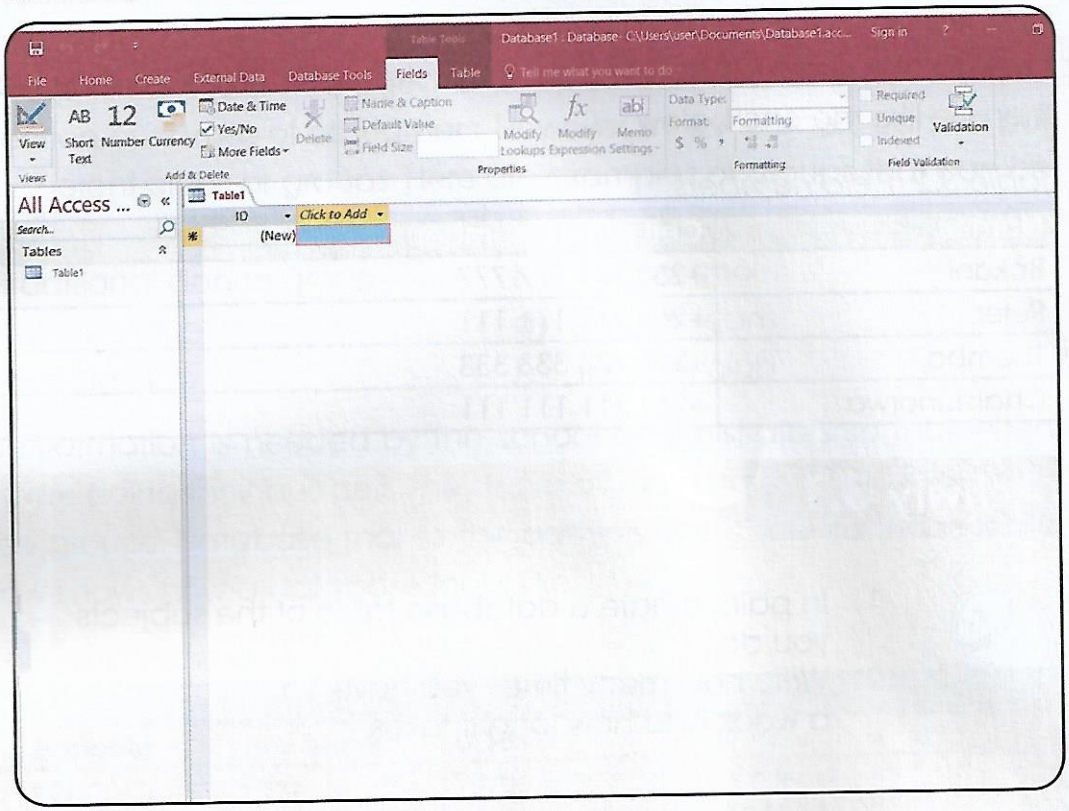
Creating a table

Below are the steps you take when making a database.

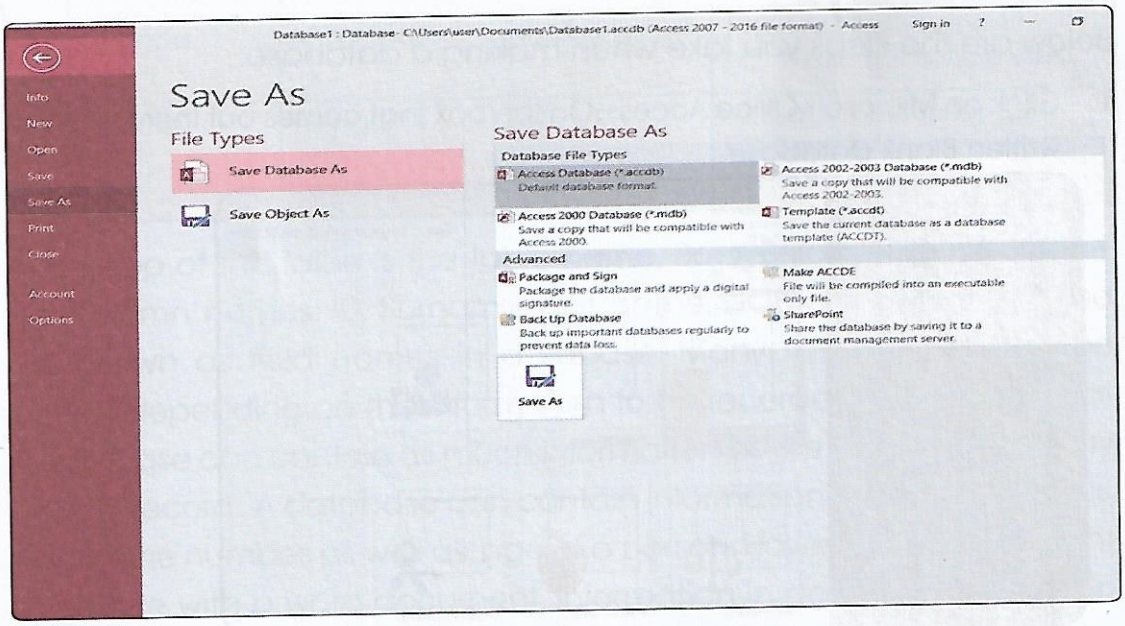
1. Click on Microsoft Office Access. On the box that comes out there is a part written Blank Database.



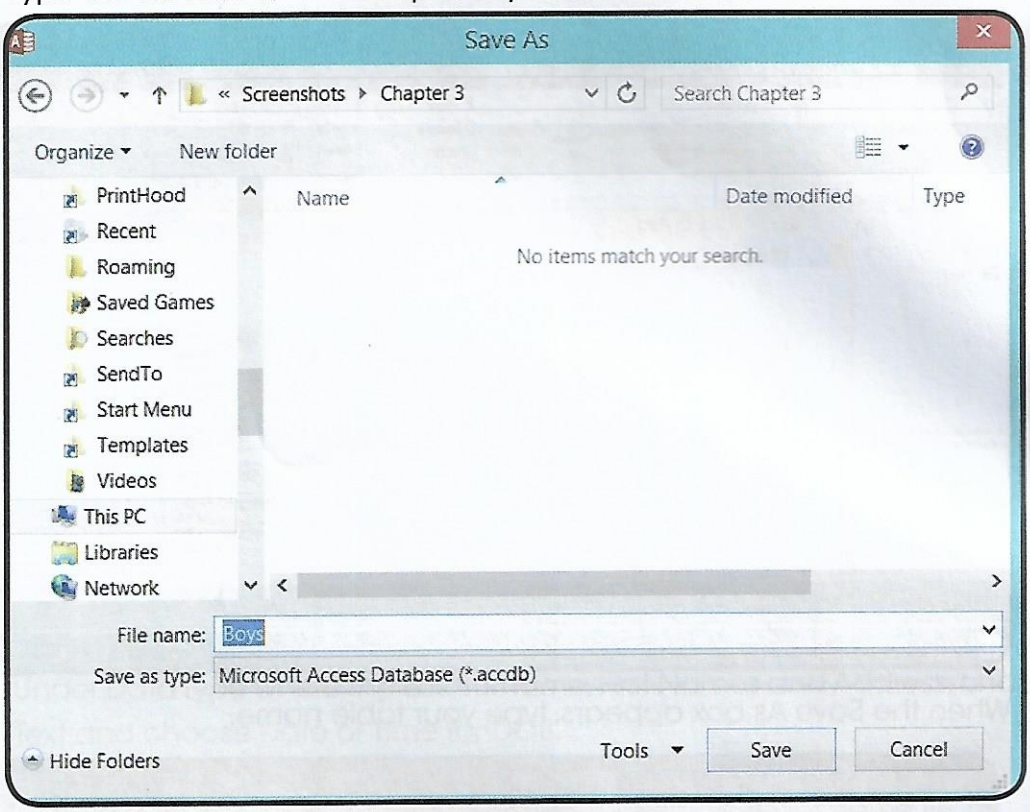
2. Click on the box Blank Database.



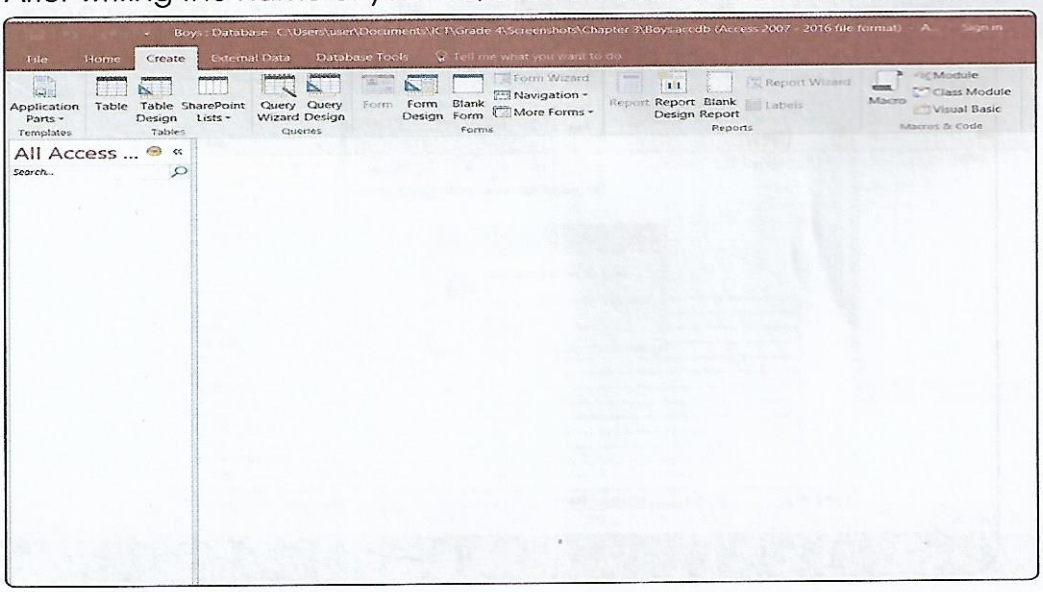
3. Go to File and click on Save As.



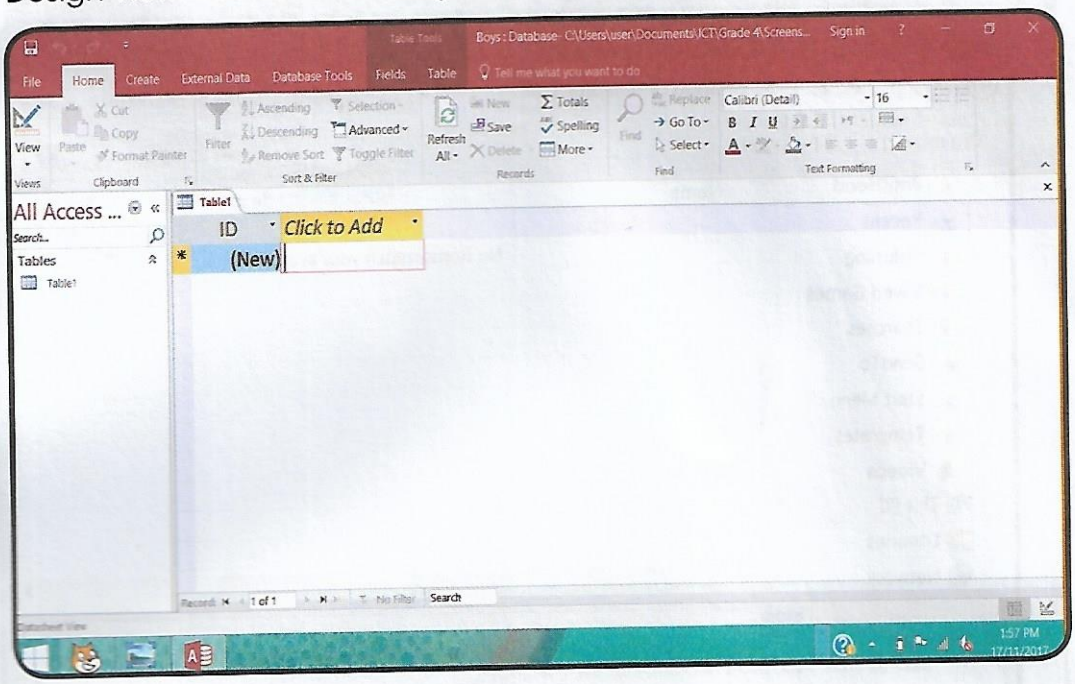
4. Click on Access Database, then click Save As.
5. Type the file name, for example, Boys and click Save.



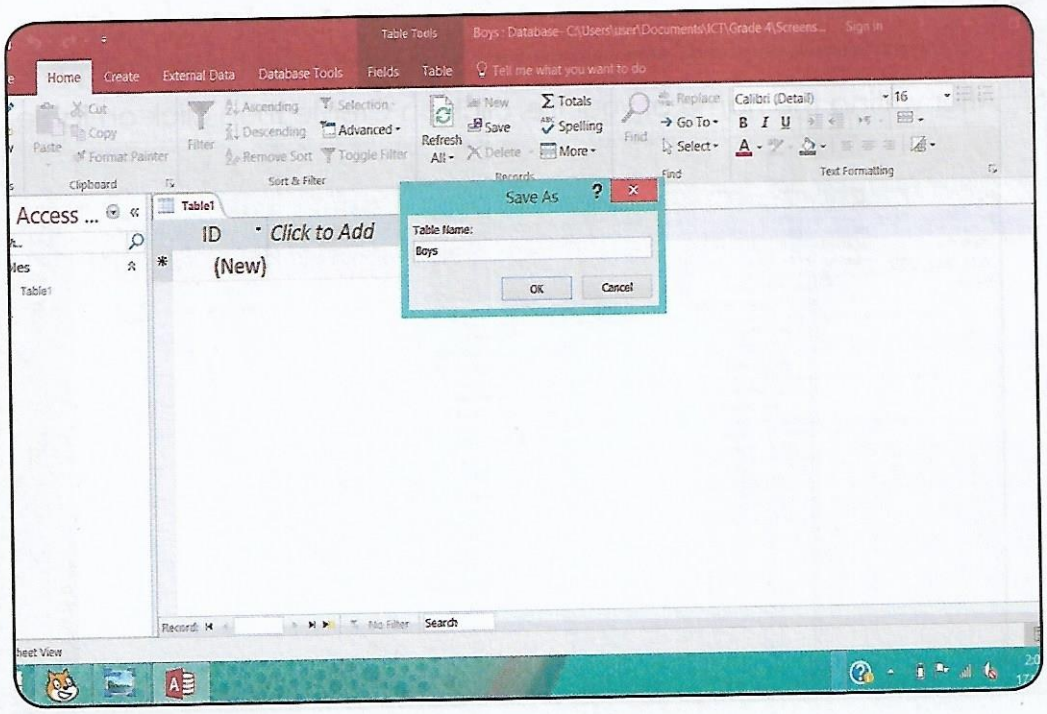
6. After writing the name of your file, click on Create then click on Table.



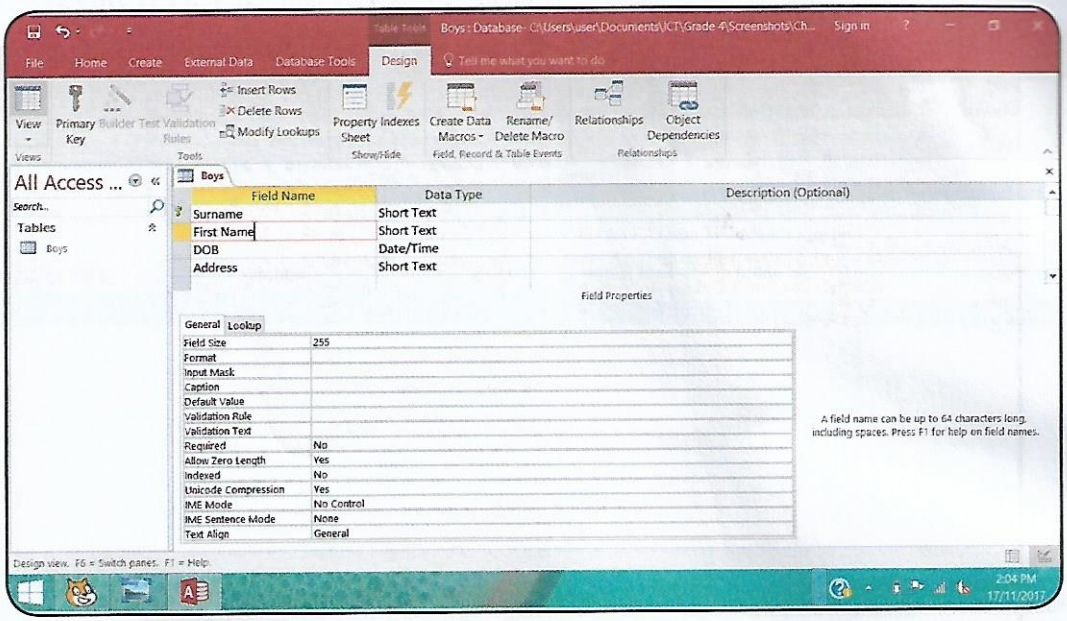
7. Click on Home, then click View and get two headings Datasheet View and Design View. You use the Design View to create the field names.



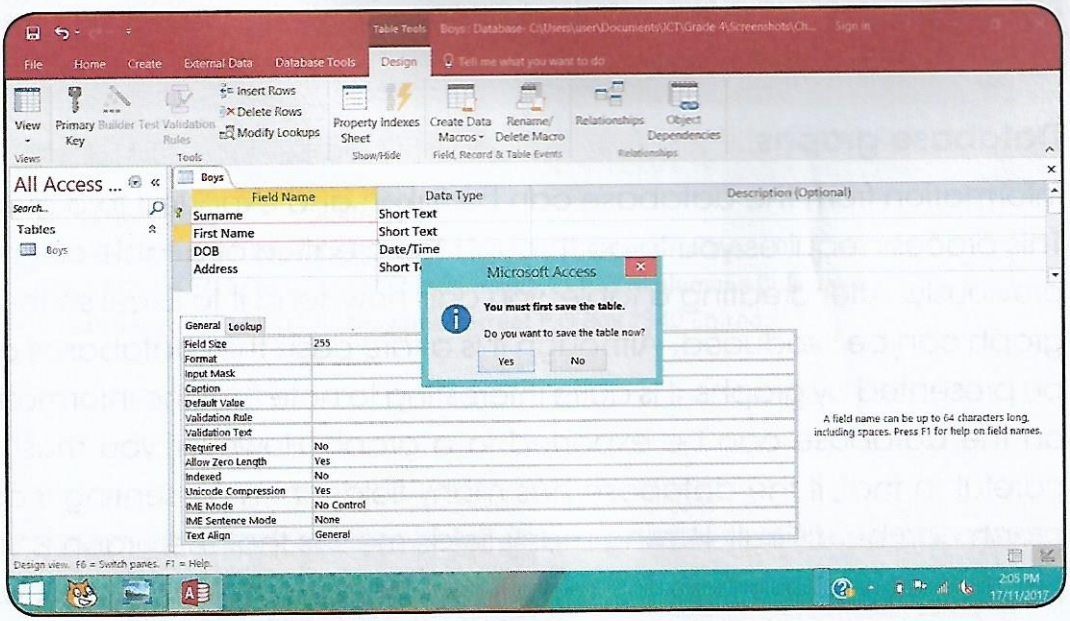
8. When the Save As box appears, type your table name.



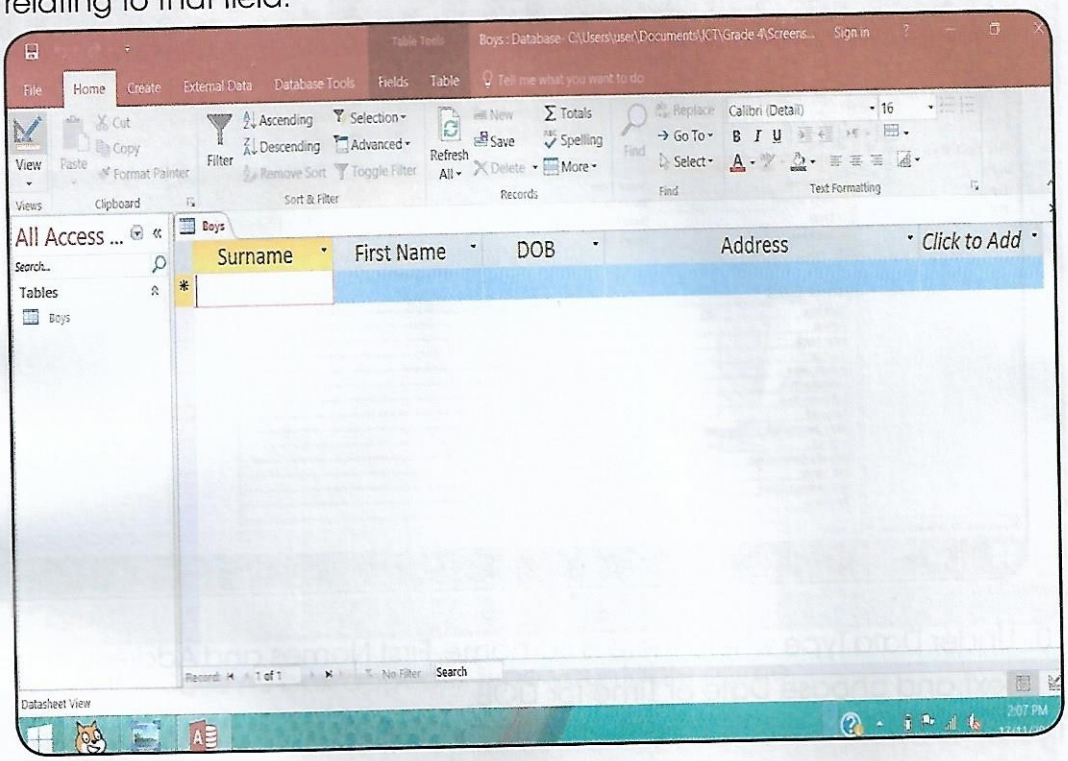
9. Go to the fields and give headings like Surname, First Names, DOB and Address.



10. Under Data Type where there is Surname, First Names and Address, choose Text and choose Date or Time for DOB.
11. Choose Datasheet View and Save your table.



12. Having completed this part, your database would be ready for use. This means that under every field given, you can now simply type the details relating to that field.



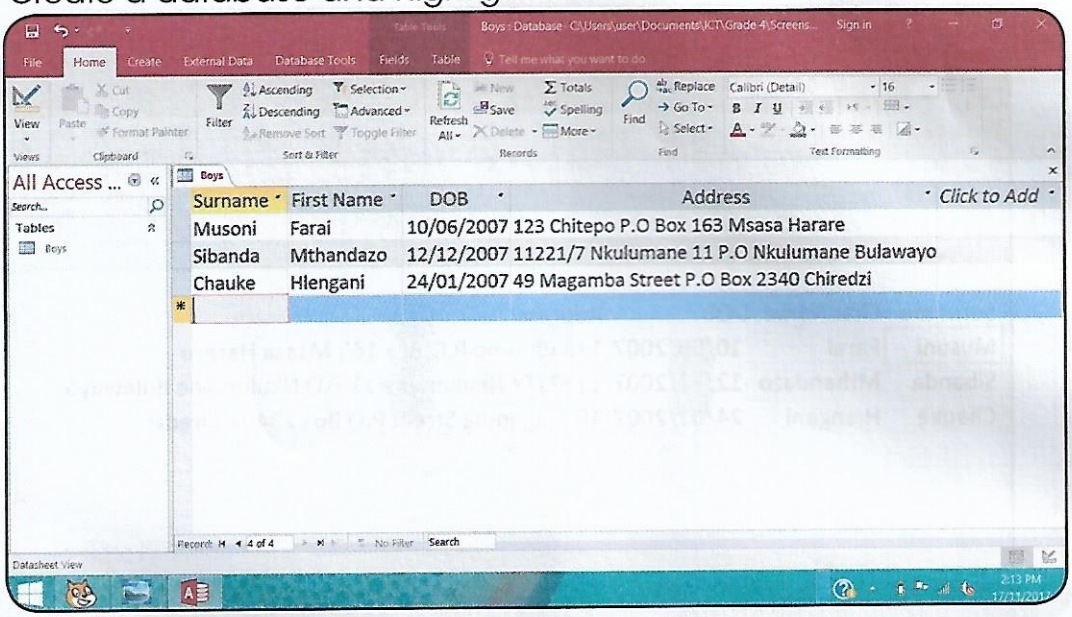
Please note that after completing the table, you simply close it because it saves the data automatically.

Database graphs

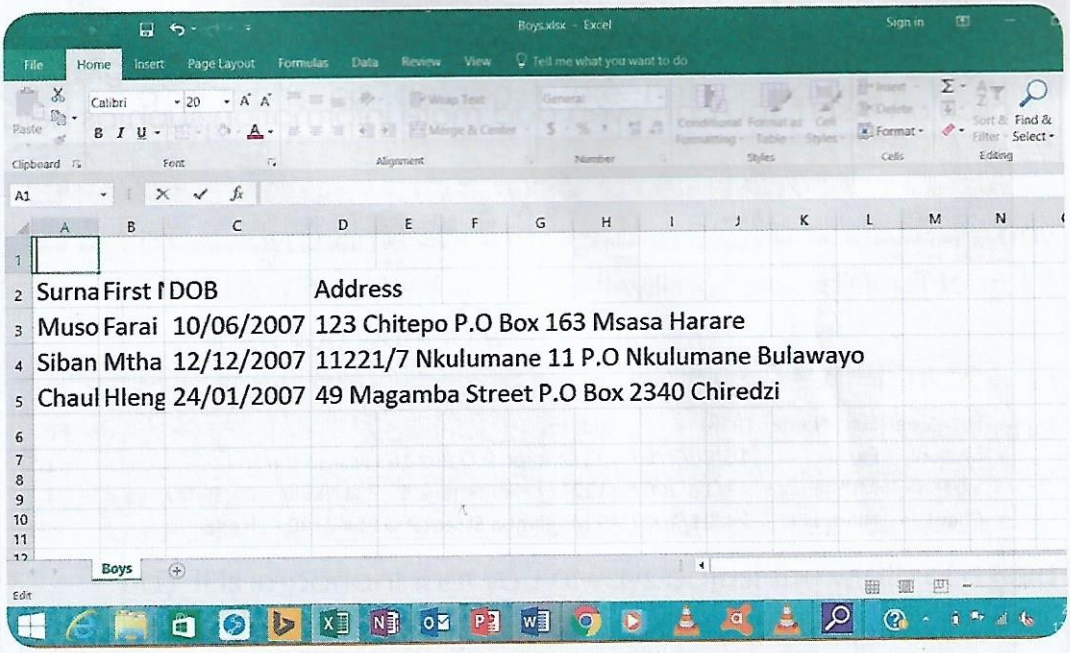
Information from the database can be taken and exported to a graph. This process requires you to go through the creation of a table as given previously. After creating a table, you can now send it to Excel so that a graph can be produced. Although it is a rare case that databases can be presented by graphs, it is quite interesting to note that the information on the database can be exported to a graph. However, you must be careful, in that, if the database has many fields, then presenting it as a graph can be difficult. Having many fields means that the graph is also going to have many bars, therefore it can become difficult to work with.

Creating a graph

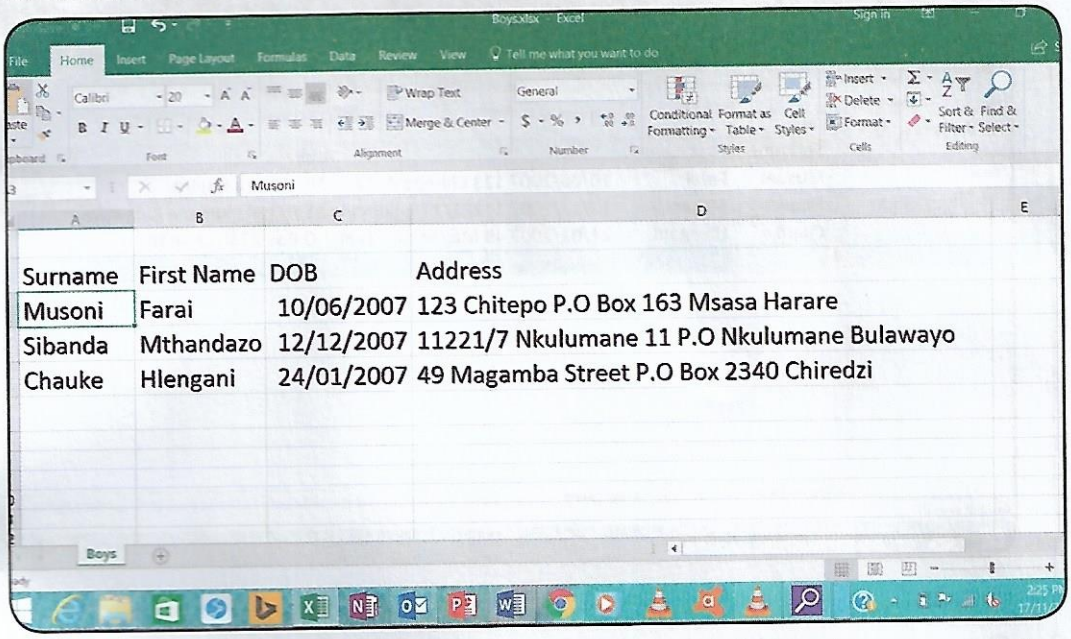
1. Create a database and highlight it.



2. Copy the completed table and paste it in Excel.

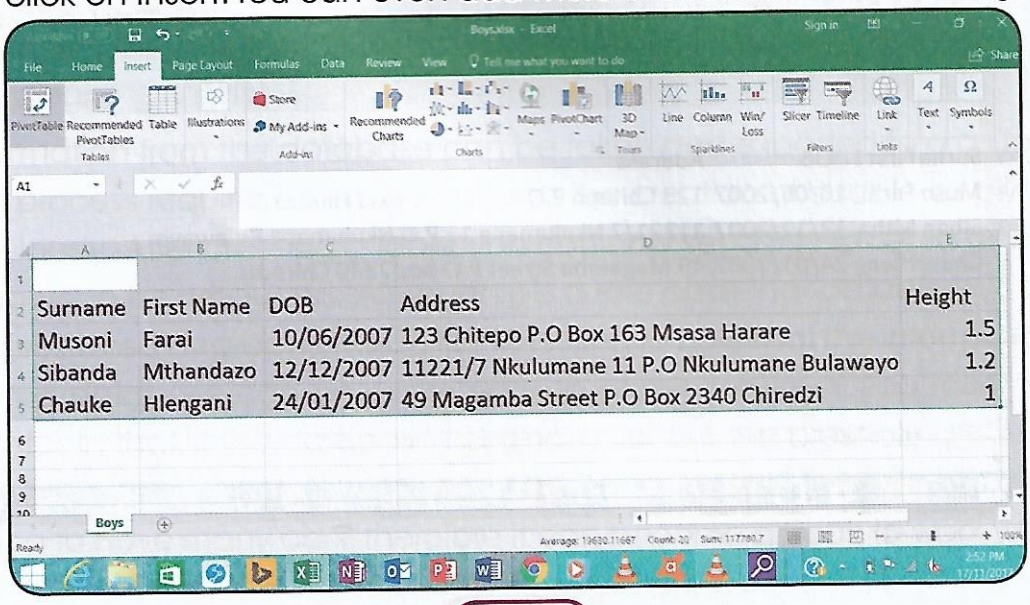


3. At first, the exported table appears as shown on the image on page 33 but that can be corrected so that names will fully appear as shown below.



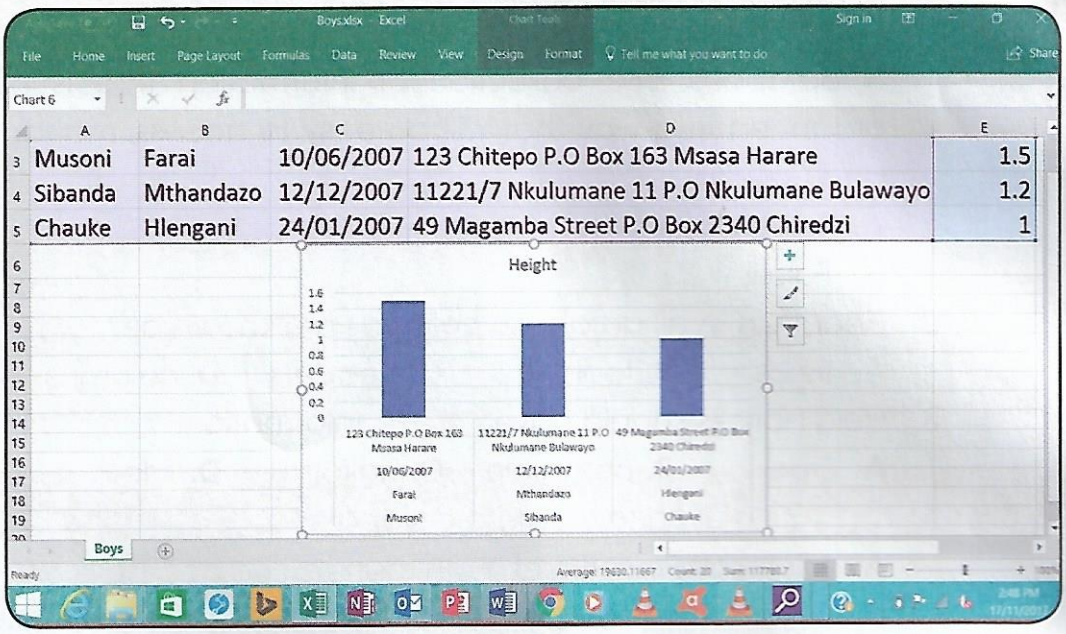
Surname	First Name	DOB	Address
Musoni	Farai	10/06/2007	123 Chitepo P.O Box 163 Msasa Harare
Sibanda	Mthandazo	12/12/2007	11221/7 Nkulumane 11 P.O Nkulumane Bulawayo
Chauke	Hlengani	24/01/2007	49 Magamba Street P.O Box 2340 Chiredzi

4. This is done by simply adjusting the width of the columns and the height of the rows to suit your information.
5. Highlight the information you want to be included in the graph and click on Insert. You can even add more information such as height.



Surname	First Name	DOB	Address	Height
Musoni	Farai	10/06/2007	123 Chitepo P.O Box 163 Msasa Harare	1.5
Sibanda	Mthandazo	12/12/2007	11221/7 Nkulumane 11 P.O Nkulumane Bulawayo	1.2
Chauke	Hlengani	24/01/2007	49 Magamba Street P.O Box 2340 Chiredzi	1

6. Choose the type of graph you want to use.The picture below shows what you get when you complete this stage.



Key points

a) Graphs on database are not compulsory. What is important is for you to be able to put information on a database.

b) Always name your tables and files. Do not leave any table unnamed because it will become difficult to get it when you want to work on it.

c) All rows in database must be filled in. A blank row in database is treated as if it has some information and this affects the database when you want to access your information.

d) It is important that you always adjust the width of a field so that all the details appear clearly.

End of chapter questions

1. A database is a collection of information that is not organized in a way that will be easy to access, manage and update.
   A. True
   B. False.
2. Headings in all database columns are known as _____
   A. fields **B.** topics **C.** headers **D.** columns.
3. Field names should have_____ information.
   A. True **B.** complete **C.** uniform **D.** little
4. _____ is used to create a database.
   A. Microsoft PowerPoint
   B. Microsoft WordPad
   C. Microsoft Access
   D. Microsoft Word.
5. Explain why you can simply close your database on Microsoft Access even without saving it.
6. In which Microsoft program is a database table exported to?
7. State the steps taken to export database to a graph.
8. Name any three data types used to make fields.

Chapter 4 Computer software: desktop publishing

Objectives

By the end of this chapter, you should be able to:

a) use desktop publishing tools to design cards
b) insert images on cards
c) format text on a card to enhance its appearance

Assumed knowledge

a) Word art can be inserted into a word document.
b) Processing tools can be used to edit documents.
c) Information can be retrieved from storage devices.
d) Text and images can be combined.

Introduction

A computer software is a program which forms the operating information used by a computer. Computer software is important for the functioning of a computer. A computer without software is as good as a car without fuel. This chapter is going to take you through some of the very important computer software used to make invitation cards, compassionate cards and anniversary cards. It is very important for you to know that when creating these cards, we use templates, images as well as texts.

Types of cards

You are going to be looking at all the steps involved in creating the cards. However, before you go through these steps, there is a need for you to know the different types of these invitation and compassionate cards.

1. Invitation cards
   a) seal and send invitations
   b) the signature collection
   c) laser cut wedding invitations
   d) foil wedding invitations
   e) pocket wedding
   f) photo wedding

   These invitation cards are used on the following invitations:
   a) party invitation
   b) wedding invitation
   c) anniversary invitation
   d) graduation invitation

2. Compassionate cards
   a) postcards
   b) greeting cards
   c) note cards

3. Anniversary cards
   a) wedding anniversaries
   b) organisational anniversaries

   Invitation cards are important because there are a way of reaching out to someone by requesting them to be a part of something. Invitation cards go straight to the point as they clearly state the date, venue, time and type of event. They also make an event more official.

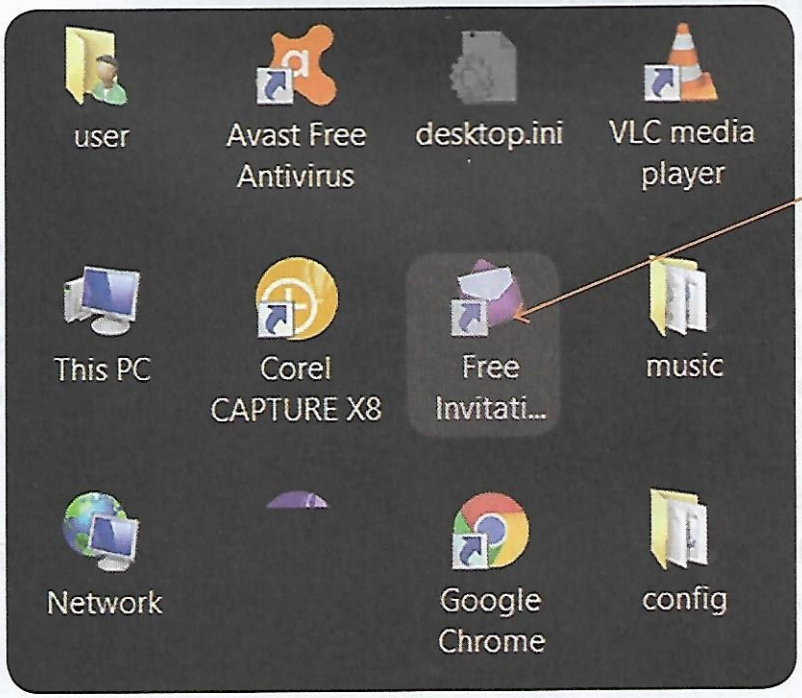
Activity 4.1

1. Name the three types of cards.
2. Give four examples of invitation cards.
3. Explain why invitation cards are important.
4. Say why you would use an invitation card instead of a letter.
5. State three main features that should not be left out on an invitation card.

Designing a card

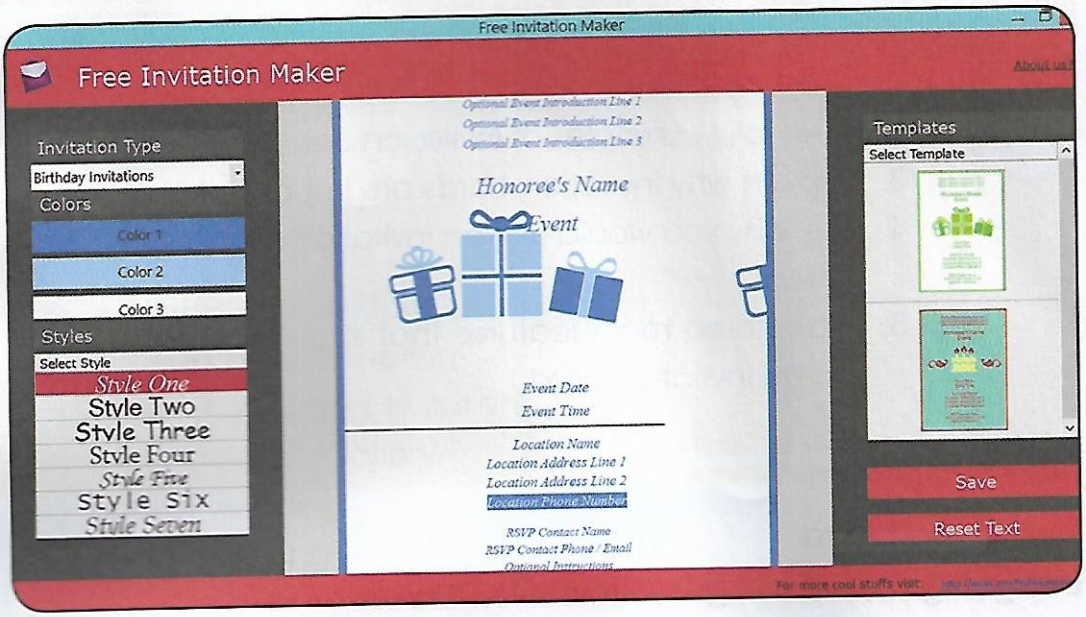
Designing a card using Free Invitation Maker.

Below are the steps you take when designing a card. These steps are the same whether you are designing an invitation card, compassionate card or anniversary card.



Free Invitation Maker

1. Go to All Programs and choose Free Invitation Maker.



2. When you click on the program a new window will appear.
3. Pick the type of invitation to be made.
4. Select a colour of your choice from the section written colours.
5. Choose a style of your choice.
6. Edit the information on the card to suit the invitation you want to make.
7. After resetting the text, save the template.

Having done this, you would have created the invitation card. However, you need to know that in our activities we were using free templates. This means that the software that can produce something better than what is shown can be bought. You can either buy the software online or from the software licensed dealers.

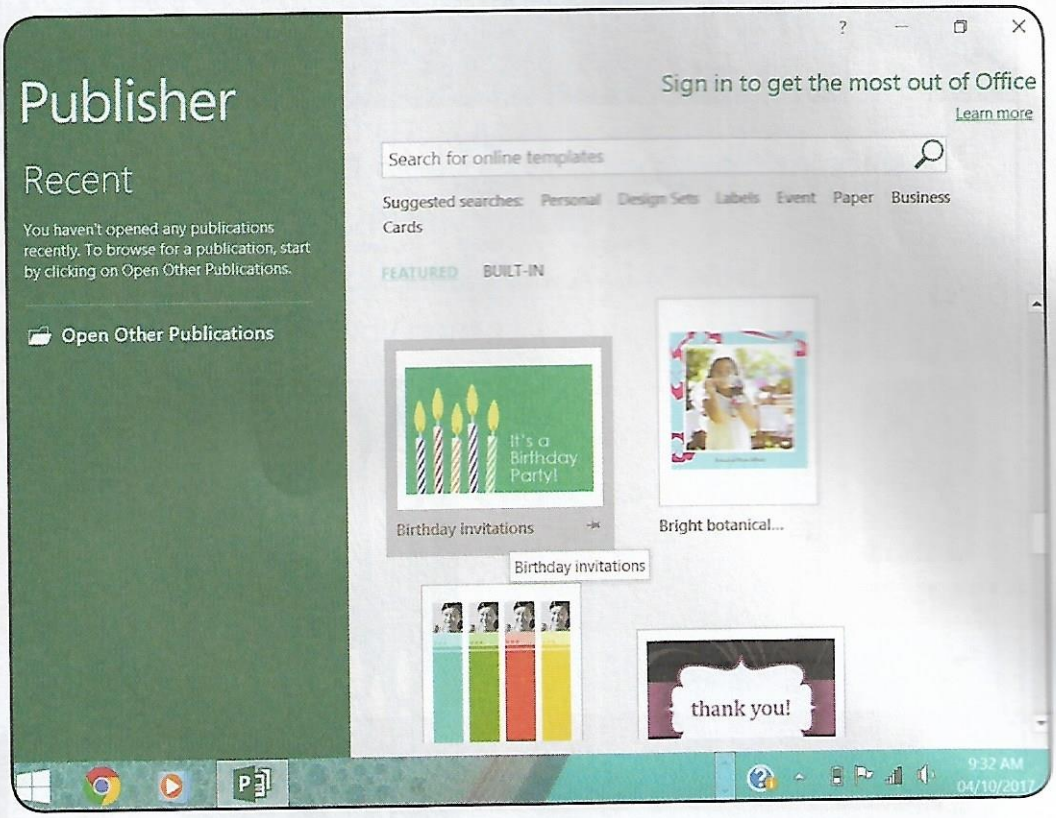
Creating a birthday invitation card

Creating a birthday invitation card using Microsoft Office Publisher

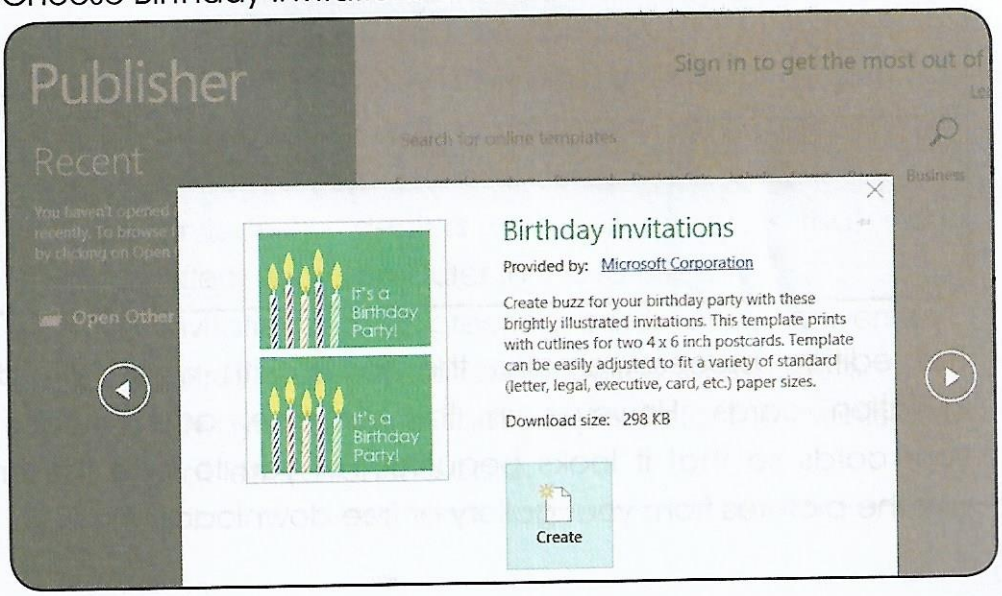
Follow the steps indicated on page 39 to create a card.

1. Go to All Applications.

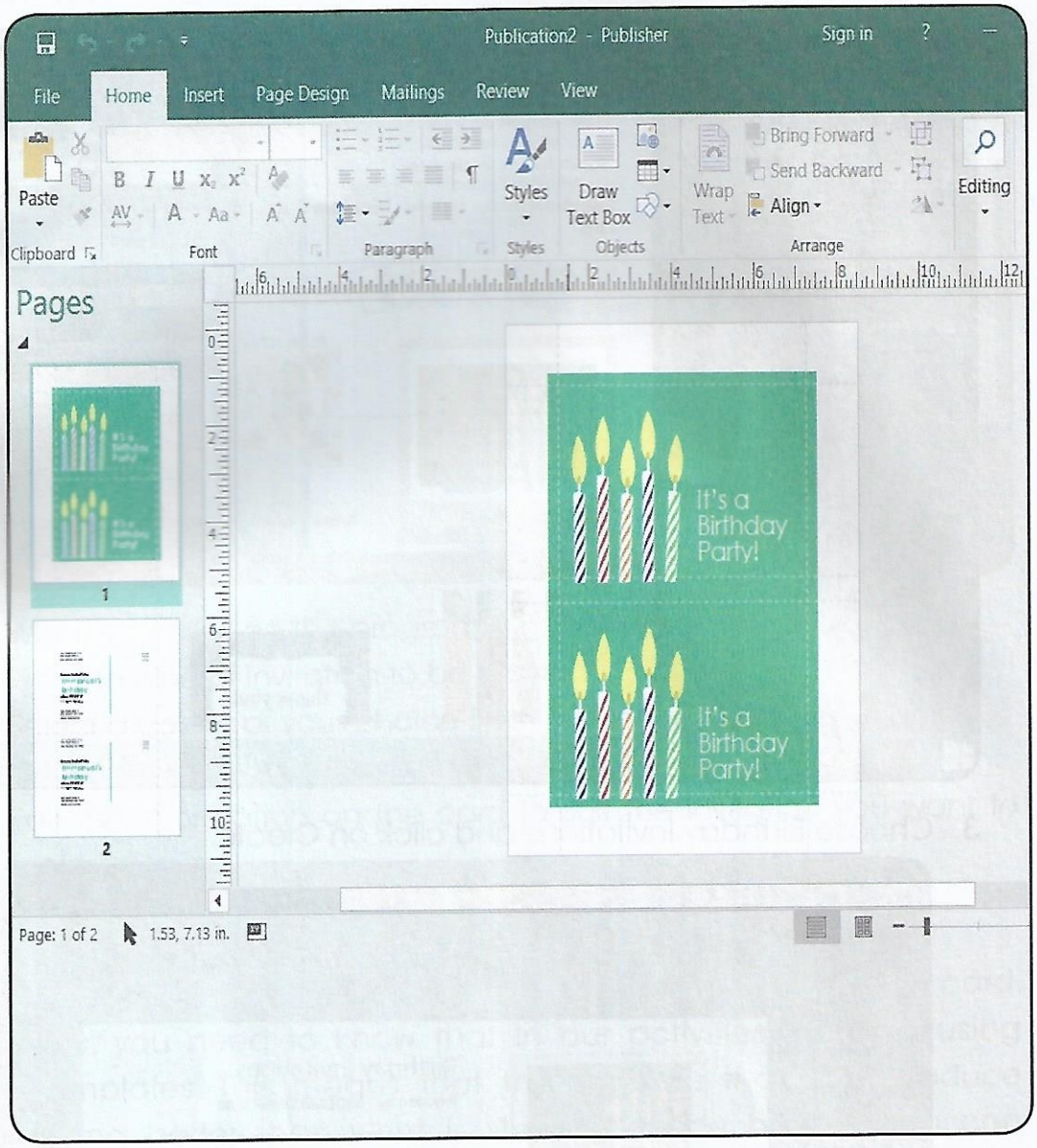
2. Choose Microsoft Office Publisher.



3. Choose Birthday Invitations and click on Create.



4. Edit the card using the topics as given in the image.



The editing process remains the same with what you did on invitation cards. However, in this exercise, add images onto your cards so that it looks beautiful. For you to add the images, use the pictures from your gallery or free downloads.

Activity 4.2

Using a program of your choice create any two of the following cards:

a) Ten-year anniversary wedding invitation card.
b) Graduation party invitation.
c) Father's Day card.
d) Mother's Day card.
e) Culture day invitation card.
f) Science exhibition day invitation.
g) Invitation on AIDS awareness campaign.

Key points

In creating cards, it is important to note the following:

a) Free software can be used like Microsoft Office Publisher and Free Invitation Maker.
b) Software for creating cards can be bought online or from a from licensed dealer.
c) Unlicensed dealers can sell products that can affect your computer in the future.
d) Invitation cards, greeting cards and anniversary cards must contain summarised information.
e) Always make sure that key points for the events are not left out on the card.

End of chapter questions

1. A _____ would be most suited to invite people to a graduation ceremony?
   A. greeting card
   B. graduation invitation card
   C. note card
   D. post card
2. An invitation card is better than a letter because it _____ and _____.
   A. goes straight to the point and makes the invitation more official.
   B. invites and is short.
   C. states the name of the invited guest and is straight to the point.
   D. is only a page long and is official.
3. Name any two programs used to make invitation cards.
4. State the steps you take to create an invitation card.
5. Which program is easy to use Microsoft office publisher or Free Invitation Maker? Why?
6. What are the advantages of using a software bought from a licensed dealer?
7. How do you add images to your cards when using Microsoft Publisher?
8. Looking at the cards you created in activity 4.2, give two main things that must not be left out on the details of an invitation card?

Chapter 5 Computer software: file management

Objectives

By the end of this chapter, you should be able to:

a) save files directly to data storage devices
b) rename files on a storage device
c) copy files to and from storage devices

Assumed knowledge

a) Storage devices are used to store information.
b) Storage devices can be internal or external.
c) Information can be retrieved from storage devices.

Introduction

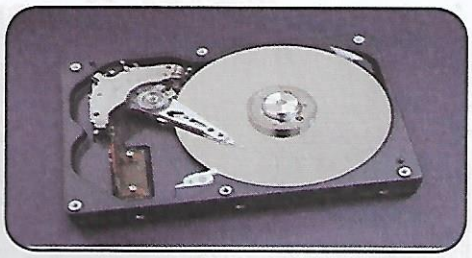
File management is one of the most important task covered in computer software. Whenever you work with any program in a computer, it is very important that you save and store it for future use. The process of keeping these programs or records is what is known in computers as File Management. This chapter will help you to save documents as well as store different types of programs.

Storage devices

You will look at different types of storage devices where you can save your work. Please note that the size of the program or document to be saved determines the size of a storage device to be used. Storage devices can be internal or external.

Here are the common storing devices and their descriptions:

1. Hard disk storage drives

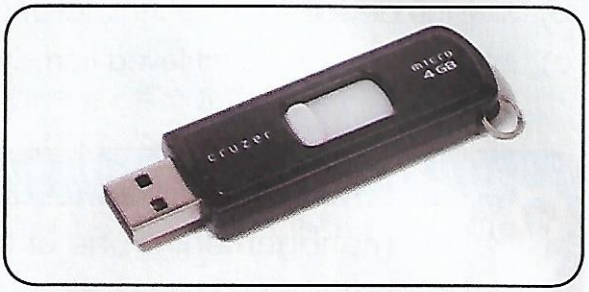


These are found in computers. They have the largest data storage space (capacity) when compared to other devices. They contain:

a) software applications
b) an operating system
c) files and folders

2. USB flash drives

These are pocket size storage devices. They are used to backup or store important data. They are connected to computers through USB sockets.



3. CD drive and DVD drive.

They are normally used in DVD and CD players.

DVD drive

CD and DVD drives perform the same function as the flash disk.

4. External drives

They are used to transfer large files or large large amounts of data. These drives are plugged into computers through USB ports.

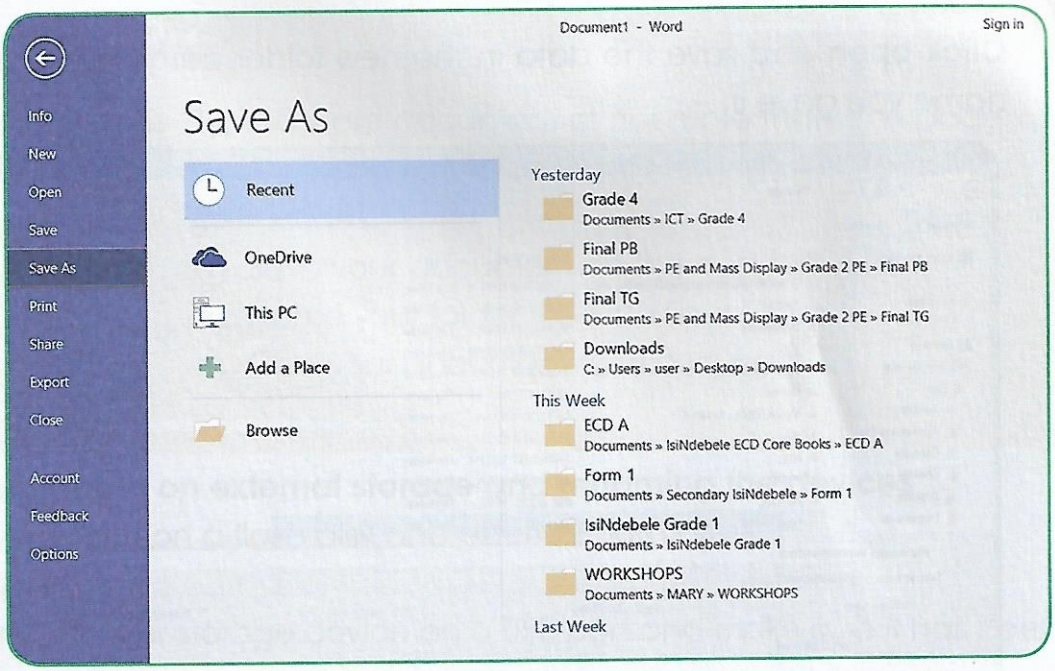
Activity 5.1

1. Name two external storage devices.
2. Which storage device can be carried in a pocket?
3. What type of data can be stored in hard disk drive?
4. Where can you store data like operating system of a computer?
5. Which storage devices are plugged into a computer through a USB socket?

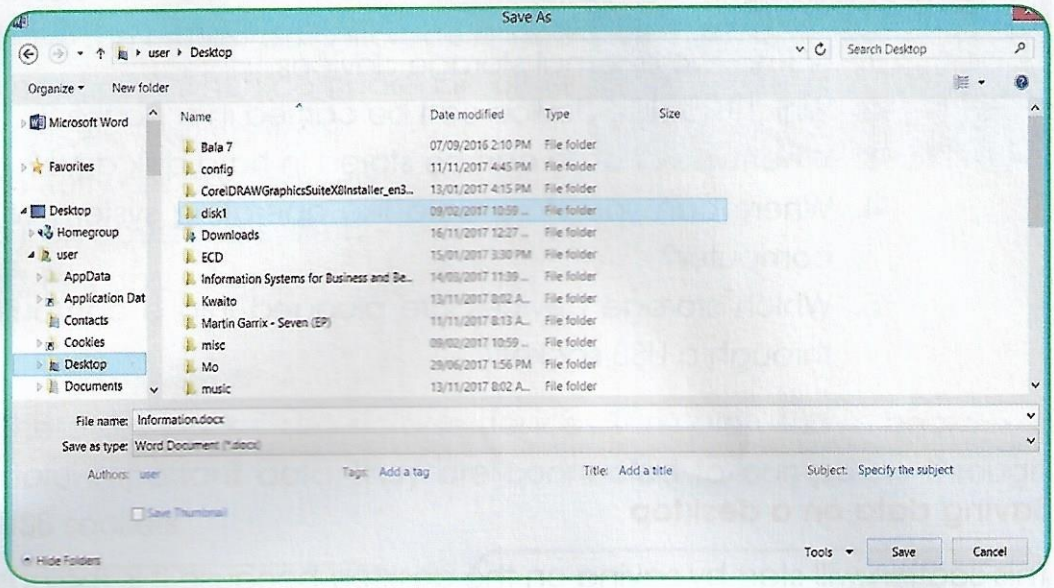
Saving data on a desktop

This section will start by saving on the desktop because it is the easiest storage among other storage devices. Here are the steps in saving on the desktop:

1. Click on the File tab and select Save As.

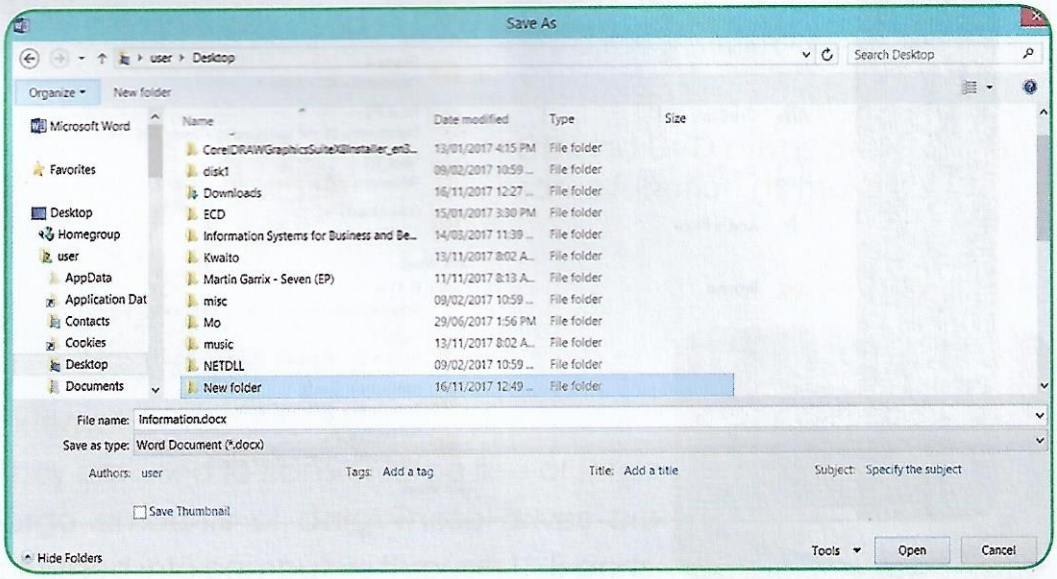


2. **Select desktop.**

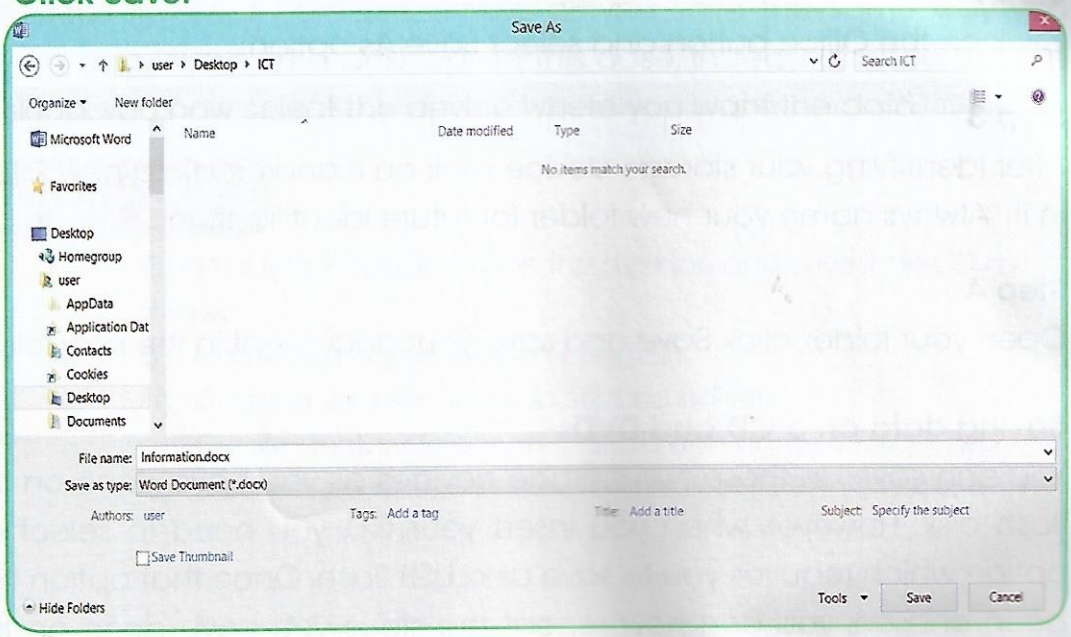


When you select desktop, make sure that you create a new folder so that your work will be easily identified. Always name your new folder.

3. **Click open** and save the data in the new folder carrying the new name you gave it.



4. Click Save.



When these steps are completed you can access your new folder on the desktop.

Activity 5.2

1. Type a word document of not more than one page and save it on desktop following the following instructions:
   a) Save your document on the desktop.
   b) Name your folder – Grade Four Class.
   c) Give your document your own name.

Saving data on external storage and renaming the devices

Saving data on a flash disk and external hard drive.

Step 1

Connect your storage device on a USB port and make sure it has been recognised by your computer.

Step 2

Click on the Office button and select Save As option.

Step 3

After identifying your storage device click on it and create a new folder in it. Always name your new folder for future identification.

Step 4

Open your folder, click Save and save your document in the new folder.

Saving data on a CD and DVDs

You can save on these two storage devices as you have done on the flash disk. However, when you insert your CD, you need to select an option which requires you to save as a USB flash. Once that option has been chosen, you can now repeat the steps you have done on the flash disk or external hard drive.

Copying files to and from storage devices

It is important that you know the names of your storage devices as they appear on the computer, or it will be wise for you to rename your storage device so that it will be easy to transfer the files.

Here are the steps to transfer the files:

Step 1

Insert your storage devices onto the computer and make sure you have identified the device.

Step 2

Open the devices with the file you want to transfer.

Step 3

Put your cursor on the name of the file or document you want to transfer and right click on it.

Step 4

Choose option Send to and select the other device where the data is intended to go.

Alternatively, you can save the documents using the Save As method. The steps involved here are simple as you save the same way you save a document on a desktop. In this case, instead of choosing the desktop, you now select the device where you want the data.

Activity 5.3

Open a folder you saved on the desktop and save it on CD as follows:

a) Name your folder Grade Four (CD).
b) Change your file name to Revised edition.
c) Create another folder on that CD and name it Folder Two.
d) Save the document in folder Grade Four (CD) into Folder Two.
e) Now transfer the folder from the CD to a flash disk and name the flash folder – Folder Three.
f) Repeat the same process to move a document from a desktop to flash disk.
g) Name your document – Moved Document.

Key points

a) When saving a document in a storage device, always use the Save As format.
b) Make sure that your documents are saved using different names.
c) Two documents with one name cannot be saved in one storage device.
d) Avoid creating a shortcut for a folder saved on any storage device as it cannot open on another computer.
e) Only documents can be transferred using the Save As method. You cannot use the same method to transfer an application.
f) For applications, use the copy and paste method or the send to option.

End of chapter questions

1. Storage devices can be _____ or _____.
   - **A.** internal or external
   - **B.** external or small
   - **C.** big or internal
   - **D.** internal or portable
2. Give one advantage of saving data on an external device.
   - **A.** It is portable
   - **B.** It stores data forever
   - **C.** If the computer is affected or stolen, you can still access your files
   - **D.** It has a large memory
3. What is the danger of not saving a word document while working on it?
   - **A.** You may lose the document if the computer switches off without warning
   - **B.** You could forget to save altogether
   - **C.** The document could be deleted
   - **D.** You might accidentally switch off the computer
4. It is important to rename your flash disk before you save your work. Explain why.
   - **A.** So that it can have a name
   - **B.** So that you can easily locate it during the saving process
   - **C.** So that it can have a different name
   - **D.** So that you can see it on the computer
5. Give the steps you take to save a document on a flash disk.
6. What determines whether a certain type of data can be saved in flash disk or not?
7. What is the danger of saving your work as a shortcut?
8. How can files be copied to and from storage?

Chapter 6 Computer software: multimedia

Objectives

By the end of this chapter, you should be able to:

a) create an image to support a piece of work using drawing software
b) insert images that further support given written work
c) sing and record songs for a specific purpose

Assumed knowledge

a) Text, images and sound can be combined.
b) Music, voice and video can be recorded and stored.
c) In ICT, keyboards and on-screen music software can be explored to produce sound and music.

Introduction

Multimedia is the use of a variety of artistic or communicative media. It is done using more than one medium of communication, for example, audio and video. Every text can be supported by drawings, music or videos to clarify a given point. This is the reason why you find some notices on television may have a sound in the background. On the other hand, in your textbooks from other learning areas like Maths, ChiShona, English and IsiNdebele, pictures are given to support a written text. This shows that pictures can make a written document understandable and interesting.

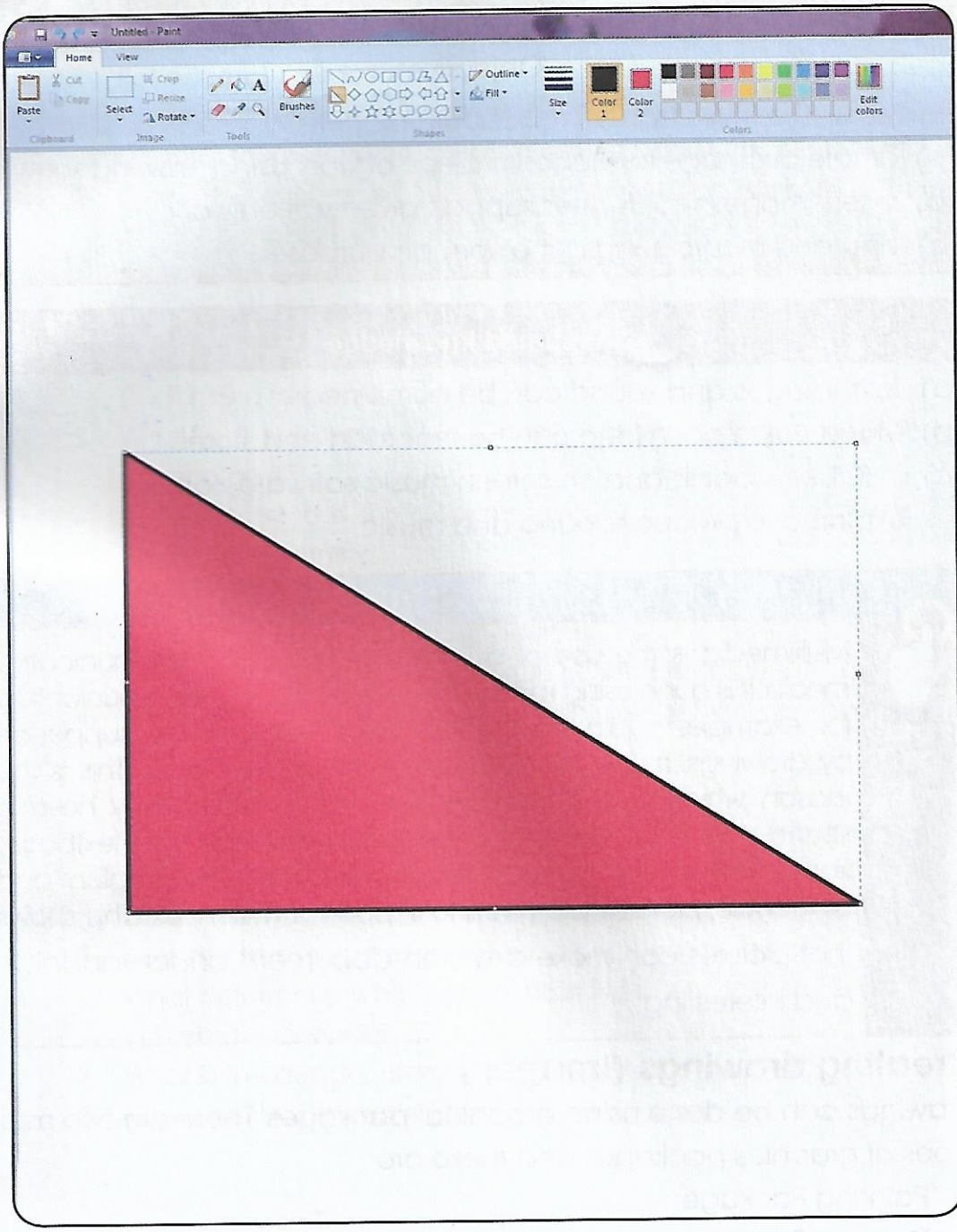
Creating drawings (Images)

Drawings can be done using graphical packages. There are two main types of graphics packages and these are:

1. Painting Package
2. Drawing Package

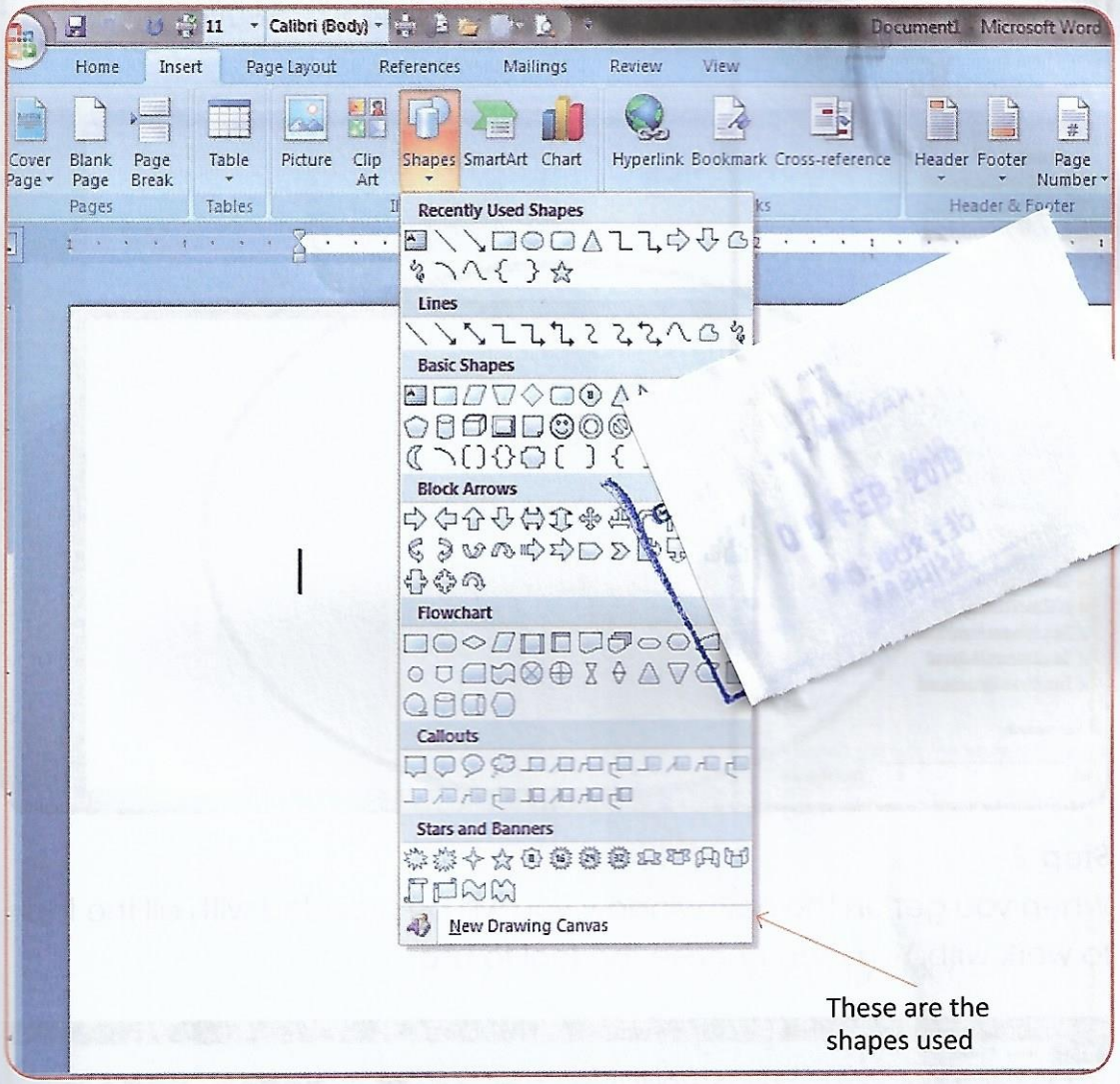
1. Painting Package

This produces images by changing the colours on the screen as shown on the picture below.



2. Drawing Package

It is a drawing package that produces images that are made up from coloured lines and shapes. These shapes include circles, squares and rectangles. These are found on Microsoft Word.

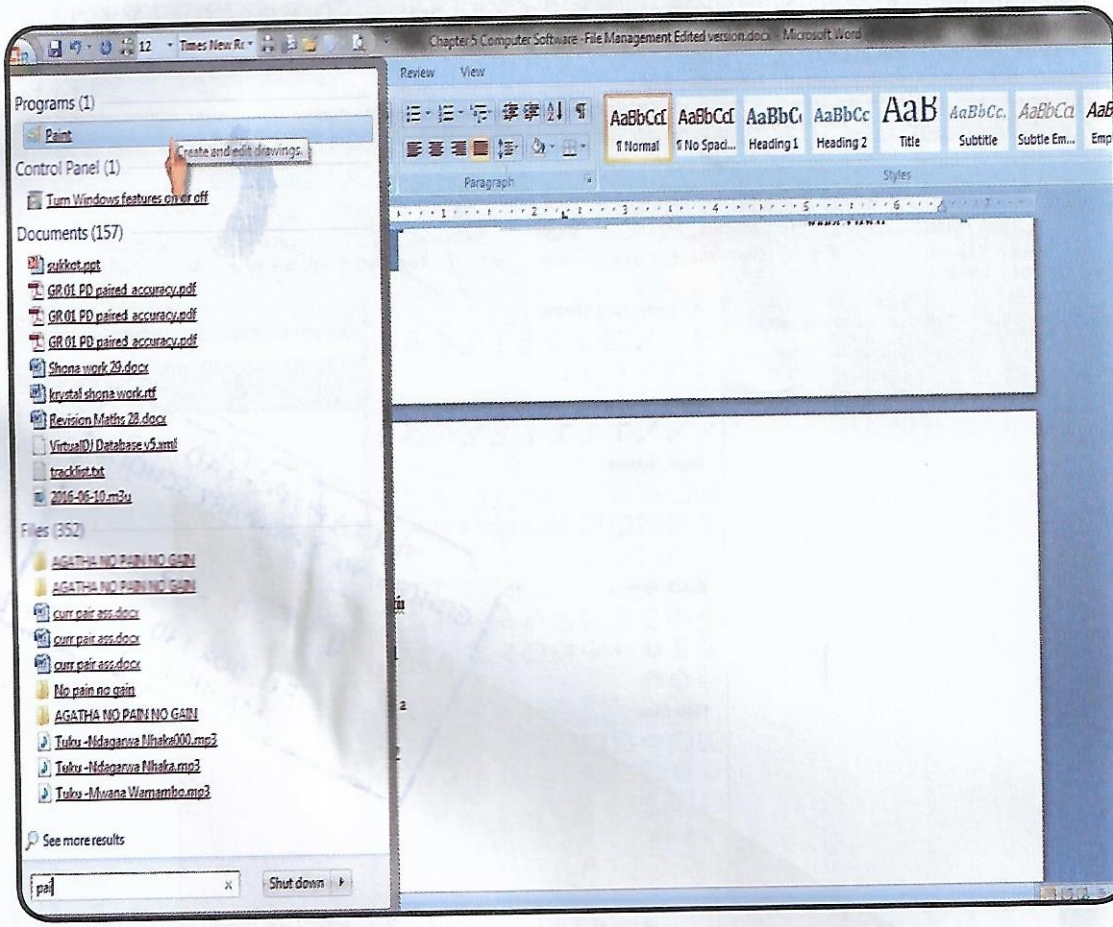


This book is going to use Painting Package to show how these drawings can be done.

Creating an image using paint package

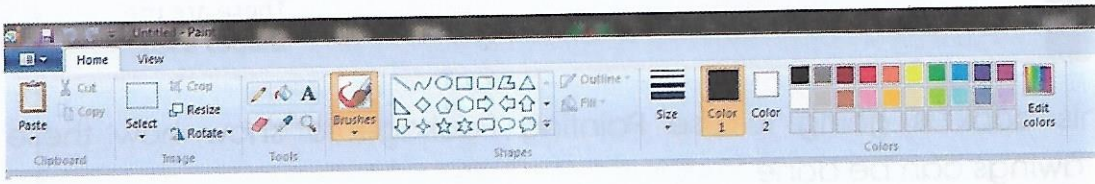
Step 1

Go to All Programs and open paint program.



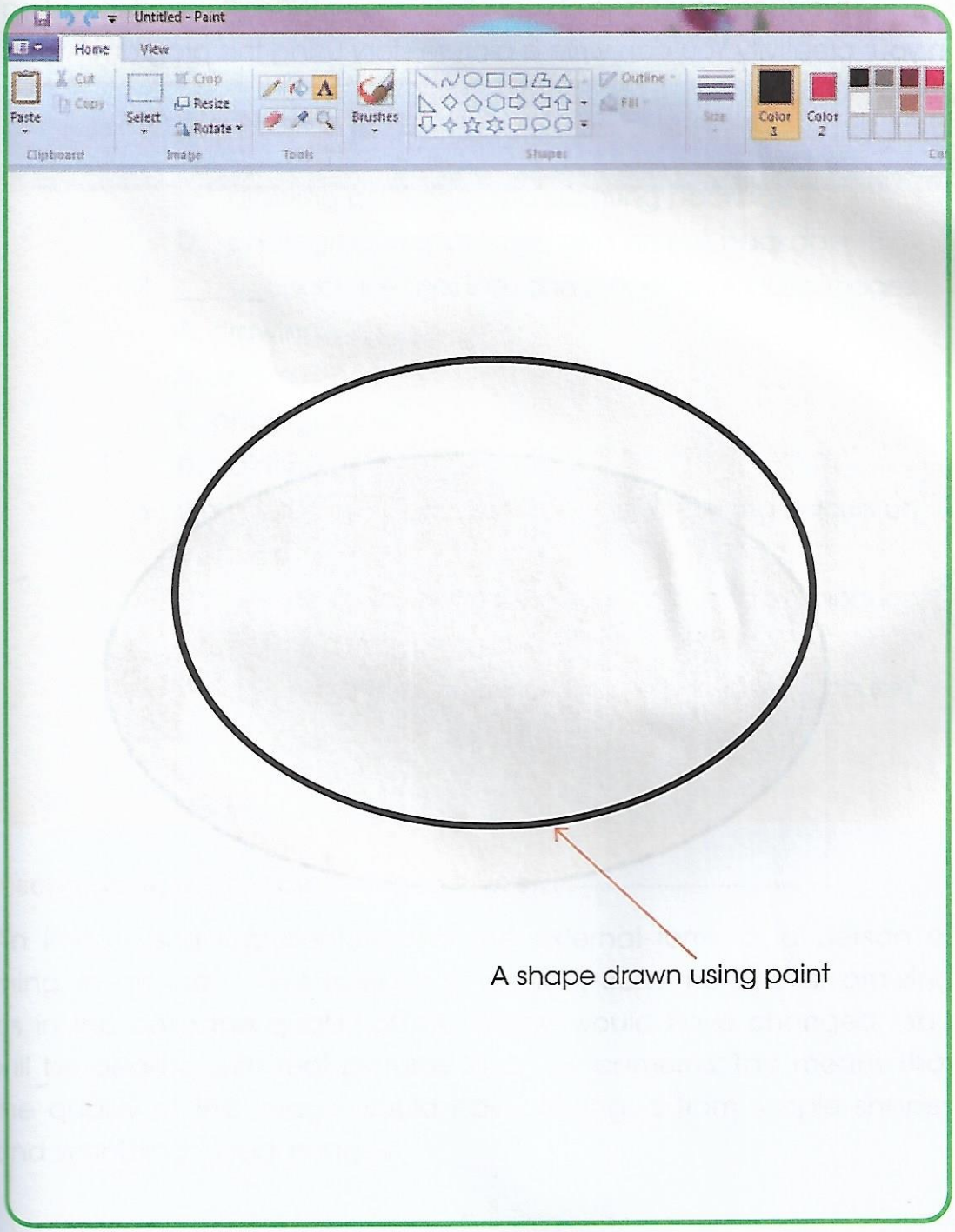
Step 2

When you get on the new window, you will be provided with all the tool to work with. You then choose the tool to use.



Step 3

Pick your desired shape and drag it until you get the size of your choice.

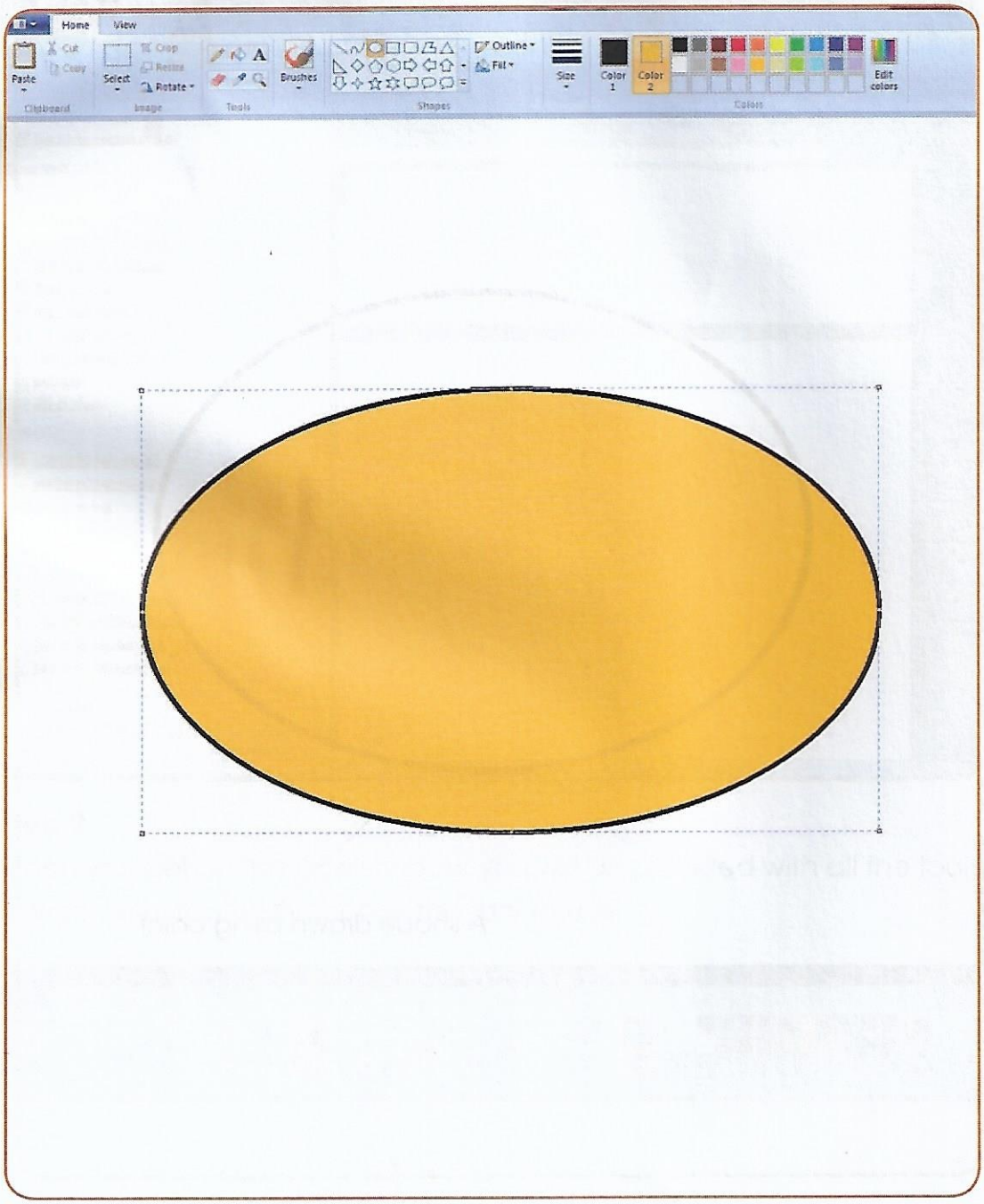


A shape drawn using paint

Step 4

Add colour to your shape.

You can produce any image of your choice using this software depending on your creativity. You can write a picture story using this program.



Activity 6.1

1. There are two types of graphics packages namely _____ and _____.
   A. drawing package and photographic package.
   B. artistic package and painting package.
   C. drawing package and painting package
   D. photographic package and artistic package.
2. _____ package uses lines and shapes to produce images.
   A. drawing
   B. artistic
   C. photographic
   D. painting
3. Which program produces images by changing colours on the screen?
4. Name any three shapes that can be used to produce images in painting programs.
5. Which program would you prefer to use to draw a house? Explain why.

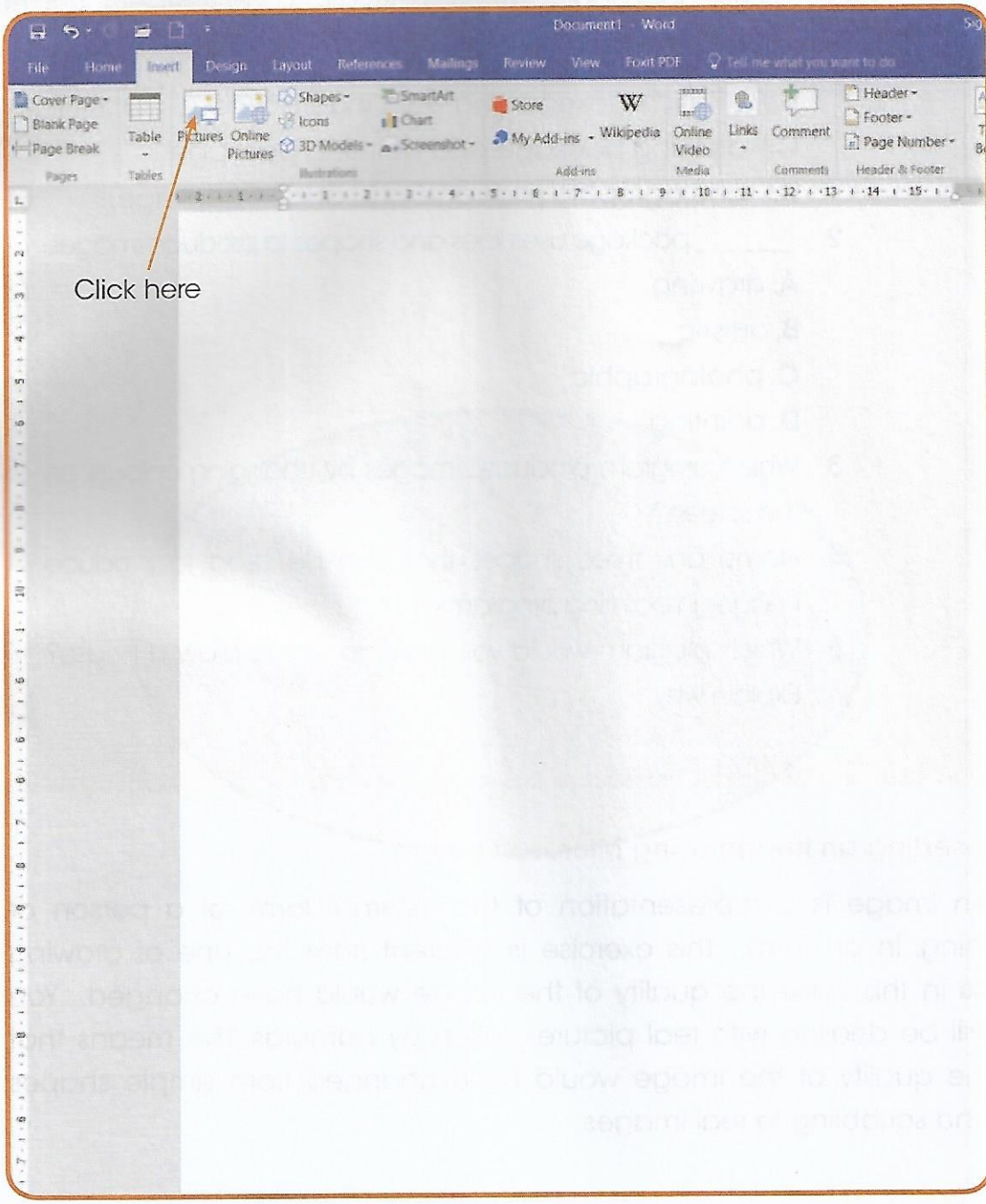
Inserting an image using Microsoft Word

An image is a representation of the external form, of a person or thing, in art form. This exercise is different from the one of drawing as in this case the quality of the image would have changed. You will be dealing with real pictures taken by cameras. This means that the quality of the image would have changed from simple shapes and scribbling to real images.

Here are the steps to take when inserting an image on a document.

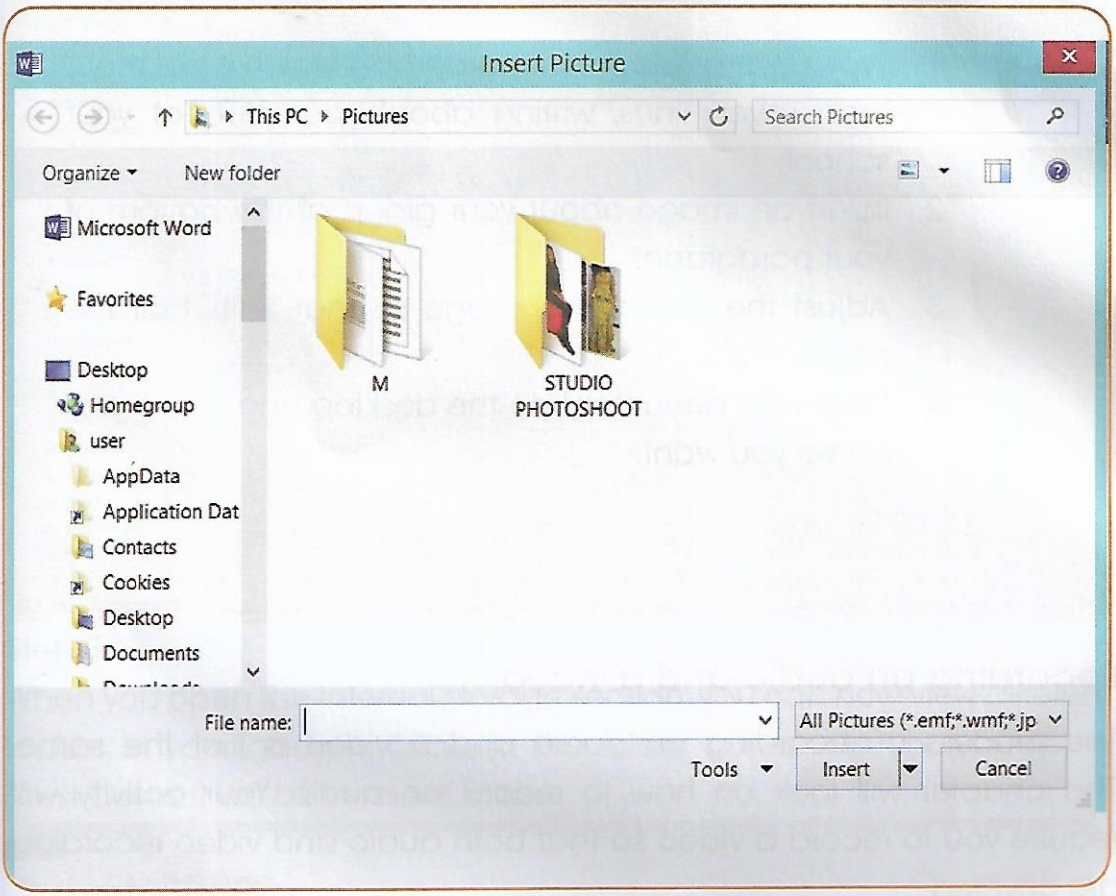
Step 1

Click on Insert and then choose the icon written Picture.



Step 2

Click on where the image will come from.



On the picture, you can see that an image can be chosen from any of the sources at the left side of the window.This means that even if you connect any external storage device, you can also be able to take the image from it.

Step 3

When you have chosen the image of your choice, you then click on Insert at the bottom of the dialogue box. The image will automatically appear on your document.

Activity 6.2

1. Type a word document paragraph, which is not more than seven lines, writing about your club at your school.
2. Insert an image about your group at the bottom of your paragraph.
3. Adjust the size of the image so that it fits half the page.
4. Save your document on the desktop and give it any name you want.

Recording an audio and a video

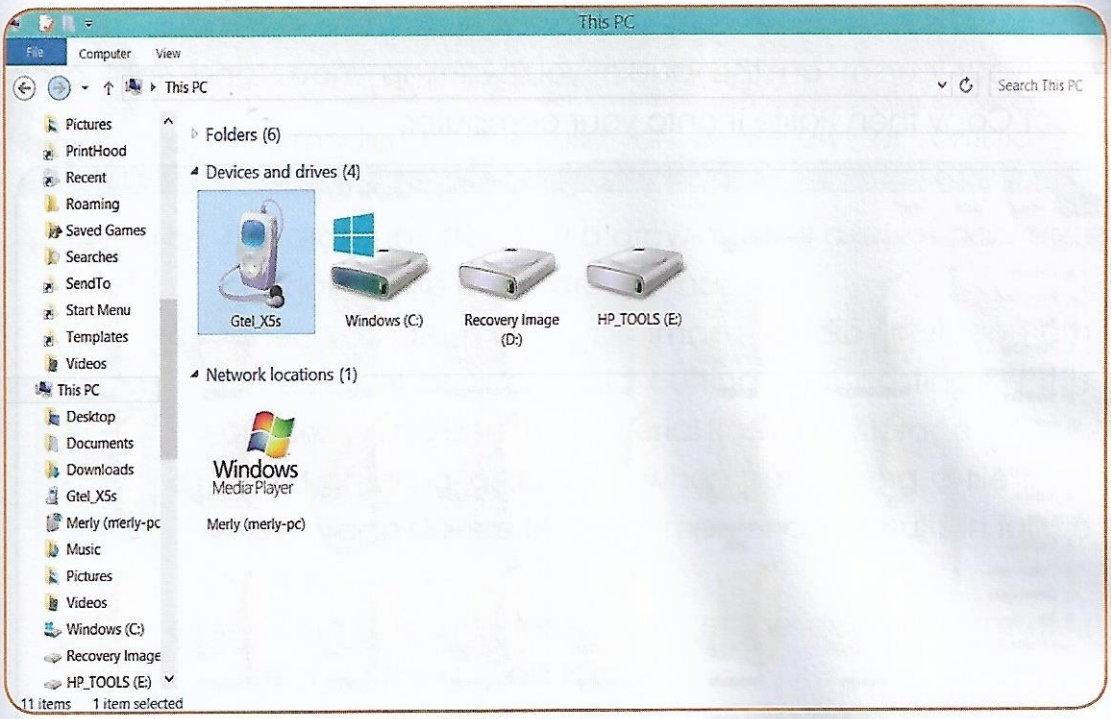
The process of recording an audio and a video is just the same. This chapter will look on how to record an audio. Your activity will require you to record a video so that both audio and video recording are covered.

Step 1

Record an audio using any gadget that is available, such as a phone, tablet, laptop or tape recorder.

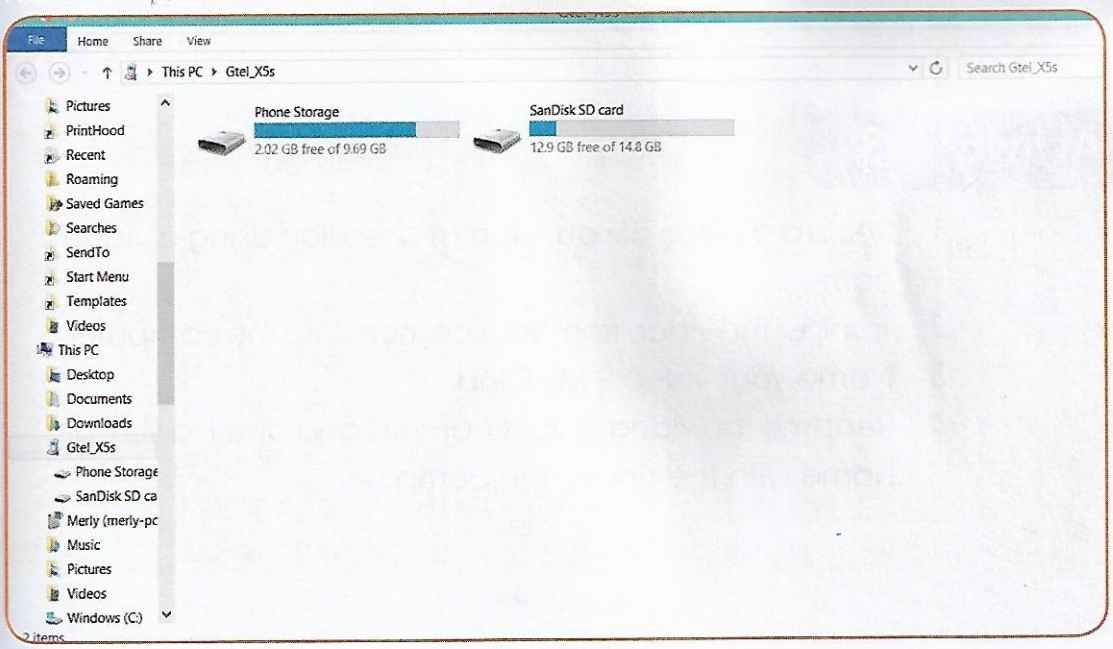
Step 2

Moving your audio from your gadget to the computer, connect your phone or tablet to the computer and click on it so that you open it as shown on the image.



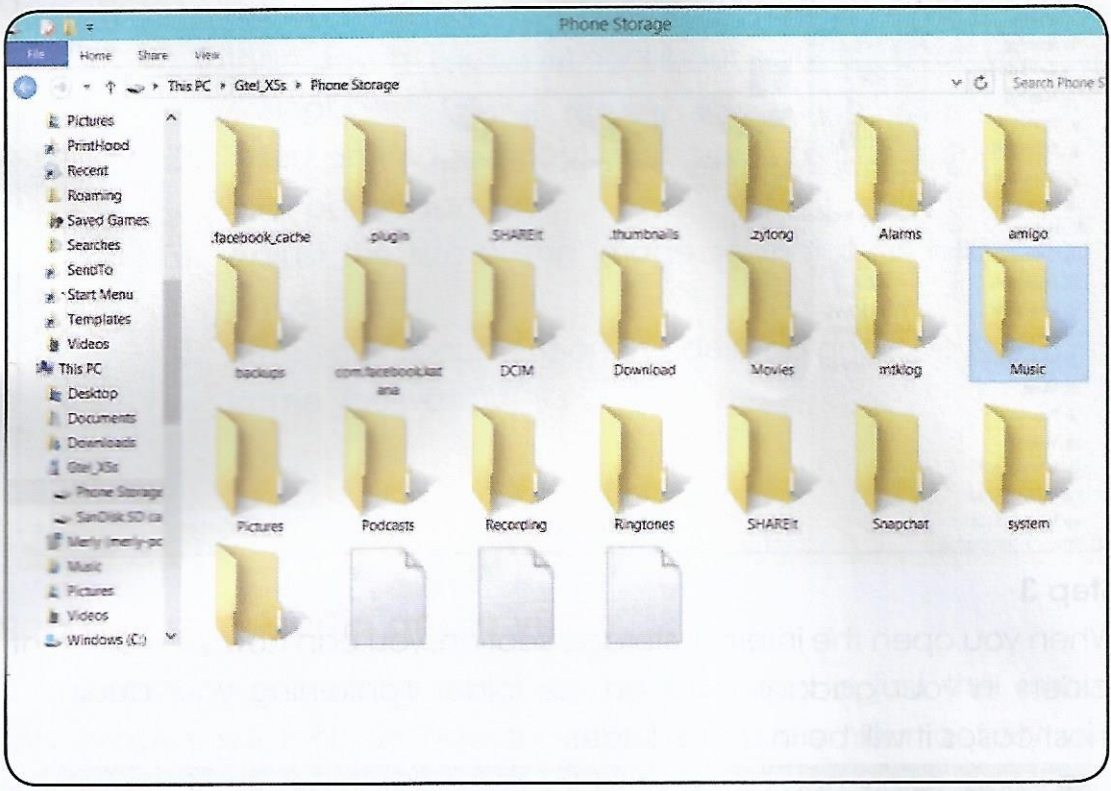
Step 3

When you open the internal storage section, you can now view different folders in your gadget. Click on the folder containing your audio. In most cases it will be in music folder.



Step 4

Point your cursor on the audio you want to move and right click Select Copy then Paste it onto your computer.



Activity 6.3

1. Record a video of your club at a session using a video camera.
2. Transfer the video from your camera into the computer.
3. Name your video – My Club.
4. Rename the video in your camera and give it a similar name with the one in the computer.

Key points

a) Multimedia is the use of a variety of artistic or communicative media.

b) The drawings done by a drawing and a paint package cannot be like hand drawn images.

c) When you are moving an image, audio or video from an external device, avoid cutting and pasting as this causes you to lose the material from that storage device.

d) Avoid creating a shortcut when transferring a file from the storage device to the computer as it results in failure to open the file.

e) An image is a representation of the external form of a person or thing in art form.

f) The process of recording an audio and recording a video is similar. The difference is on the gadgets to be used for the process.

End of chapter questions

1. Multimedia uses more than one medium of communication.
   A. False
   B. True
2. Text cannot be supported by music, images or videos to clarify a point.
   A. True
   B. false.
3. An image is a representation of _____.
   A. an external form of a person or thing
   B. an artistic product

C. a shape

D. a drawing

4. The _____ of an image changes when looking at pictures taken using a camera and pictures that are drawings.

   A. shape

   B. appearance

   C. texture

   D. quality

5. When you click on the image, it appears _____ on the document

   A. instantly

   B. immediately

   C. automatically

   D. after a while

6. Explain why you should not cut and paste an image, audio or video from an external device.

7. Explain why you should not create a shortcut when transferring a file.

8. What is the major difference in the process of recording an audio and a video?

Chapter 7 Safety and security: computer viruses

Objectives

By the end of the chapter, you should be able to:

a) identify effects of computer viruses
b) state how computer viruses are spread
c) detect the presence of computer viruses

Assumed knowledge

a) Data is very important it must be protected.
b) Data and files can be protected using passwords.
c) Information can be safeguarded using physical security.

Introduction

What is a computer virus? A computer virus is a malicious program that can infect a computer. It is a piece of code which can copy itself and typically has a detrimental effect, such as corrupting the system or destroying data.

A computer virus

A computer virus can:

a) change the files on a computer without the owner of the file's consent
b) delete the files from the computer
c) cause the computer to fail to boot by attacking the boot sector of the hard drive
d) cause software programs to work in a way which is different from what the developers expected them to do

e) cause a computer to become very slow and fail to process data because most of the processes will be left incomplete and they will be timed out

f) multiply itself

How are computer viruses spread?

Computer viruses, are usually spread from one computer to the other in the following ways.

1. Removable disks
2. Downloads from the Internet
3. Email attachments

1. Removable disks

Examples of removable disks which can spread viruses include, among others:

a) flash disks

b) stiff disks

c) t-flashes

If a removable disk is used on a computer with a virus, the disc will be infected. If an infected disk is used on another computer without a virus, that computer will be infected and the chain goes on and on. It is advisable not to use foreign storage devices in the lab because you do not know whether they have viruses or not.

2. Downloads from the Internet

Downloads from the Internet are another way of spreading viruses. You must download only from sites which you know.

3. Email attachments

Viruses can be sent to you as an attachment. The moment you open the attachment, your computer will be infected. Do not open attachments from people you do not know, or from where you were not expecting to receive.

How to protect your computer from computer viruses

You can protect your computer from viruses by following the steps indicated:

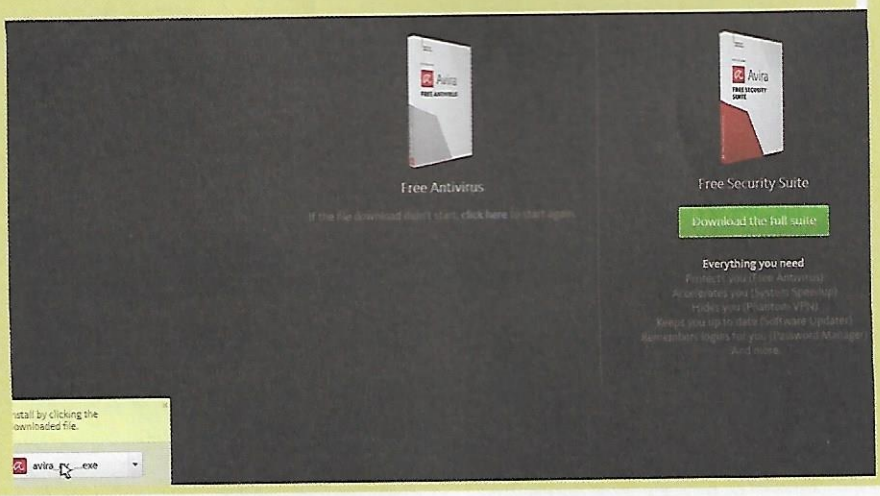
1. Installing an antivirus software which is updated regularly. There are many free antivirus softwares available, but you need to install the ones which are updated regularly.
2. Keeping your antivirus up to date.
3. Running scans regularly on your computers with antivirus software.
4. Scanning all external storage devices before use.
5. Ensuring that the computer operating system is always current.
6. Securing the network.

Steps to remove a virus from an infected computer

1. Disconnect the computer from the network.
2. Boot the computer in safe mode.
3. Delete the temporary files using disk clean up tool.
4. Download a virus scanner and run the virus scan.

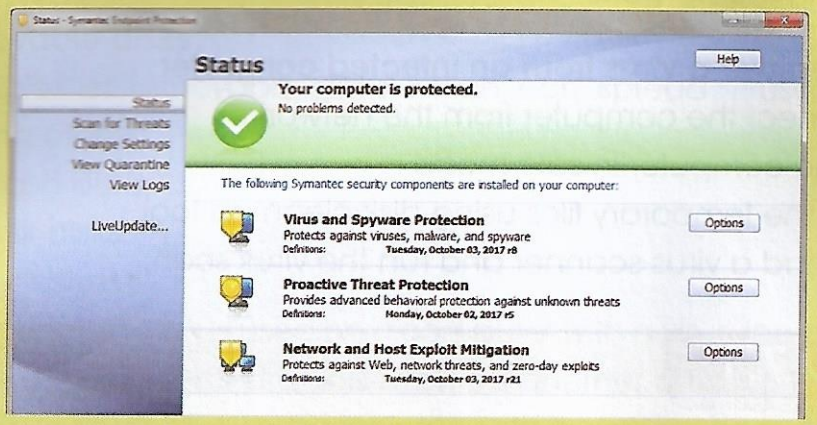
Activity 7.1

1. Download a free version of an anti-virus program such as Avira.



2. Install the antivirus on your computer.

3. An update will be shown to indicate if the antivirus has been installed successfully.



4. Insert a flash disk onto your computer. The program will automatically detect that there is a foreign storage device.
5. The program will scan the flash disk and give a report.
6. Start a full scan on your computer system by selecting full scan, then click scan.
7. At the end, the antivirus will give you a summary of viruses found and cleaned on your machine.The files infected can either be deleted or cleaned. (The type of antivirus which are free usually cannot offer 100% protection.)

NB: An antivirus software has to be registered so that you can receive regular updates.

Key points

a) A computer virus is a dangerous program that can harm a computer.

b) A computer virus can be spread through removable disks, Internet downloads and email attachments.

c) A computer can be protected from viruses by installing antivirus software, running scans, updating the computer operating system and securing the network.

d) Viruses can be removed from an infected computer by disconnecting the computer from a network, booting the computer in safe mood and running a virus scan.

End of chapter questions

1. A virus is a _____.
   A. good program
   B. malicious program
   C. part of a computer
   D. none of these
2. A virus can multiply itself. **A.** True **B.** False.
3. Computer viruses usually spread from one computer to the other in the following ways except:
   A. removable disks
   B. downloads from the Internet
   C. email attachments
   D. exchanging keyboards

4. To protect a computer from viruses you need _____.
   A. an antivirus software
   B. an updatable antivirus software
   C. not to connect to the Internet
   D. all of the above
5. To avoid viruses, you must open e-mails from?
   A. People you do not know
   B. From your teacher
   C. People you know
   D. Anyone
6. What happens to a computer if an infected disk is used on it?
7. How can you protect your computer from viruses?
8. Give three examples of antivirus systems.

Chapter 8 The world wide web and online collaboration

Objectives

By the end of this chapter, you should be able to:

a) explain what bookmarks are
b) book mark web pages for future use
c) customise bookmarks
d) use search tools and search engines to find relevant information
e) use different forms of information to answer questions from the internet

Assumed knowledge

a) Messages can be sent in different ways.
b) Writing letters, telephones, e-mail and instant messages are all ways of sending messages.
c) We use search engines like Google, Yahoo and Ask.com to find information on the Internet.
d) We can use instant messaging software such as Whatsapp, Twitter and Imo to send messages.
e) Some instant messaging software can provide both video calling and text options.
f) Examples of search engines include, Bing, Google, Yahoo, Ask.com and MSN.

Introduction

An ordinary bookmark can be made of fabric and is used to enable the readers to get back to the page they were reading before they put their book down. Have you ever seen that in a novel or a Bible?

Web page bookmarks

On online connections, a bookmark is used to save a web page's address. Bookmarks are links to web pages that make it easy for us to get back to our favourite online places. Bookmarks can be called favourites or Internet shortcuts. When you create a bookmark for a web page, you are saving a link to that page in your browser to access it later.

How to bookmark pages on the Internet

The easiest way of creating a bookmark is by doing the following:

1. After typing in your search question in your browser, an address will be shown in the window in your browser.
2. Click the star ★ that appears next to the search icon on the top right of your screen.
3. The star will turn blue when you click it and a bookmark for the page you are on will be created in the Other Bookmarks folder.

Activity 8.1

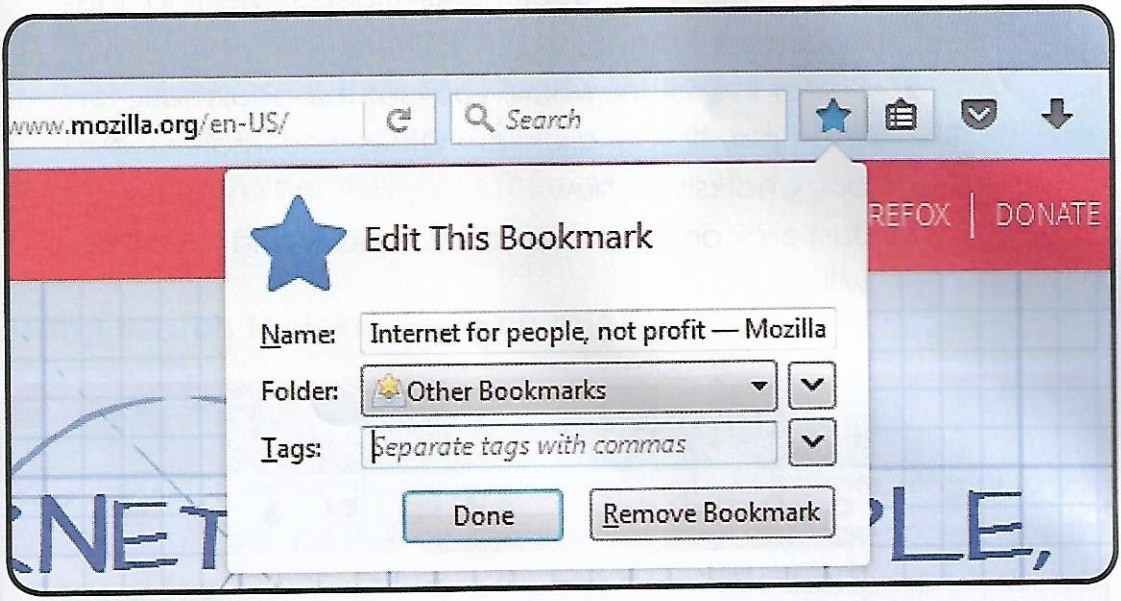
1. In your search engine, type in a search question.
2. Click the search icon and when the page opens.
3. Follow the steps to bookmark that page.

Changing the name and location of a bookmark

Bookmarks are important because they keep your favourite web pages. It is important to always name and save your bookmark in a way you would always remember.

To change the name and location of a bookmark, do the following:

1. Click the star again for you to open the Edit This Bookmark window.



2. You can change the name and folder of your bookmark here. You can also add tags to your bookmarks as well.
3. Once you are done, click Done.

Activity 8.2

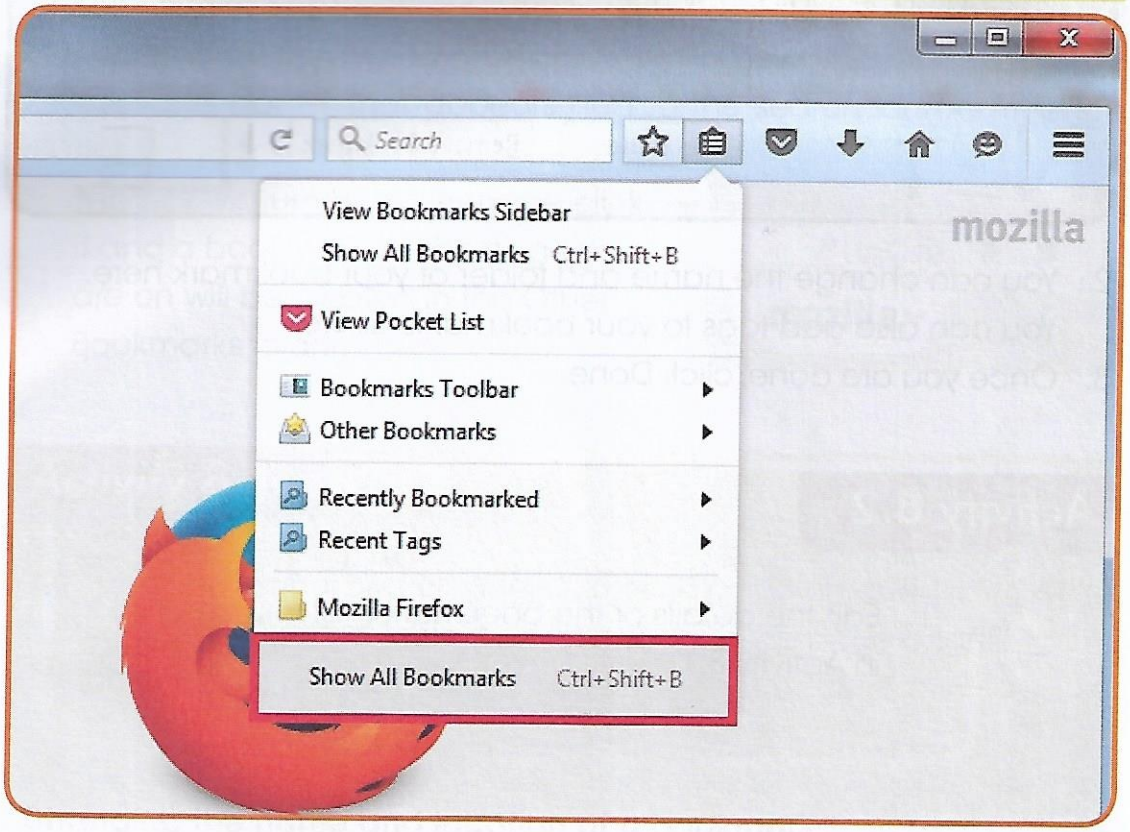
1. Edit the details of the bookmark that you created in Activity 8.1.

Using bookmarks to open web pages

If you have not set a folder for your bookmark, then that bookmark will be saved in the Other Bookmarks folder. To use bookmarks to open web pages, follow Activity 8.3.

Activity 8.3

1. Go to the View Bookmarks Sidebar next to the bookmark icon.
2. Select the folder where you put the bookmark, for example, if you click on Other Bookmarks, your bookmarks will show.
3. Just click on the bookmark you want and the page will open.



Customising bookmarks

To customise means to make or change something according to the user's needs. Therefore, if you are customising books, you are organising

them in a manner which you will understand the most when using the books. These are steps you should take when customising bookmarks.

1. Open your browser in chrome.
2. At the top right click **More**.
3. Click **Bookmarks** then **Bookmarks Manager.**
4. At the top left next to the folder's menu, click the down arrow.
5. Click **Add Folder** then type the name for your folder.
6. Drag the bookmarks into the folder.

Using search tools and search engines

What are search tools?

An online web has a lot of information to give. You need to know how to access this information in a manner that will be meaningful to you. Search tools are places on the Internet you can use to explore the web and find information from the Internet with ease. Search tools help you to stay safe on Internet sites and they make it easy for you to find information. Search tools have information put in categories, hence it is easy to find. Examples of search tools are search engines, subject directories, invisible web and social media. In this chapter, we will talk about how to use search engines to find information.

What is a search engine?

This is a software that is designed to search for information from the World Wide Web (www). Search engines can search for documents by using a word, words, questions or phrases as entered by the user in the search box.

How to get the best results from an Internet search

1. Make sure the key words are written clearly.
2. Use more than one key word in your search.
3. Spell your words correctly.
4. Use more than one search engine so that you can compare the information.

Activity 8.4

1. Make sure you have an Internet connection.
2. Log onto your browser.
3. Once you are there, the search engine will show up with a search box.
4. Enter any text for anything you may want to search for, for example, "Books."
5. By just typing "Books", the search engine will give you a lot of answers on books.
6. To make your search better you can say Bible books.
7. You can then choose from the responses what exactly you would want about Bible Books from the information that comes out.

Using different forms of information to answer questions from the Internet

Now that you can search for information from the Internet, it is important that you are able to use the information you get to answer specific questions. It is also very important to read all the information when your page opens so that you understand what the page is talking about, and you relate this to your question.

Key points

a) Bookmarks are links to webpages that make it easy to access your favourite webpages.

b) Customizing bookmarks is organising them in a manner which would be understandable to the user.

c) Search tools are places on the Internet that help users to explore the web and find information on the web with ease.

d) A search engine is a software that is designed to search for information on the World Wide Web.

End of chapter questions

1. Which of the following is a bookmark icon?

   A

   B.

   C.

   D.

2. _____ enable you to revisit web pages quickly and easily.

   A. Search engines

   B. Bookmarks

   C. Search tools

   D. Folders

3. A bookmark will turn _____ after creating it.
   A. white
   B. green
   C. yellow
   D. blue
4. _____ is not a search engine.
   A. Ask.com
   B. Yahoo
   C. Folder
   D. Bing
5. _____ put information into groups so that we can access it easily.
   A. Bookmark
   B. Media
   C. Tags
   D. Search tools
6. What does www stands for?
7. Give one reason why search tools are important.
8. Why is it good to use more than one search engine when looking for information?

Chapter 9 The world wide web and online collaboration: e-messages

Objectives

By the end of this chapter, you should be able to:

a) send and receive image and video messages electronically

Assumed knowledge

a) Messages can be sent using letters, telephone, texts or email.
b) You can use messaging software like Whatsapp, Skype and Twitter to send electronic messages.

Introduction

In grade 3 you learnt that electronic messages are messages that are sent using the computer. You were also taught that e-messages can be sent using software applications such as Whatsapp, Facebook, Twitter and Skype. This chapter will discuss how to send and receive images and video messages electronically using the same software applications.

Sending and receiving image and video messages

Images can be sent and received electronically using smart phones with many software applications. Such software includes Instagram, Snapchat, Zoom foot, Skype and Whatsapp.

For you to be able to send and receive video messages, you must have the software application installed on a smart phone. The person who wants to receive the messages should also have an application that can receive images as well.

For some applications like Whatsapp, you need to have a mobile number so that you can send your videos and messages to the people who are in your contact list. Even without a mobile number, some applications like Bluetooth and Shareit can enable you to send and receive images and videos.

If you have a mobile phone make sure that it is connected to data or Wi-Fi so that you are able to use applications like Whatsapp, Twitter, Skype and Instagram. The software applications can be seen on the screen of your phone.The icons can be displayed differently depending on the brand name of the gadget. Study the Table below and let it help you to do the activity.

Table 9.1 Software application

Logo	Name
	WhatsApp
	Twitter
	Skype
	SHAREit
	Instagram
	Imo
	Bluetooth
	Facebook

Common icons on smart phone and tablet home screen

Activity 9.1

1. On your smart phones, identify the logos for the software applications you can use to send images and video messages

What are video messages?

Video messaging is a way of communicating which enables you to connect face to face with the person you are communicating with. In a video message, you talk to the person as you see them on your computer. If you are unable to talk to the person, video messaging allows you to record your message then the receiver will retrieve the message and see you talk. Video messaging can be referred to as

video calling. If you want to be able to do video messaging, then make sure that the gadget you are using has any one of the following:

1. A front camera.
2. Web cam on your laptop or desktop. The red arrow is pointing where the camera is on the laptop. Do the latops in your computer lab have web-cam?

Software applications like Skype, Whatsapp, Imo and Viber can do video messaging. With some applications like Skype and Twitter you need to have created an account that you will log into in order to be able to send and receive images and video messages.

Uploading and downloading images

Uploading an image means sending an image from your computer to another source using the Internet so that others can retrieve it. Downloading is when you receive files on your computer from another system then you save them.

Activity 9.2

Sending and receiving images on a smart phone.

Work with your teacher to do the following practical activity.

1. Start by taking photos with your smart phone or tablet. The photos will be saved in your phone's gallery. Make sure you can identify the Gallery icon on your gadget.
2. Open your phone's gallery and click on the photo. On your screen click the share icon and choose how you would want to share the photo or video. After that, your image or video will be uploaded to the recipient you have chosen using the sharing option you chose. (Can you tell your teacher the sharing options that pop out when you click the share button.)
3. Make sure you choose the correct contact name or you enter the correct account name so that you send your image to the correct recipient.

Activity 9.3

Receiving an image or video.

Depending on the software application that was used, the recipient will get a tone on their phone indicating that a message has come through.

1. Click on the icon of that software and download the image.
2. With applications like Shareit and Bluetooth, you need to be close to the person with whom you want to share files with.
3. Download the images and videos you have received from your friends.
4. Where are these files saved?

Key points

a) Instagram, Snapchat and WhatsApp are examples of software applications you can use to send and receive video messages and images.

b) You can communicate face to face with your friends by doing video messages.

c) WhatsApp video calling, Imo and Skype are examples of some software applications you can use for video calling.

d) To upload a file means sending it, while to download means to receive a file and save it.

e) To send and receive video messages you must make sure that you have the necessary software application installed on your smart phone.

f) Depending on the software application being used to send and receive, you must make sure that your gadgets have a data or Wi-Fi connection.

End of chapter questions

1. Images can be sent_____ using software applications.
   A. in bundles **B.** immediately
   C. electronically **D.** manually
2. Applications such as _____ and _____ enable you to send images, audio and videos even without a mobile number.
   A. bluetooth and shareit
   B. bluetooth and whatsapp
   C. bluetooth and facebook
   D. facebook and shareit
3. The software applications can be seen on the _____ of your phone.
   A. front
   B. gallery
   C. screen
   D. back
4. What is video messaging?
5. What is the other name for video messaging?
6. What name do you give to the process of sending images and videos from your computer to another source whilst using the Internet?
7. What name do you give to the process of getting images and videos from a web saver and saving them?
8. Where would you find a collection of images and videos in a smart phone?

Chapter 10 ICT enterprise

Objectives

By the end of this chapter, you should be able to:

a) state the role of a computer operator and a copyist
b) photocopy, scan and print documents

Assumed knowledge

a) Data capture, clerk and a sound technician work with ICT tools.
b) A data capture is someone who enters data like numbers or text into computer files.
c) PA system stands for Public Address system.

Introduction

The introduction of computers has created jobs for many people. While some can make and repair computer hardware, others can make and repair computer software. You also have some who cannot repair any part of a computer but are able to use the computer to perform many tasks very well. This chapter, looks at the roles of computer operators and copyists.

What is a computer operator?

A computer operator is a person who works with computers daily and is also able to fix problems related to the computer. This means that, depending on the job they are doing, computer operators can be found in different work places. School clerks, managers, engineers, receptionists, computer programmers and technicians are some examples of computer operators. This is because they work with computers in their work places though in different ways.

What are the roles of computer operators?

Depending on the job they are doing or where they are working, computer operators may have several duties. These are some of the duties they perform:

1. **Entering data or typing**
   A computer operator is responsible for entering data as numerals, texts or graphics. The data may also include that which will enable the computer to work properly.
2. **Installing computer systems**
   Some computer operators are responsible for installing computer systems or applications that will enable computers to perform certain tasks.
3. **Repairing computers**
   Computer operators have a wide knowledge in computers. Their knowledge enables them to be able to repair computer hardware and software. They can find out where the problem is and make the necessary repairs. Some computer operators are experts in repairing computer hardware, others deal with software only while others can do both.
4. **Maintaining databases**
   Some computer operators maintain databases for customers daily. In a school set up, for example, the computer operator may have a database about school enrolments per grade or per class and so on.

Activity 10.1

1. Work with your friend to find out other databases which a school based computer operator can have.

5. **Storing computer related items**

   Operators are responsible for keeping computer related items such as disks.The disks may contain information about their organisations or they can be disks containing application installation set ups.They also back up data to external storage devices.They keep these items safely so that they can retrieve them the next time they are wanted.

6. **Setting up controls**

   In big organisations where computers are used by many people or in many departments, computer operators have a big role to play. Computer operators will set up control systems that prevent the computer from damage. The control systems may include setting up passwords and continuously checking and altering computer networks so that they continue to work properly.

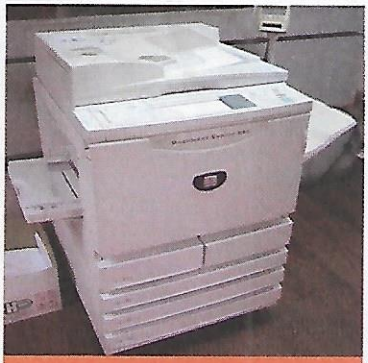
7. **Monitoring the use of computers**

   The use of computers needs to be monitored so that they are used for the purposes which they were bought for. Computer operators have a responsibility of monitoring the use of computers so that they are not misused. In a school set up, the computer operator can monitor the use of computer by continuously checking the sites being visited by learners on the Internet. Some of the sites can be blocked so that the learners only have access to the one suitable for them.

The role of a copyist

What is a copyist?

A copyist is an individual who makes copies of documents. Copyists have knowledge about computer programs, hardware and software and can use this knowledge to perform their job. A copyist uses devices like a photocopier, scanner and printer.



A photocopier

A printer

A scanner

Roles of a copyist

1. **Making copies of documents**

   A copyist is responsible for making copies of documents using the devices shown above. The documents can be in hard or soft copy. Sometimes the copyist can make the copies in colour or black and white depending on what is required.

2. **Typing documents**

   Copyists are responsible for typing, formatting and editing documents just like computer operators. Because of this role, they are also called copy-typists.

Activity 10.2

1. Imagine you are a copyist, get documents that you can photocopy, scan and print.
2. Discuss the differences among these processes
   a) photocopying
   b) printing
   c) scanning.

Activity 10.3

1. As a class, work together and organise a trip to a photocopying or printing company in the nearby area. Take note of what computer operators and copyists in these work places do.

Key points

a) A computer operator is a person who enters data into a computer, who can help in fixing computer related problems and monitors other people working with computers.

b) Besides entering data, some of the roles of a computer operator include installing computer systems, storing computer related items, and setting up controls for computer usage.

c) A copyist is a person who can make copies of documents using devices like, scanners, printers and photocopiers.

d) A copy-typist does both the typing and printing of documents.

e) A computer operator and a copyist are important people in any ICT department.

f) Computer operator or copy-typist is a good career opportunity

End of chapter questions

1. A computer operator works with..... daily.
   A. people
   B. computers
   C. numbers
   D. gadgets
2. _____ Is part of the many duties that a computer operator does.
   A. maintaining databases
   B. making copies of documents
   C. taking orders
   D. creating applications
3. A copyist is _____ .
   A. an individual who marks documents
   B. an individual who creates documents
   C. an individual who processes documents
   D. an individual who makes copies of documents
4. A copyist can do all the following except _____.
   A. programming computer software applications
   B. entering data into a computer
   C. formatting a document
   D. editing texts
5. Between a copyist and a computer operator, who has a deeper knowledge on computers?
6. Which device changes documents to soft copies?
7. Why is it important for a computer operator to set up controls on the computer?
8. Do you think there is a need for a computer operator in a school? Give a reason for your answer.

Chapter 11 Programming: sequence of instructions

Objectives

By the end of this chapter, you should be able to:

a) create sequences of instructions for a variety of programmable devices
b) edit sequences of instructions
c) create basic applications
d) experiment the effects of changing variables

Assumed knowledge

a) Programming uses many languages.
b) Programming languages can be downloaded for free from the Internet or they can be bought.

Introduction

Programming is the process of writing computer programs, for example, a planned series of future events or performances. There are many programming languages which are used, for example, Scratch and Logo. In this book, most of the examples will be coded using Scratch programming. Scratch can be downloaded for free from the Internet.

A program

A computer program is a sequence of instructions to be followed by the computer. A sequence or a block of instructions in programming is also called a script or a simple program.

Example: Program 1

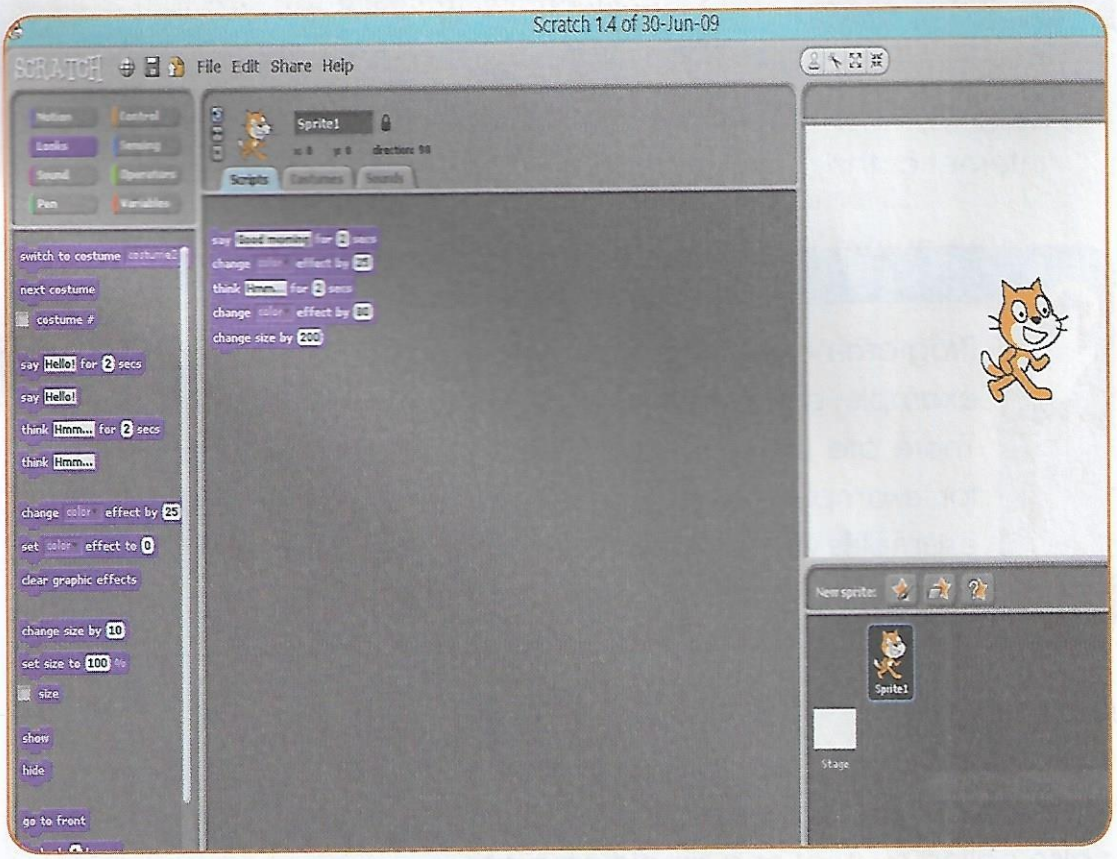
Write a script to:

1. Say "Good Morning".
2. Then change colour by 25.
3. Then think "Hmmm…" for 2 seconds.
4. Then change colour by 80.
5. Change size by 200.

Solution

1. Drag all the instructions from the menu to the centre script area.
2. Connect them into a single block.
3. Edit the parameters to get the required numbers.

Your program should look like this:



A sequence of instruction

1. The first instruction is done first.
2. The second instruction is done second.
3. The last instruction is done last.

NB: Instructions should be taken as per their order.

Modifying sequence of instructions

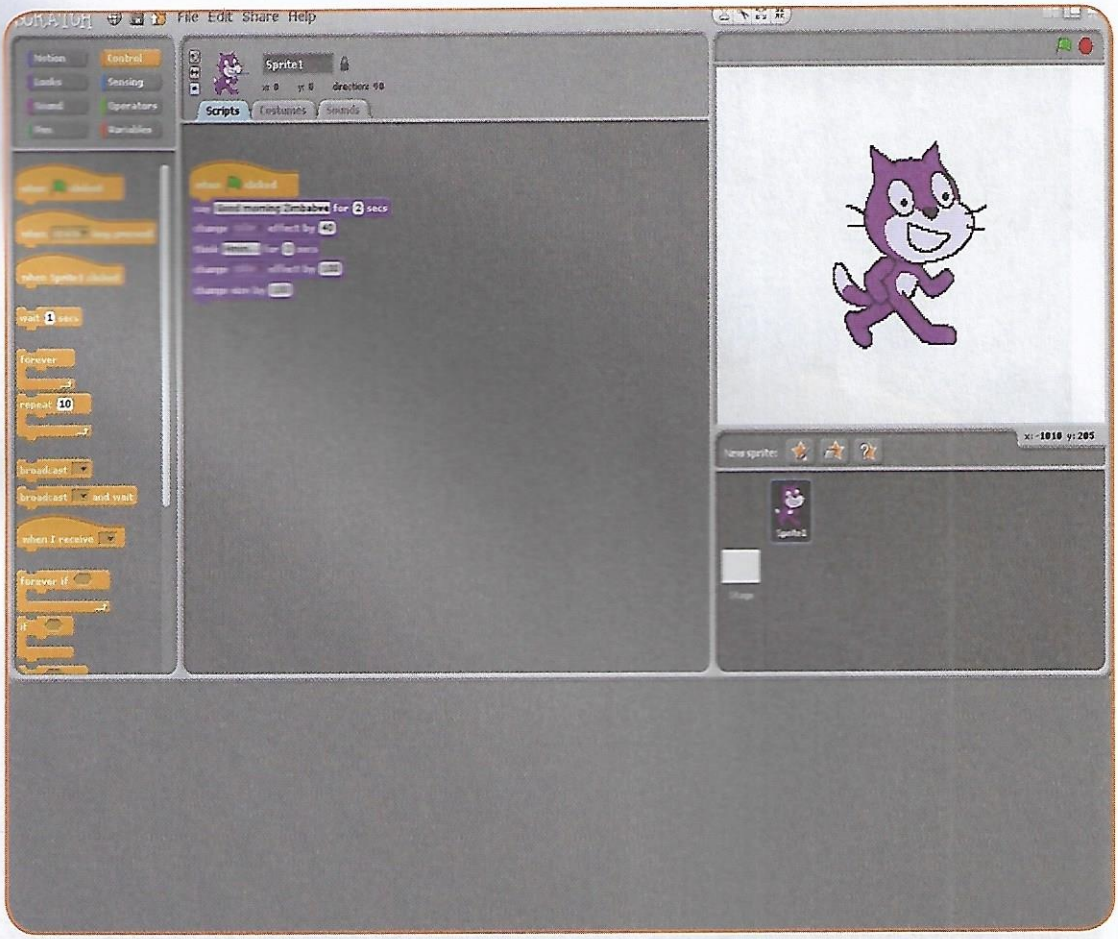
1. For program 1 to run, a control must be included in the program.
2. From the control menu drag this instruction.
3. After adding the instruction to run the program click the green flag.

Program 2

Modify the program above to say:

a) "Good Morning Zimbabwe".
b) Then change colour by 40.
c) Then think "Hmmm..." for 2 seconds.
d) Wait for 5 seconds.
e) Then change colour by 100.
f) Change size by 100.

After running the program, you will get the following:



Program 2

Modify the program above to say:

a) "Good Morning Zimbabwe".

b) Then change colour by 40.

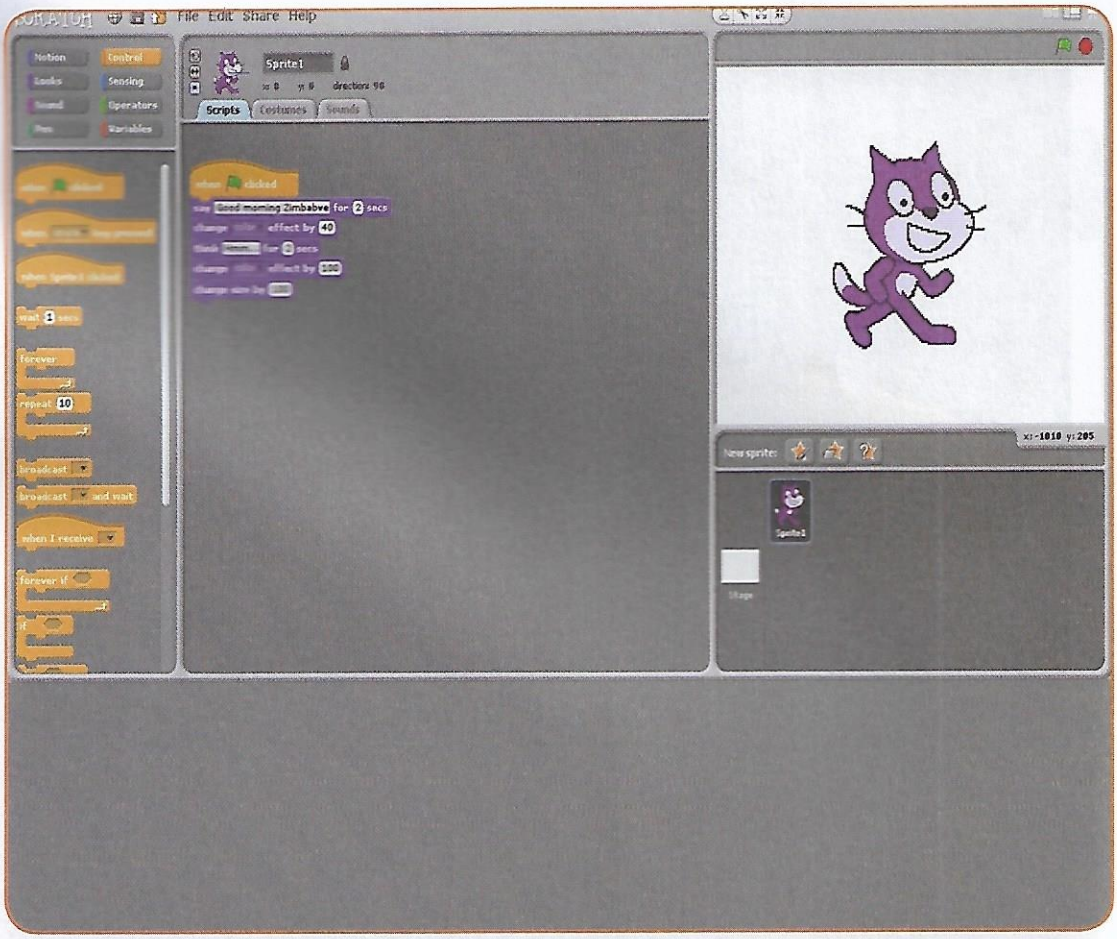
c) Then think "Hmmm…" for 2 seconds.

d) Wait for 5 seconds.

e) Then change colour by 100.

f) Change size by 100.

After running the program, you will get the following:

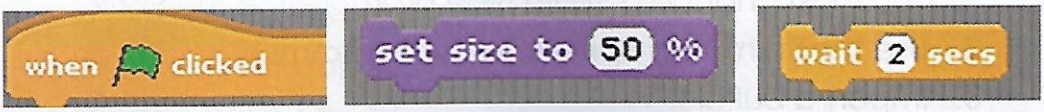


Developing a simple game

1. You must change a Sprite type by importing the Sprite.
2. Use the Paint New Sprite to draw a hammer.
3. Import a buffalo.

1. You can make the hammer to move by using the motion menu.
2. Create two costumes.

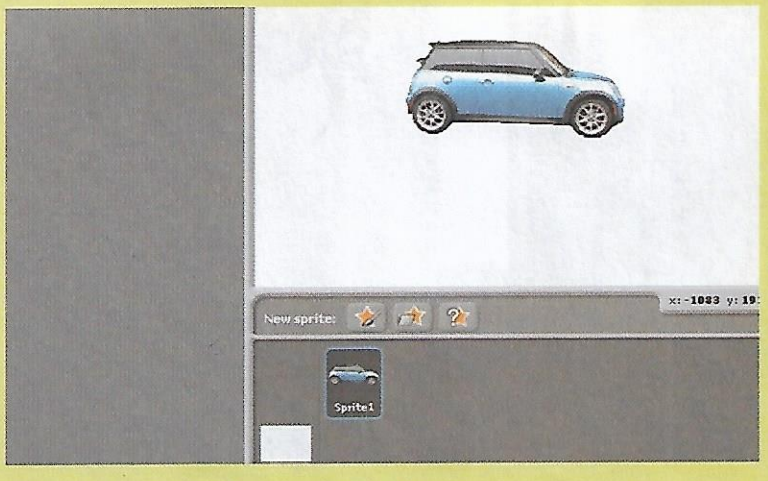
For the hammer to work use the following commands.



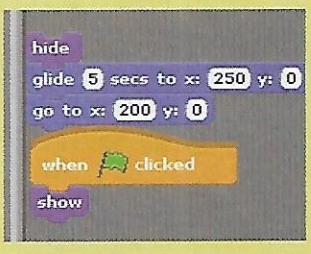
The wait will assist you to see the movements of the Sprite. After using these commands, the hammer will move once. For it to move many times you add the Forever command.

Activity 11.1

1. Use the commands to program a working hammer.
2. Edit the scripts to wait for 3 seconds.
3. Change a sprite to a car.



4. Use the following commands so that the car drives and disappears.
5. Change the variables and record the changes on a piece of paper.



Key points

a) Instructions are executed by the computer one after the other unless another instruction tells the computer to move to a certain part of the program.

b) The position of the sprite must always be noted before running the script, otherwise the program will give incorrect results, for example, you can instruct the sprite to turn 90° anticlockwise, but it might end up facing the wrong direction.

c) Scripts must have the start and stop command.

End of chapter questions

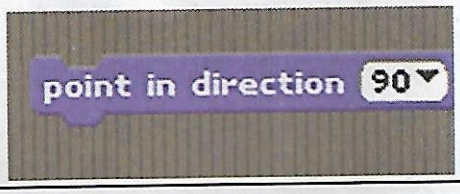
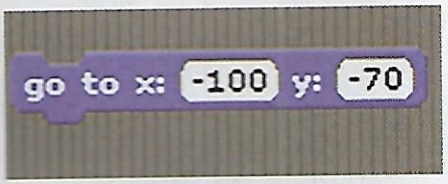
1. A computer program is a sequence of followed by the computer.
   A. commands
   B. instructions
   C. orders
   D. rules
2. The other word for sequence is
   A. script
   B. scheme
   C. order
   D. sound
3. The area where you view the scripts pertaining to the current sprite is called _____
   A. scheme area
   B. sound area
   C. scripts area
   D. order area

4. Instead of writing the same commands four times, which command would you use when programming using Scratch?
5. What does this command do

?

Question 6 to 8

Match the commands and what they do.

Face towards the right.	
Move to the position on the side walk.	
Reduce size to 50% of original.	

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- has activities that encourage individual work, group work and class work which will promote the learner's social skills
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- has step by step instructions on practical activities that are accompanied by legible screenshots
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