

PC Applications

i. Identify a common PC application used in the work place.

Common PC applications

Applications for PCs or laptop computers are sometimes called PC or desktop applications, and those for mobile devices are called mobile apps.

There are many PC applications out there, and they fall into many different categories. The most common computer applications that we will use are:

1. Word processing application (Word Processor)
2. Spreadsheet application
3. Database application

ii. Define word processing

✚ A program or software for storing, manipulating, and formatting text entered from a keyboard and providing a printout.

iii. Define spreadsheet

✚ An electronic document in which data is arranged in the rows and columns of a grid and can be manipulated and used in calculations.

iv. Define database

✚ A usually large collection of data organised especially for rapid search and retrieval (as by a computer).

- v. State the purpose of a word processor
- vi. State the purpose of a spreadsheet
- vii. State the purpose of a database

Application Type	Main Purpose	Name of known application
Word Processor	A word processor allows you to write a letter, design a flyer, and create many other kinds of documents.	The most well known word processor is <u>Microsoft Word</u> .
Spreadsheet	A Spreadsheet allows you to quickly calculate numerical data, represent data with charts and can print data quickly.	The most well known spreadsheet is <u>Microsoft Excel</u> .
Database or Database management system	A database management system allows you to use a computer to create a database. It also allows you to add, sort, modify and select particular data, as well as to create forms and reports using the data in the database.	There are many database packages available but <u>Microsoft Access</u> is one of the most popular.

*Worksheet*

*Workbook*

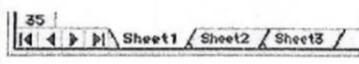
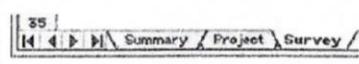
*for layout design*

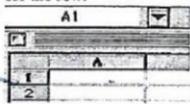
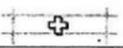
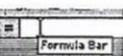
The common features shared by the applications.

Common feature	Description
Editing facilities	The ability to change your work using specific editing tools.
Undo	The ability to undo any editing or formatting changes.
Save and Close a file	To keep a copy of your work for future use, you need to save it by giving it a filename. Once you have saved your work, you can close the file by clicking the Close command on the File menu or the Close Window button on the menu bar.
Spelling and grammar checkers	Identifying spelling and grammatical errors in a document
Cut and paste	Text/graphics can be rearranged within the same document or between a number of documents
Page formatting	The ability to have different layouts, margins and pagination
Character formatting	Using bold, underline and italics to change the appearance of a character
Text alignment	Positioning text or numbers to specified margin and tab settings. The four primary types of text alignment include left aligned, right aligned, centered, and justified.
Justification	Automatic alignment of text to both the left and right margins.
Page numbering	The ability to automatically add page numbers to a document; automatic sequential numbering of pages.
Search and Replace	Moving directly to specified words or parts of words within a document and replacing them with different words or word portions.
Headers and Footers	Option of creating blocks of text or numbers that will automatically appear at the top or bottom of each page in a document.
Word wrap	Automatic arrangement of text in lines of specified length without the necessity of touching the return key.
Footnotes, endnotes	Footnotes are notes that appear at the bottom (or "foot") of the page.
Print a file	There are two ways to print a file on which you are working: 1. Press the Print button on the Standard toolbar to send your file to the printer using all the default settings 2. Select Print on the File menu, which will open the Print dialog box so that you can adjust the printer settings

State a basic features of a spreadsheet

Outline the basic features of a spreadsheet

Spreadsheet feature	Description
Opening a worksheet	When you open a spreadsheet application a worksheet opens. Each sheet is a full spreadsheet. Having a workbook with multiple sheets allows you to easily establish relationships from one sheet to another.  
Name of worksheet	The name of the sheet can be changed. Double-click the name of the sheet in the tab at the bottom, and type the new name.  

Cells	Each rectangle in a spreadsheet is called a cell. For example, the first cell in a spreadsheet is A1. The "A" stands for the column and the "1" stands for the row. 
Select cells	Click the mouse and drag to highlight multiple cells with this cursor, or click in a cell to select the single cell. 
Moving content of a cell	Click and drag the contents of the selected cell to any other cell. 
Copy content of a cell	Click and drag with this cursor to fill cell contents into cells below or to the right. 
Enter formula	Click to place the cursor into the Formula bar so that you can edit an equation or function. 
Entering Data	Move to the cell where you want to enter data and enter words or numbers. If data is already in the cell it will be replaced without having to cut or delete the previous data. Things that can be entered into a cell: <ul style="list-style-type: none"> <li>• numbers</li> <li>• words</li> <li>• equations, formulas or functions</li> <li>• fill color</li> </ul>
Charts	Creating of different type of charts to visually represent data

State a basic feature of a database.

Outline the basic features of a database.

Database feature	Description																				
Database Table	A database stored data or information in table. It's similar in appearance to a spreadsheet, in that data is stored in rows and columns. <table border="1" data-bbox="336 1101 851 1356"> <thead> <tr> <th>Student ID</th> <th>Student Name</th> <th>Village</th> <th>Age</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Fifita Nau</td> <td>Afa</td> <td>12</td> </tr> <tr> <td>102</td> <td>'Ana Ma'u</td> <td>Kolomotu' a</td> <td>13</td> </tr> <tr> <td>103</td> <td>Tevita Finau</td> <td>Nukunuku</td> <td>12</td> </tr> <tr> <td>104</td> <td>Lose Toafa</td> <td>Havelu</td> <td>11</td> </tr> </tbody> </table>	Student ID	Student Name	Village	Age	101	Fifita Nau	Afa	12	102	'Ana Ma'u	Kolomotu' a	13	103	Tevita Finau	Nukunuku	12	104	Lose Toafa	Havelu	11
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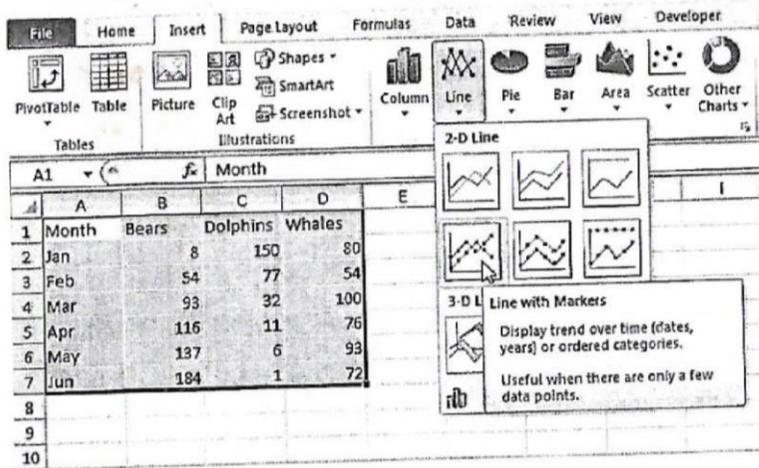
Record	Each table contains a lot of records. Each row of the table is a record containing data or information that belongs to one person or a thing. <table border="1" data-bbox="1489 119 2004 375"> <thead> <tr> <th>Student ID</th> <th>Student Name</th> <th>Village</th> <th>Age</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Fifita Nau</td> <td>Afa</td> <td>12</td> </tr> <tr> <td>102</td> <td>'Ana Ma'u</td> <td>Kolomotu' a</td> <td>13</td> </tr> <tr> <td>103</td> <td>Tevita Finau</td> <td>Nukunuku</td> <td>12</td> </tr> <tr> <td>104</td> <td>Lose Toafa</td> <td>Havelu</td> <td>11</td> </tr> </tbody> </table>	Student ID	Student Name	Village	Age	101	Fifita Nau	Afa	12	102	'Ana Ma'u	Kolomotu' a	13	103	Tevita Finau	Nukunuku	12	104	Lose Toafa	Havelu	11
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Fields	Each individual piece of data or information in a record is called a field. <table border="1" data-bbox="1489 422 2004 678"> <thead> <tr> <th>Student ID</th> <th>Student Name</th> <th>Village</th> <th>Age</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Fifita Nau</td> <td>Afa</td> <td>12</td> </tr> <tr> <td>102</td> <td>'Ana Ma'u</td> <td>Kolomotu' a</td> <td>13</td> </tr> <tr> <td>103</td> <td>Tevita Finau</td> <td>Nukunuku</td> <td>12</td> </tr> <tr> <td>104</td> <td>Lose Toafa</td> <td>Havelu</td> <td>11</td> </tr> </tbody> </table>	Student ID	Student Name	Village	Age	101	Fifita Nau	Afa	12	102	'Ana Ma'u	Kolomotu' a	13	103	Tevita Finau	Nukunuku	12	104	Lose Toafa	Havelu	11
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Primary Key	Every single record in a database has something to uniquely identify it and this is called the primary key. <table border="1" data-bbox="1489 726 2004 973"> <thead> <tr> <th>Student ID</th> <th>Student Name</th> <th>Village</th> <th>Age</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Fifita Nau</td> <td>Afa</td> <td>12</td> </tr> <tr> <td>102</td> <td>'Ana Ma'u</td> <td>Kolomotu' a</td> <td>13</td> </tr> <tr> <td>103</td> <td>Tevita Finau</td> <td>Nukunuku</td> <td>12</td> </tr> <tr> <td>104</td> <td>Lose Toafa</td> <td>Havelu</td> <td>11</td> </tr> </tbody> </table>	Student ID	Student Name	Village	Age	101	Fifita Nau	Afa	12	102	'Ana Ma'u	Kolomotu' a	13	103	Tevita Finau	Nukunuku	12	104	Lose Toafa	Havelu	11
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xxiii. Define Worksheet.

A Worksheet or sheet is a single page in a file created with an electronic spreadsheet program such as Microsoft Excel.

xxix. Name a common type of chart available in a spreadsheet application

- On the Insert tab, in the Charts group, choose Line, and select Line with Markers.



	Month			
	A	B	C	D
1	Month	Bears	Dolphins	Whales
2	Jan	8	150	80
3	Feb	54	77	54
4	Mar	93	32	100
5	Apr	116	11	76
6	May	137	6	93
7	Jun	184	1	72
8				
9				
10				

xxxvi. Define Database record.

A record in a database is an object that can contain one or more values. Groups of records are then saved in a tables, the table defines the data that each record may contain.

xxxvii. Define flat-file database table.

There are two main types of computer database:

1. **Flat file** - all data is simply stored in one table and can be accessed from this single table
2. **Relational** - data can be shared with or 'related' to other multiple tables in the same database.

xxxviii. Define Database field.

Database field is a place for a piece of information in a record or file.

- xliv. State a required step in creating a project using a common application.
- xlv. Outline the steps involved in creating a project using a common application.
- xlv. Explain the steps involved in creating a project using a common application.
- xlvii. Discuss the steps involved in creating a project using a common application.

**Word Processing - Creating your first Word document**

**1. Starting the application (Microsoft Word or other word processing program)**

- ✓ Using the mouse put the arrow pointer on the start menu and then click on all programs. Move the pointer to Microsoft Office to highlight it, and then over to the right-hand menu to Microsoft Word and double click on it.
- ✓ The main window for Word appears.

**2. Entering Text**

Type the sample paragraph below. Read and follow the directions as you type it on the computer. Don't worry about mistakes. I want you to make mistakes so I can show you how to correct them.

This paragraph will show you a few things about Word. For example, you don't have to press RETURN at the end of each line; Word starts new lines automatically. You press RETURN only when you want to start a new paragraph. Notice that you "push" the Insert Pointer and the paragraph symbol along as you type. To end this paragraph, press RETURN when you finish typing this sentence.

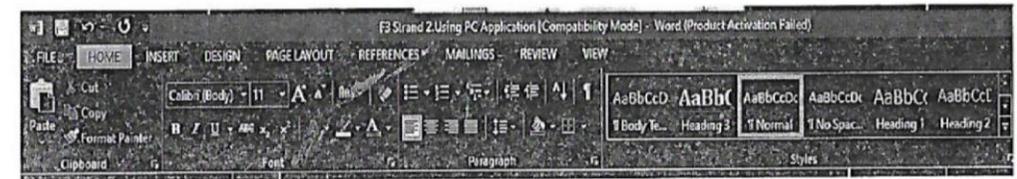
Now type this short line.

**3. Editing Text**

- ✓ Your Insert Pointer is now blinking after the period at the end of the short line.
- ✓ Use the left arrow key or the right arrow key of your keyboard (to the right of the spacebar) to move the Pointer back until it's on the right side of the "s" of "this."
- ✓ Press the Delete key (upper right corner of the keyboard) to remove the "s," and press it again to remove the "i." Now type "e," and you have changed "this" to "the." So the line should read like this - "Now type the short line."
- ✓ Move the Mouse Pointer anywhere else in your text (using the mouse) and click. That also moves the Insert Pointer to where you click inside the text window. (Notice that the Mouse Pointer changes from an I to an arrow when you move it off the text window.)

*How to start the apps.*

**4. Formatting Text (Formatting Tool bar)**



- 4.1 Adding a title.
- 4.2 Select a Word or a Group of Words to Delete, Replace, or Change.
- 4.3 Change Font Size.
- 4.4 Save, Print and Exit a document

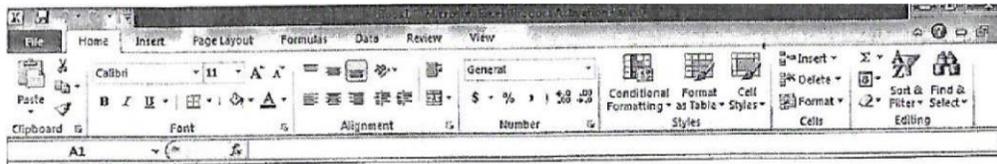
(Practical Activity 1.3 – Page 70 - 72)

**Spreadsheet – Creating your first spreadsheet**

**1. Starting the application (Microsoft Excel)**

- ✓ Using the mouse put the arrow pointer on the start menu and then click on all programs. Move the pointer to Microsoft Office to highlight it, and then over to the right-hand menu to Microsoft Excel and double click on it. Release the button.

Microsoft Excel Tool bar



## 2. Entering Text and Numbers.

Click inside of cell A1 on your spreadsheet, and do the following:

Type the word "Numbers" (with no quotation marks), Hit the Enter key on your keyboard The active cell will move down one, to cell A2, Type the number 3, and again hit the Enter key on your keyboard. The active cell will move down one, to cell A3, Now put the number 6 into cell A3, and the number 9 in cell A4. After you have typed the number 9, and hit the Enter key, you should see that cell A5 is now the active cell.

	A	B	C
1	Numbers		
2	3		
3	6		
4	9		
5			
6			

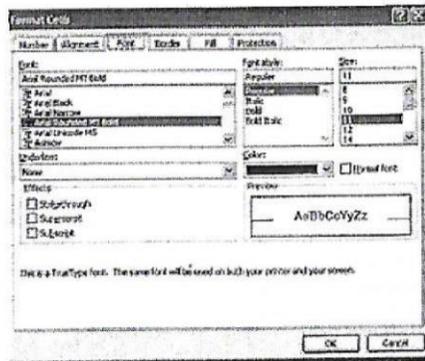
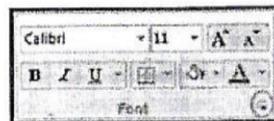
## 3. Editing Text in a cell

To change the text in cell A1, you can just click inside of the cell and start typing. Anything you had there previously would be erased. But if you just want to edit the text (if you've made a spelling mistake, for example), then you need to do something else. You can use the formula bar for editing.

	A	B	C	D
1	Numbers			
2	3			
3	6			
4	9			
5				
6				

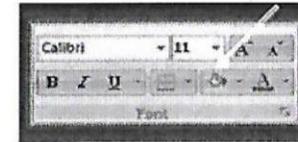
## 4. Font formatting

You can pick a different font for the data you enter into cells, as well as choosing the size you want. The colour of the font, and the cell background, can be changed, too. First, we'll see how to change the font type.



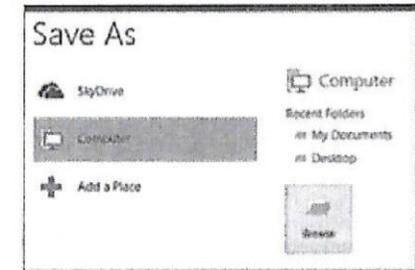
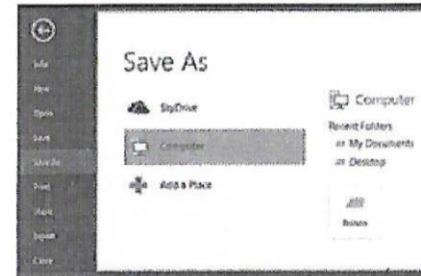
## 5. Cell Colour

To change the background colour of cells, you first have to highlight the cells you want to change. We'll start with the cells A2 to A5. So highlight these cells on your spreadsheet.



## 6. Saving your work in Excel

Clicking Close, will close the current Excel spreadsheet, but won't close down Excel itself. To close down Excel, click the "Exit Excel" button in the bottom right of the dialog box.



## Practical Activity: Page 82-88 & Activity 1.4 Page 89

### Database – Creating your first database

Microsoft Access is a popular computer application used to create and manage computer-based databases. Similar to the previous applications you can start this program, by clicking Start, Programs, Microsoft Office, Microsoft Office Access 2010 or an earlier version of MS access.

To create a new database, you can choose File then New.

Choose a blank database to start a new database

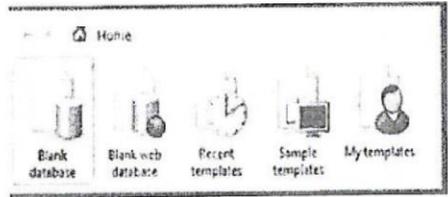
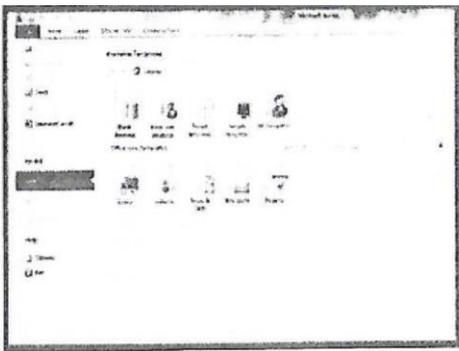
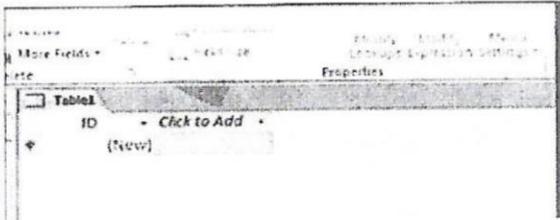
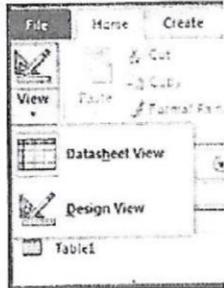


Table 1 will appear. Click on "Click to Add".



Enter details for the first two fictional employees. Type Mary, press Enter to move to the next column, and type Smith. Press Enter twice to move to the second column of the second row, and type Peter, press Enter and finally type Johnson.

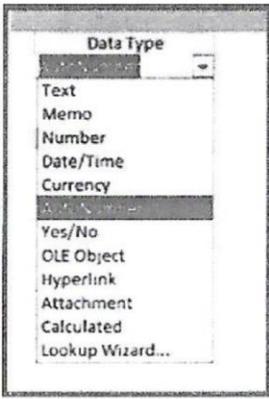
You need to alter the design at this point, because it does not have any table headers, so that you can use employee ID numbers. To make these changes, click the View drop-down menu on the Home tab of the Menu toolbar, and select Design View.



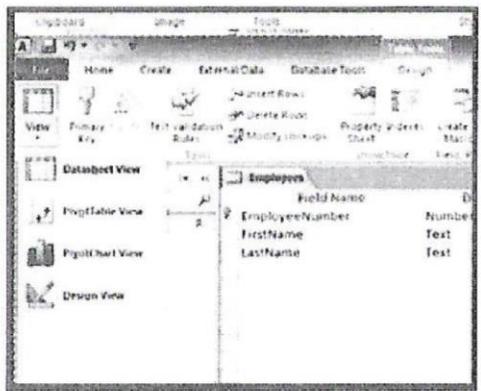
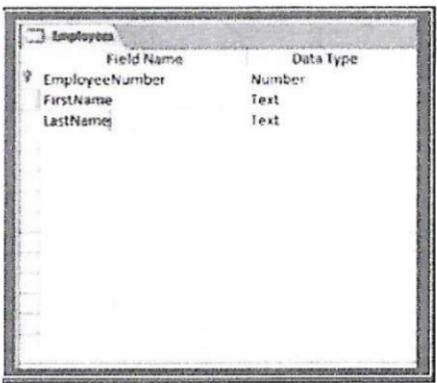
Once you've typed some data, you can fine-tune the design by moving to Design View



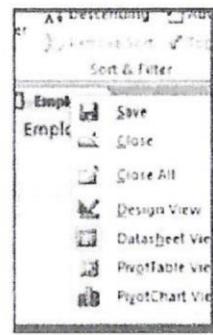
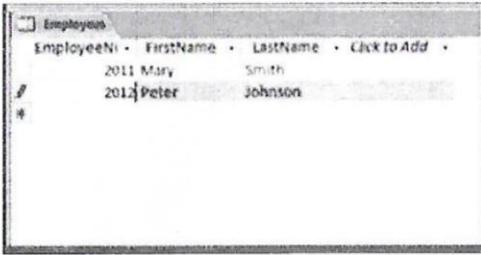
Change 'Field1' to read FirstName and 'Field2' to read LastName



Return to Datasheet View by clicking View, Datasheet View.



Type the numbers 2011 and 2045 in the first column of the table. Once the table is complete, save it by right-clicking the Employees tab and clicking Save.



**Design Applications:**

- i. Define graphic design
  - The art or skill of combining text and pictures in advertisements, magazines, or books.
- ii. Define desktop publishing
  - It is the creation of documents using page layout skills on a personal computer primarily for print.
- iii. Name a graphic design or desktop publishing application.
  - a. **Graphic Design:** Adobe Photoshop, Adobe Illustrator, Adobe Dreamweaver
  - b. **Desktop Publishing:** Microsoft Publisher, Adobe InDesign, Microsoft Word
- iv. State a key principle of graphic design.
- v. Outline the basic principles of graphic design
- vi. State a key feature in creating graphics or publications
- vii. Outline special features for creating graphics or publications
- viii. Identify examples of text-based publication

Graphic designers follow key principles and concepts of graphic designs and their application by using modern desktop publishing applications.

**The Building Blocks of Design**

The five (5) basic elements of design are: lines, shapes, mass, texture, and color.

- **Lines** - *solid, dashed, thick, thin*  
A line is a mark connecting two points. Lines can be solid, dashed, thick, thin, or of variable width. The endings of lines can be ragged, blunt, or curved.
- **Shapes** - *triangles, rectangles, squares, circles*  
Squares (and rectangles), triangles, and circles are the three basic shapes. The three basic types of shapes are geometric, natural, and abstract. Geometric shapes are structured, often symmetrical shapes. These include squares, circles, and triangles but also octagons, hexagons, and cones.
- **Mass** - *Basic element of design*  
Mass is one of the basic elements of design. Mass equals size. Each piece you create has a physical mass.
- **Texture**  
Texture is the visual or tactile surface characteristics of a piece of design.
- **Colour** - *Red, yellow, blue*  
This is the combination of colours that go well together in a design.

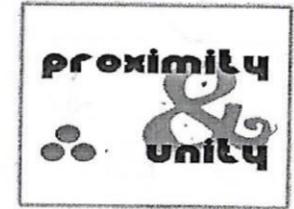
**Six (6) key principles and concepts of graphic designs**

1. Balance - evenly balanced layouts of the graphics and texts on the page. There are three (3) types of balance in page design:
  - Symmetrical - more or less the same amount of text/graphics on each half of the page

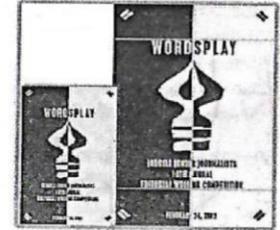


- Asymmetrical - a small amount of visually heavy elements balanced by a large amount of visually light elements.
- Radial - page elements more or less evenly distributed in a circular manner around a central point.

2. Proximity - arranging objects (text and/or images) into groups closer together in order to convey meaning and help disseminate their message.

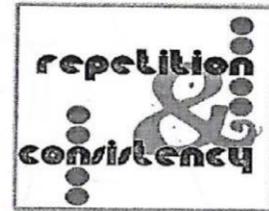


3. Alignment - aligning texts and graphics to create more interesting, dynamic, or appropriate layouts.



4. Consistency and repetition - Consistency is often paired with repetition in good graphic design principles.

- Using the same font (typeface, font size, and font color) for all headlines throughout a newsletter.
- Placing all page numbers in the same location on the page throughout a publication.
- Using the same method of paragraph spacing (indent, space below, etc.) for all paragraphs of text in an article.



5. Contrast - occurs when two parts of a design or page layout are different. The greater the difference, the greater the contrast. It's one way of emphasizing parts of a layout or guiding the readers' eye to specific areas of the page.



6. White space - is the absence of text and graphics. White space provides visual space for the eye.



Activity 2.0: Page 108-109

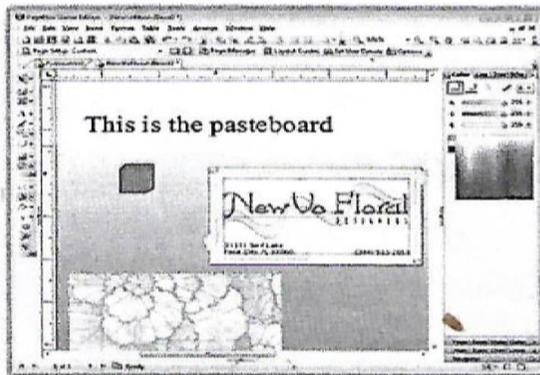
## Publishing application

Desktop publishing software doesn't work in the same way as word processing software.

There are some basic similarities in how most desktop publishing page layout applications function. The tool names, icons, and keyboard commands may differ, but most desktop publishing programs share some common characteristics.

### The basic characteristics of desktop publishing

1. Pasteboard - Desktop publishing application use a pasteboard as a work area similar to a word document window. You can move blocks of text and images off the page and leave them sitting on the pasteboard.



2. Text Frames - Text frames hold text. Depending on the software, text frames may have handles for resizing or dragging the text frames.



2