

## ***Foreword***

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Dear children,

Computers are used in every walk of life, from shops and hospitals to space research centres. It is because of the wide popularity of computers that people try to use them in the proper way to make the facilities of life better.

This book includes various activities using computers. These activities are not only related to sound recording and drawing pictures but also to learning science and mathematics. Practising ICT helps to learn other subjects also.

There is no doubt that doing the activities that are included here will make learning more interesting.

With best wishes,

Director  
SCERT

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Certain icons are used in this book for convenience



For further reading



Let's assess



Extended Activities

Chapter 1

## Let's Write a Letter



*The Head Master  
GMUPS Edappal  
01/05/2017*

*Dear Parent,*

*The Parent Teacher Association of our school has decided to celebrate 'Mother's Day' on 14<sup>th</sup> May 2017 in the School Auditorium. We cordially request your esteemed presence on this occasion. We are also planning a function to honour all mothers on that day.*

*With regards,  
Head Master*

Haven't you seen the letter sent by the Headmaster of Anu's school, inviting the PTA members for the Mother's day celebrations?

What will you do if you are asked to prepare a letter of this kind?

You will write the letter on a piece of paper, won't you?

But do you think it is easy to write letters to all the parents of your school, in this way?

What else can we do ?

- ◆ We can take photocopies of the letter.
- ◆ .....

### Activity 1.1

#### Word processor to prepare letters

We have become familiar with text typing and ways of making the text more attractive using word processing software. Try to prepare letter to parents using Word processing software.

What should you consider while preparing the letter?

- ◆ Use capital letters wherever required.
- ◆ Words must have a certain space between them.
- ◆ .....

<p>The Head Master          School.....          Date.....</p> <p>Dear Parent,</p> <p>The Parent Teacher Association of our school has decided to celebrate 'Mother's Day' on 14<sup>th</sup> May 2017 in the School Auditorium. We cordially request your esteemed presence on this occasion. We are also planning a function to honour all mothers on that day.</p> <p>With regards,          Head Master</p>
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**Figure1.1 Unformatted invitation**

You typed the letter, didn't you? Does your letter look like the one in Figure 1.1?

What are the differences between the letter prepared in Anu's school and your letter?

- ◆ Font is different



**Font**

*Is your handwriting similar to that of your friend? Each one's hand writing is different. Different kind of letters are available in the word processor. These are called fonts. Given below are certain fonts in the Word processor*

Aa	Liberation Serif
Aa	Liberation Mono
Aa	DejaVu Serif
Aa	Ubuntu Mono
Aa	URW Chancery L
Aa	Ubuntu

- ◆ The borders on the left and the right are not the same.
- ◆ .....

### Activity 1.2

#### Letters that change their form

With the help of the indicators given below, change the font of the typed text

- ◆ First select the letters
- ◆ Select the font e.g. URW Chancery L (as shown in Figure 1.2)



Figure1.2 Window to change the font

- ◆ Make the letter more attractive making use of other fonts.

### Activity 1.3

#### Adjusting the borders

The borders on the left and right side of the letter must be aligned properly. To do this,

- ◆ Click on the paragraph
- ◆ Click on the **Justify** tool in the align tools (figure 1.3)



Figure 1.3 Align tool

Haven't the left and right sides of the paragraph been arranged alike now?

### Activity 1.4

#### Adjust the space between the lines

In the letter that we prepared Line spacing is inadequate . The letter will be more attractive if we adjust the line spacing, won't it? By following the steps given below we can adjust the line spacing.

- ◆ Click on the paragraph
- ◆ Click on the line **Spacing** tool (Figure 1.4) Spacing:1.15, spacing : 1.5. spacing:2 click on each and notice the changes on the screen.
- ◆ Select the appropriate line spacing (spacing 1.5)

You have prepared the letter, haven't you?

Don't forget to save it.

Now, we can take copies of the letter with a printer and give it to the parents.

Line spacing  
can be adjusted  
suitably.

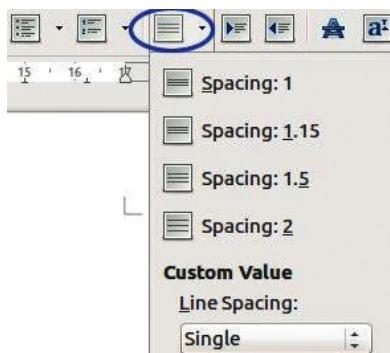


figure 1.4 Window to adjust line spacing

### Activity 1.5

#### Preparing a greeting card

Why don't we prepare greeting cards to give to the mothers who have come to participate in the Mother's day celebrations? We have already created greeting cards using word processor, haven't we?

We prepared greeting cards using the entire page, didn't we? What should we do if we don't need large size cards?

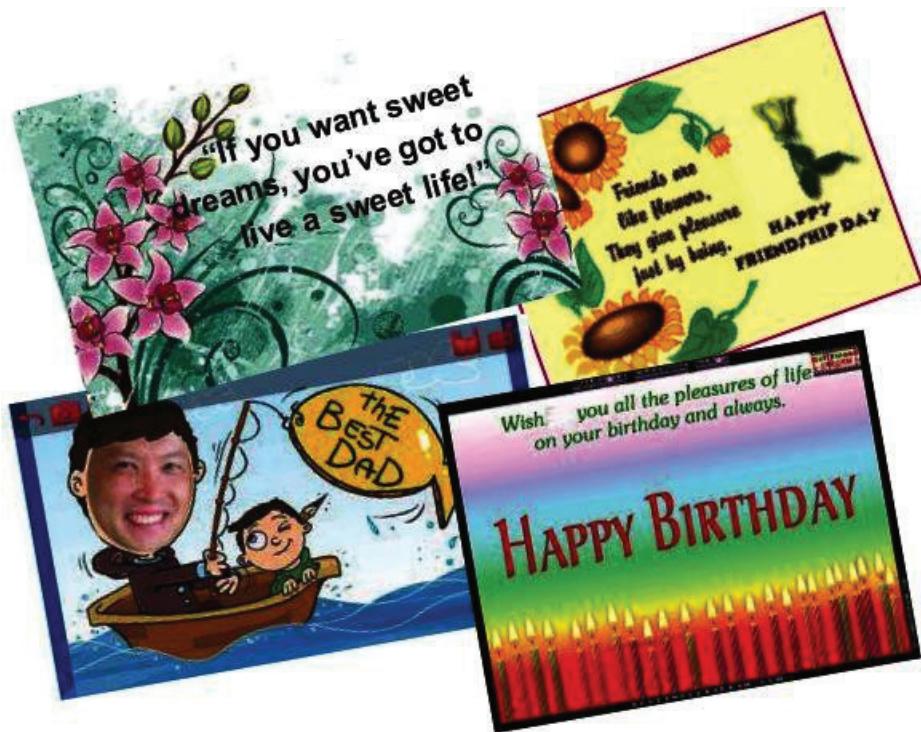


### Printer

*Printer is an equipment that copies the information from the computer files to paper. There are different types of printers like Dotmatrix, inkjet, laserjet, etc.*



Look at the pictures in the story ‘To my Mother’ in the seventh standard English course book. Notice the differences in content, size and other such features.

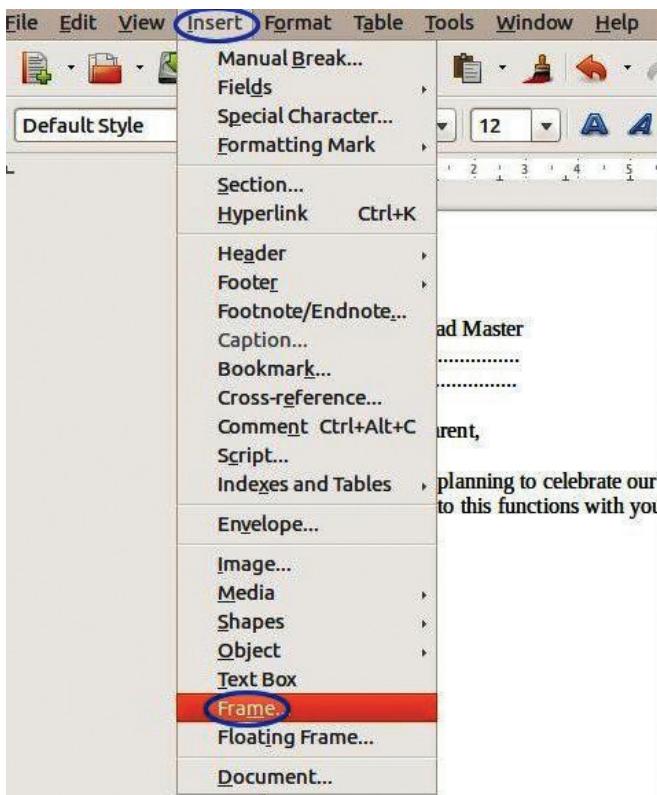


**Figure 1.5 Sample greeting cards**

- ◆ Attractive background
- ◆ Appropriate words
- ◆ .....

We can prepare greeting cards in the same way.

We can make use of **Frame** in the *Word processor* to prepare greeting cards. From the given indicators find out how we can include a frame. (Figure 1.6, Figure 1.7)



## Frame

We can select a **Frame** by clicking on its sides. Click on the small squares that appear on the sides to adjust width and height. Clicking outside the picture will cancel it.



Figure 1.6 How to include a Frame

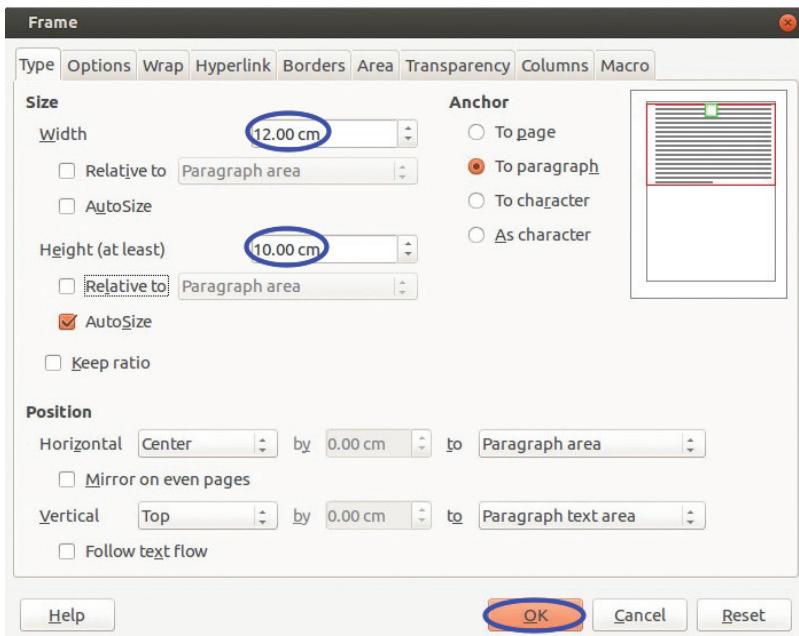


Figure 1.7 Giving width and height to a Frame.

Making use of the indicators given above, include a **Frame** in the *word processor* of 12 cm width and 10 cm height.

## Activity 1.6

### Greeting cards in new forms

Now we have included a **Frame** to prepare the greeting card. How about preparing the greeting card in Malayalam? We are already familiar with Malayalam typewriting, aren't we? Prepare a greeting card making use of the indicators.

- ◆ Adjust the layout in Malayalam
- ◆ Type ‘അമ്മയ്ക്ക് ആദരവോടെ...’ (Frame1.1)

അമ്മയ്ക്ക് ആദരവോടെ...

**Frame 1.1 Greeting card**

### Malayalam Fonts

*There are different fonts in Malayalam just as in English.*

അഞ്ച	Rachana
അഹന്ത	Lohit Malayalam
അംഗാ	Meera
അലേ	Kalyani
അരക്കു	RaghulMalayalam

Use the font *Rachana*. In which part of the frame are the letters arranged?

How do we bring ‘theme’ to the centre of the **Frame**?

## Activity 1.7

### Making Greeting cards more attractive

After selecting the **Frame** we can give an attractive colour by clicking on the **Background Colour** tool.

## Activity 1.8

### Let's include a picture

Won't it be even more beautiful if we include a picture in the greeting card? Insert a picture following the steps given below:

- ◆ Bring the cursor inside the **Frame**
- ◆ Click on the **Image** tool (figure 1.9)



**Figure 1.9 Image tool**

- ◆ Select the image from the window and click open.
- ◆ Adjust the width and height of the image
- ◆ Click save (Frame 1.2)



**Figure 1.8 Window to add background colour**



**Frame 1.2 Card becomes more attractive**



We can take as many copies of the card as required using a printer.

### To adjust the size of the picture

*Click and drag on the small squares that appear on the sides to adjust the length and width.*



## Assessment



- Prepare a greeting card in Malayalam using **Frames** technique to wish your classmate ‘Happy birthday’.
- Here is a letter sent by Anushka to her friend Ammu. Type the letter in the *Word processor* and save it. (Font : Liberation Mono, Line Spacing-1.5, Justify).

Anushka  
Golden Hills  
Goa

**Dear Ammu,**

Hope you are doing well. I reached Goa with my parents. We are staying in a resort. The weather here is really good. We are planning to go to the beach and the church today. I will send you the snaps after visiting all the places. I wish you were also with me.

With regards,  
Anushka

## Extended Activities



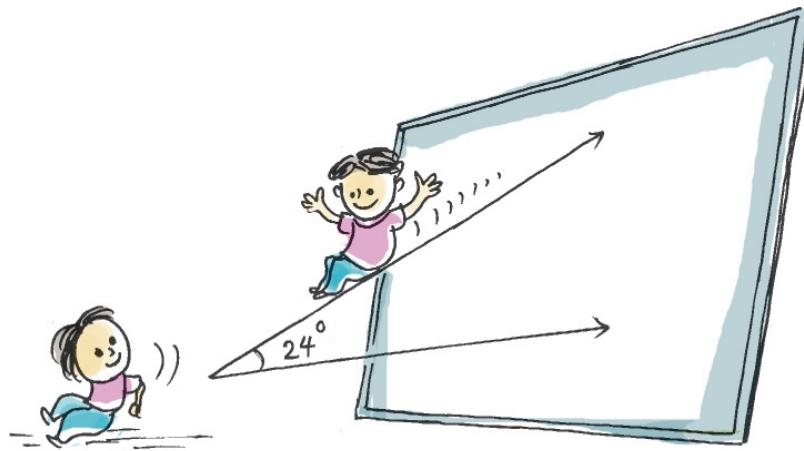
- A function to honour teachers on Teacher’s day is being conducted in the school. Prepare a greeting card to give to the teachers. You may make use of the Frame technique .
- Prepare a note on JC Daniel as given below and save it in the word processor (Font Babel Unicode, Line Spacing -1.5, Align - Justify)

### J. C. Daniel: The Pioneer of Malayalam Cinema

Have you ever heard of J. C. Daniel? It is a name that is an unforgettable part of Kerala culture. Usually described as the father of Malayalam cinema, Daniel was born on 28 November, 1900, in Agasteeswaram taluk of Kanyakumari District, Tamil Nadu. The first film made in Kerala, **Vigathakumaran** (The Lost Child), by J. C. Daniel reflects the social and cultural life of the period.



## Chapter 2

**Mathematical Figures in the Computer**

Appu is not ready to eat even though his mother has called him many times. He is busy with paper, pencil, match sticks and twigs, learning the mathematical lesson ‘Adding Angles’. When two lines intersect, the opposite angles are equal. What about the nearby angles? Is there anything special in the sum total of the values?

How can we find out?

- ◆ Draw pictures in which lines intersect in different ways.
- ◆ Measure the angles and list them.
- ◆ .....

Shall I help?  
You need to draw only  
two lines when  
GeoGebra is used.

### Activity 2.1

#### Angles between lines

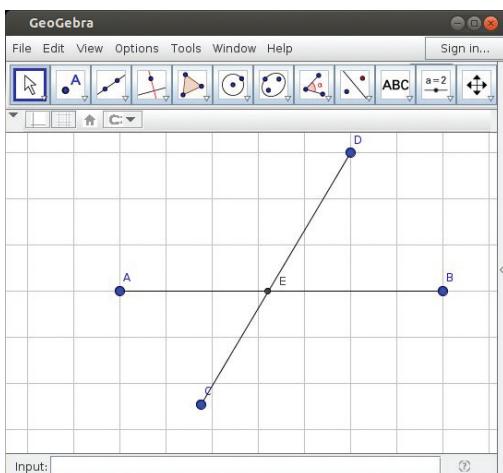
What are the special features of the angles formed by two lines?

Let us examine it , using GeoGebra software.

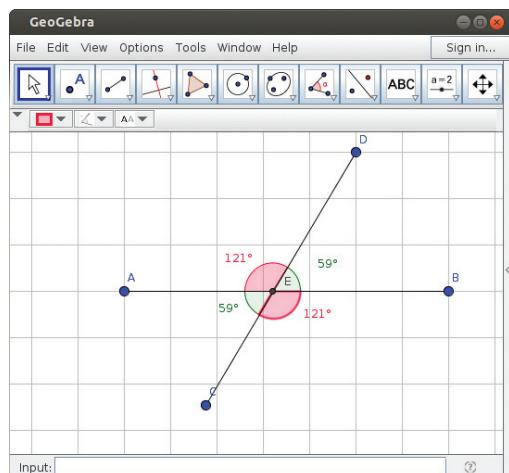
Shall we make use of the hints given below?



- ◆ Open the GeoGebra software.
- ◆ Draw two lines that intersect, using  Tool (Figure 2.1).
- ◆ Use the  tool , click on two lines and find out the intersection point.
- ◆ Use the  tool to measure the angles. (Figure 2.2). (Adjust in such a way that the measurement of the angles is in whole numbers).



**Figure 2.1 Lines that intersect each other.**



**Figure 2.2 Angles between two lines.**

### Don't you see the name of the points?

If you are not able to find the label of the points marked using GeoGebra, click the right button of the mouse, and select 'Show Label'.

You can now give a name to your file and save it your folder. Write the measurement of the angles in table 2.1.

Using the  tool, click on each point and change the position of the lines. Now you find a pair of lines and the angles between them are created, which are different from earlier. You can measure these angles and write them down in the next line. Now complete the table 2.1, changing the position of these lines.

$\angle$ BED	$\angle$ DEA	Sum
59°	121°	180°

$\angle$ BEC	$\angle$ CEA	Sum
121°	59°	180°

Table 2.1 Linear pairs

Analyse the table and write your findings in the notebook.

Like this, list the linear pairs in the line CD.

### Let us find out the intersecting points.

Using the  (Intersect) tool, you can find out the intersection points of two or more objects drawn in the GeoGebra window. Click each intersecting object one after the other using this tool.

Isn't there something unusual about the angles that are created when two lines are intersected by a third line?

Yes, if both lines are parallel.

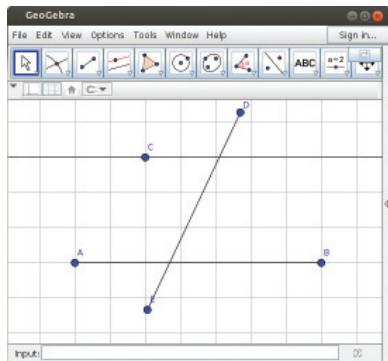


Can you find anything unusual in the angles created when a third line intersects the first and second lines ? Let us find out.

Let us find the peculiarities of corresponding angles and alternate angles when two parallel lines are intersected by another line. Let us make use of GeoGebra.

### Let's draw parallel lines

Use  (Parallel Line) tool to draw a line parallel to another line.



**Figure 2.3 Line intersecting parallel lines.**

Don't forget to put a dot on the line above to measure the angles.

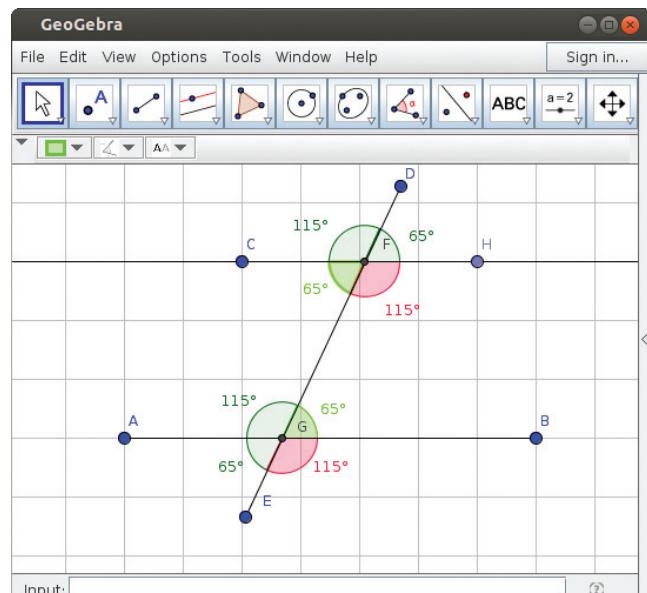


### Activity 2.2

#### Angles in parallel lines

Open GeoGebra and follow the steps below.

- ◆ Draw a line with two end points.
- ◆ Put a dot a little away from the line.
- ◆ Draw a line parallel to the first line, through this dot.
- ◆ Draw one more line that intersects the parallel line ( Figure 2.3).
- ◆ Find out the intersection points of these lines.
- ◆ Measure all the angles of the two intersecting points (Figure 2.4).



**Figure 2.4 Parallel lines and angles**

Give a name to this file and save it to our folder.  
Write the measurement of the angles in Tables 2.2, 2.3.

Using the  tool change the position of the lines, find the measurement of the angles and complete the table as in activity 2.1.

Corresponding angles	
Angles	Measurement
$\angle AGD, \angle CFD$	$115^\circ$

**Table 2.2 corresponding angles**

Alternate angles	
Angles	Measurement
$\angle AGD, \angle HFE$	$115^\circ$

**Table 2.3 Alternate angles**

What are your findings?

When a line intersects two parallel lines,

- ◆ What are the features of the corresponding angles?
- ◆ What are the features of the alternate angles?

Write down your findings.

.....

.....

.....

You have learnt the features of corresponding angles and alternate angles.

Lets us examine a few more angles.



### GeoGebra resources on the internet

Ample resources in GeoGebra are available on the internet. You can view them on the website [www.geogebra.org/materials/](http://www.geogebra.org/materials/). It is the medium through which people from different parts of the world share learning resources prepared in GeoGebra.

- ◆ Co-interior angles.

- ◆ Co-exterior angles.

Find out these angles from the picture and list them in the table. (Table 2.4, 2.5)

Using **Move tool** change the position of the lines, measure the angles and complete the table. What are your inferences?

.....  
.....



### GeoGebra in mobile phones too....

You have seen GeoGebra software in computers. Now the software is available in your smart phones as well.

Co-interior angles		
Angles	Measurement	Sum
$\angle AGD, \angle CFE$	$115^\circ, 65^\circ$	

Table 2.4 Co-interior angles

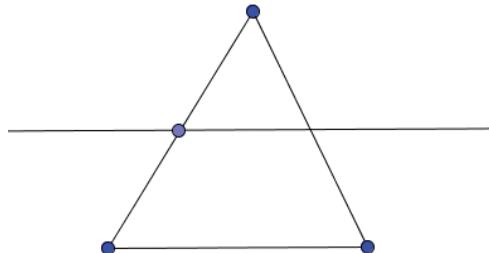
Co-exterior angles		
Angles	Measurement	Sum
$\angle AGE, \angle CFD$	$65^\circ, 115^\circ$	

Table 2.5 Co-exterior angles

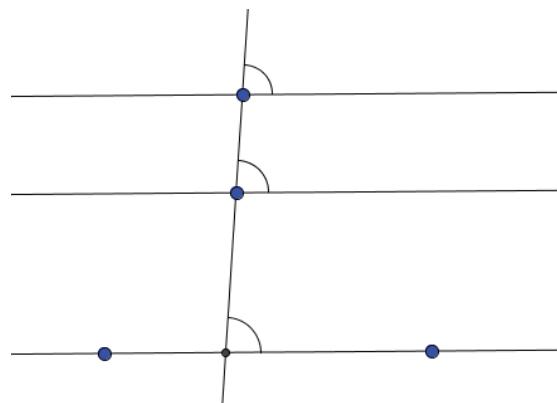
Find out the features of co-interior angles and co-exterior angles and write them in your note book.

**Let's assess**

1. Draw the figure given below in GeoGebra and find the measurement of angles created at each point.



2. Using GeoGebra software draw three parallel lines and a line that intersects these, as shown in the picture. Measure and compare the angles marked in the picture.

**Extended Activities**

1. Open GeoGebra software and draw a parallelogram. Draw diagonal lines to combine the opposite vertex and mark its intersection point. Prove that this Point is the midpoint of the diagonals.

*(Hints : measure the distance from the diagonal to the intersection point and from intersection point to the vertex)*

2. Construct the triangle ABC using GeoGebra in which  $AB = 5\text{cm}$ ,  $BC = 6\text{cm}$ ,  $AC = 4\text{cm}$ .

*(Hints: Use the tool ‘Segment with given length’ to draw a line of fixed length. Draw the circles having two measurements and find the intersection points).*



## Chapter 3

**What Fun it is to Draw!**

“ജലമേന്തിയോടിക്കിതച്ച മേലം  
മലയിൽത്തടണ്ടു കമിച്ചനുവീണു  
കൊടുമുടിക്കെടിയിപ്പേക്കുരുളും കുടത്തിനേ  
ചടപട ശവ്വങ്ങൾ കേൾപ്പുതിലേ? തന്നീർ  
ചിതറിത്തറിപ്പുതു കാഞ്ഞതിലേ  
”

N.V. Krishna Warrier

The poem '*Vellappokkam*' depicts a boat journey made by the poet in the rain. Doesn't it create a beautiful and attractive visual experience in our minds? Every journey should result in an experience like this.

The extended activity given by the teacher at the end of the class was to draw any one of the unforgettable scenes they had seen during their travels.

Students were asked to draw these pictures using the computer.

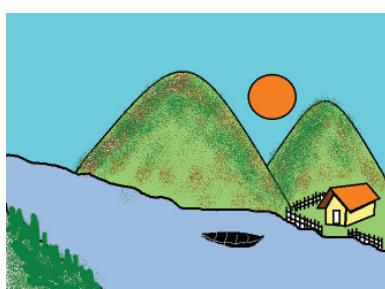
The next period they went to the computer lab and started drawing the picture.

Everyone liked the picture drawn by Devika.

Look at the picture drawn by Devika, given below (figure 3.1)

How do you like the picture? How did she draw the picture? What software did she use to draw the picture?

Today several kind of software are available to help in drawing pictures. Devika used the software *KolourPaint*.



**Figure 3.1** The picture drawn by Devika

Shall we too draw a picture with *KolourPaint*?

### Activity 3.1

#### Get to know the *KolourPaint* window

Look at the window that appears when we click the *KolourPaint* software in the graphics menu.

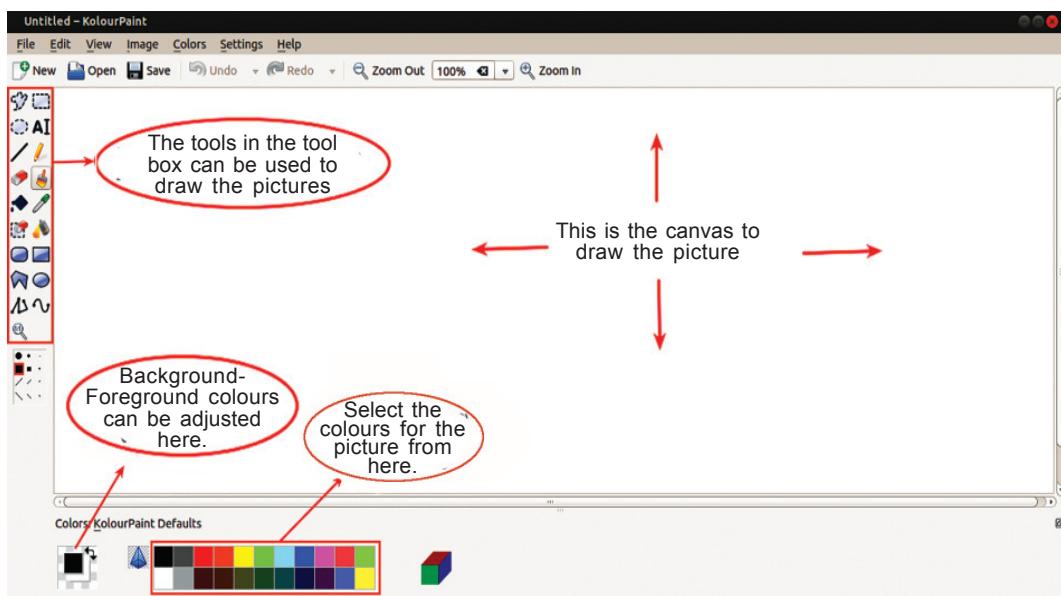


Figure 3.2 KolourPaint window

#### Colour variations are interesting



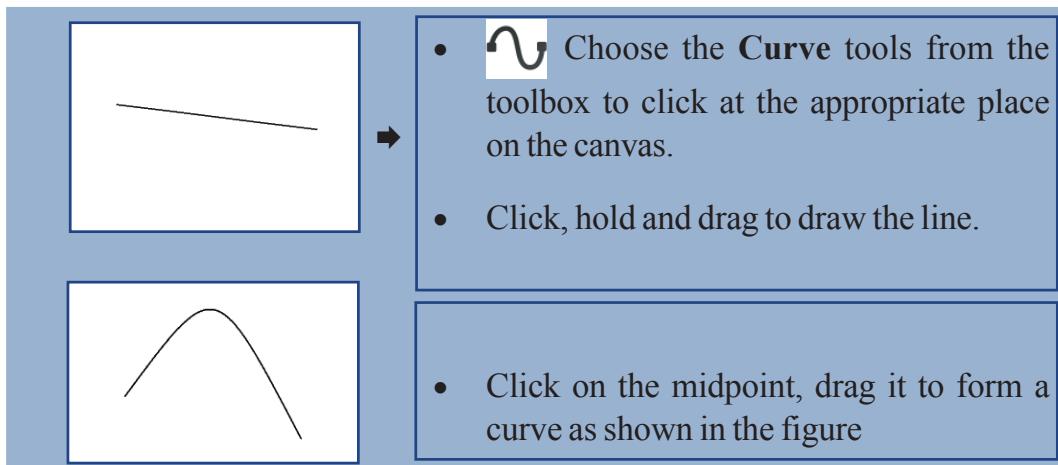
In the *KolourPaint* software two colours can be used for two different uses simultaneously. While drawing the picture when we press the left mouse button we get the foreground colour and when we press the right mouse button we get the background colour.

This picture was completed using different kinds of tools. Don't you want to know how Devika created this picture? The different stages are given below. See if you too can draw like her.

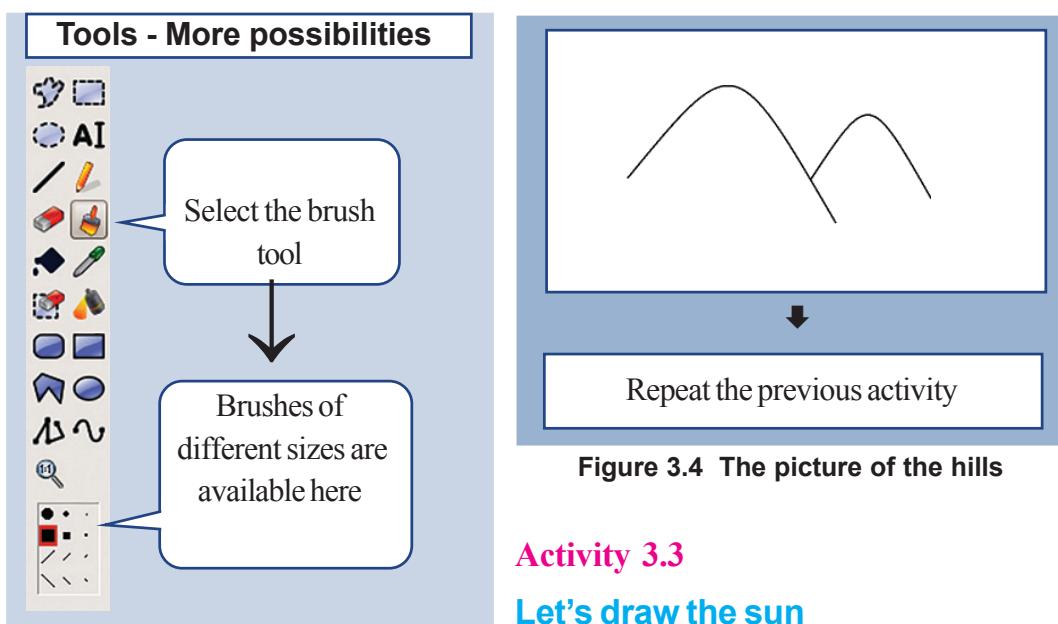
## Activity 3.2

### Mountains and Hills

The first activity is to draw the hills . (Figure 3.3, Figure 3.4)



**Figure 3.3 The first phase of drawing hills**



**Figure 3.4 The picture of the hills**

## Activity 3.3

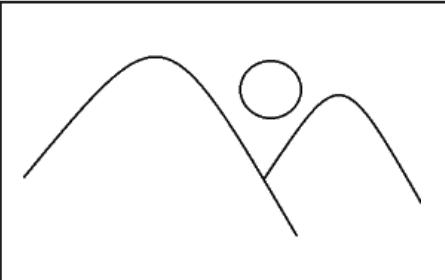
### Let's draw the sun

Draw the sun which can be seen between the mountains (see Figure 3.5)

**Undo, Redo**

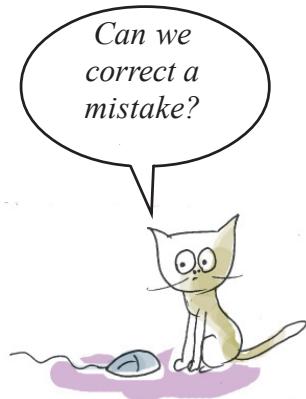
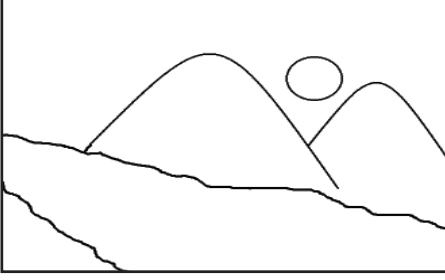


You can use the undo button to cancel a mistake in the activity. If you want to retrieve what you had cancelled, use the Redo button.



 Use the **Circle Tool** to draw a circle at the appropriate place

Figure 3.5 Picture of the sun between the hills

**Activity 3.4****Let's draw a river**


 Draw the edges of the river using the **Brush tool**.

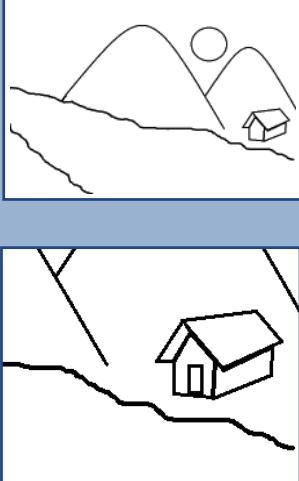
Figure 3.6 Picture with the river added to it

**Activity 3.5****Let's draw a house**

Follow the instructions below to draw a house in the valley of the hills (figure 3.7)

**Eraser**

We can use the eraser tool to erase the drawings. The erased area will automatically take on the background colour. The reverse will happen if we use the right mouse button. Double Clicking on the Eraser Tool will remove the entire picture from the canvas.



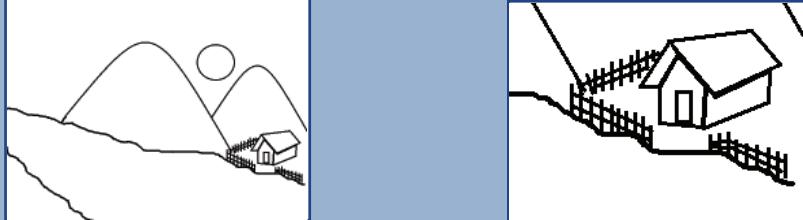
- Draw each part of the house using the Polygon Tool 
- Click on the corners where the desired shapes are required.
- After drawing the picture using the Polygon Tool, click the right mouse button to complete it.
- Use the Square Tool  to draw the door

**Figure 3.7 Picture of house in the valley**

### Activity 3.6

#### Draw a fence around the house

Draw a fence proportional to the size of the house.  
How to draw this is described in Figure 3.8



- Use **Line Tool**  to draw lines straight and across to create a fence
- To get a straight line , press shift key on the keyboard, using the **Line Tool**

**Figure 3.8 A fence is drawn around the house**

### Activity 3.7

#### A boat in the river

The next step is to draw a boat at an appropriate spot on the river (Figure 3.9)



Use the Brush Tool to draw a boat in the river.

### Colour eraser



If you want to discard any particular colour you can use the colour eraser . Set the colour to be avoided as the foreground colour and then use the mouse to drag/ double click on it.

**Figure 3.9 A boat in the river**

### Activity 3.8

#### Add colour to make the picture attractive

Pictures become attractive when we add colours to them. Select the appropriate colours from the colour box. ( See the description in Figure 3.10)

- Use **Flood** Fill tool to add colours.
- Select colours from the colour box.

- Use **Spraycan** tool to complete the colouring activity.

**Figure 3.10**

Make a group assessment of the pictures and don't forget to express your views.

## Let's assess



1 Meadow

A blue lake in front of it

White lily and lotus at the banks of the river

Swans swimming in the river

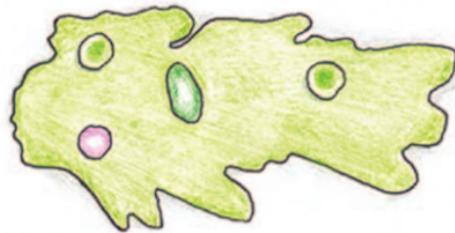
Trees in full bloom and birds flying to and fro

Blue mountain ranges like the wall of a great fort in the distance

White cottony clouds moving across the sky

.....  
Draw a picture of the scene using KolourPaint software.

2. Draw the picture of an amoeba



## Extended Activities



1. *What a sight it is to see a tree on the river bank, rooted in the earth, drawing water from the depths, holding its head high in the sky.*

Draw the picture mentioned at the beginning of the lesson *For the Pollution Free Nature* in the Basic Science textbook.

2. Draw a picture of the garden in the school courtyard.

3. Draw a beautiful scene that you remember from your study tours, making use of the *KolourPaint* software.



## Chapter 4

# Sound Recording in the Computer




“...I have a dream that one day on the red hills of Georgia, the sons of former slaves and the sons of former slave owners will be able to sit down together at the table of brotherhood...”

These lines are from the famous speech ‘I have a Dream’ by Martin Luther King.

This is one of the celebrated speeches that has been listened to by most people around the world. Even now many listen to this speech. Audio clips of some significant parts of this speech have been recorded and saved as **martin.ogg** in the **School Resources** of our computer. Let's listen to them.

For that

- ◆ Open the folder **School Resources** in Home.
- ◆ Double click on the audio file *martin.ogg*.

### Audio files

The poems and speeches that we prepare can be saved in our computers in audio form as files. *martin.ogg* and *martin.mp3* in the Resources Folder are audio files.

Compare your experience of reading this speech with that of listening to it. Which are the factors that attract us to the audio clip of the speech?

- ◆ Self confident voice.
- ◆ .....
- ◆ .....

This speech which was delivered years ago can be listened to with the same audio effects because it was recorded and saved. Don't you know that we can record sound on computers and mobile phones.

Try to recollect the speech delivered by your teacher in the school assembly. If this speech was recorded then, you could have listened to it later. The speeches and songs that we have prepared can be recorded like this. Let's see how this can be done.

### **Prepare the computer for sound recording**

You know that sound can be recorded on mobile phones. Similarly, we can record sound on computers too. This requires certain preparations. Let's complete them with the help of the teacher.

#### **Preparations for recording**

- ◆ Click on Sound Applet  in the top panel of the computer.
- ◆ Select **Sound Settings**.
- ◆ After clicking on the **Input** Tab, speak into the microphone.
- ◆ Don't you notice that there is a change in the Input Level? (Figure 4.1)
- ◆ By adjusting the **Input Volume** we can change the intensity of the sound recorded.

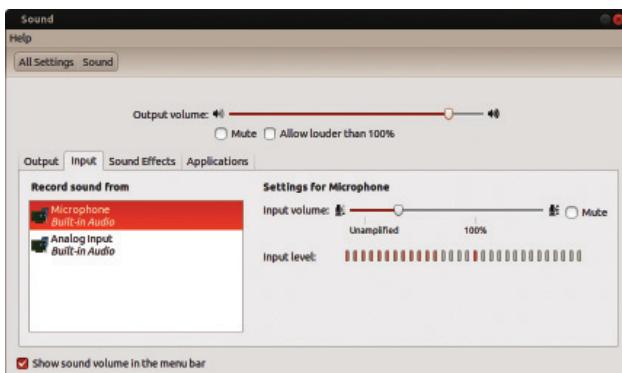


Figure 4.1 Sound Settings Window

### Mic and the Speaker

If we are using a desktop computer we need to connect a microphone to record the sound and a speaker to listen to. If not, we can use headphones. If we are using a laptop computer, there will be a built-in microphone and speaker.

Hasn't your computer been set for sound recording? We know that there are suitable software in computers for each task. Like that *Audacity* is a software for recording sound.

### Audacity

This is a software used in computers for recording sound and also for the purpose of editing and mixing.



*Which software is used for recording?*



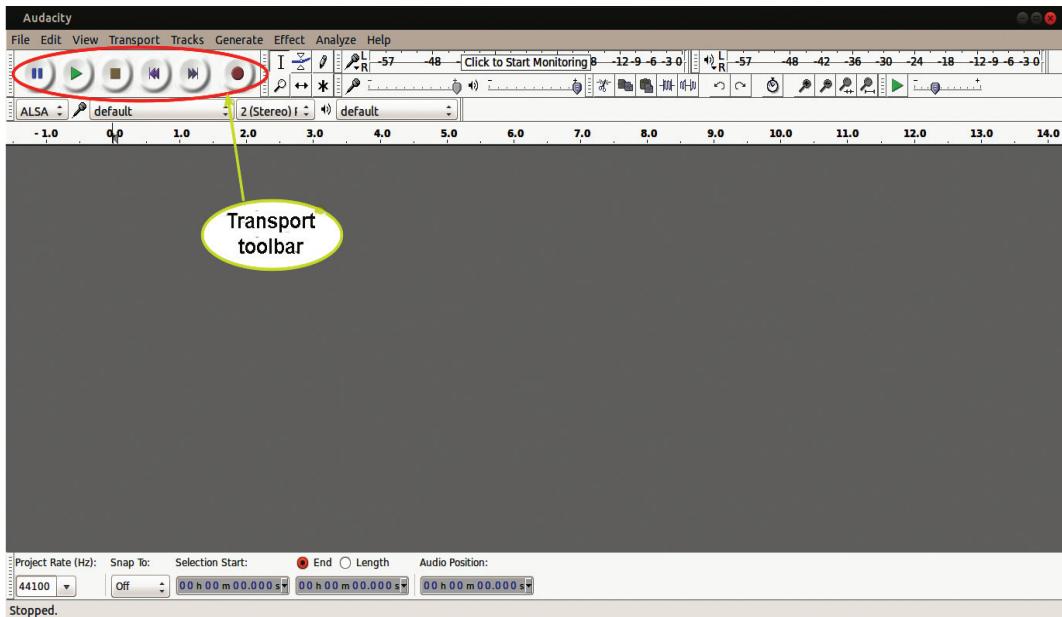
### Activity 4.1

#### Let's record a speech.

Why don't we record the speech delivered by Martin Luther King in our own voice? The highlights of this speech are included in the *Kerala Padavali*. For this,

- ◆ Open *Audacity* from the **Sound & Video** menu.

- ◆ Press the record  button in the window (Figure 4.2).

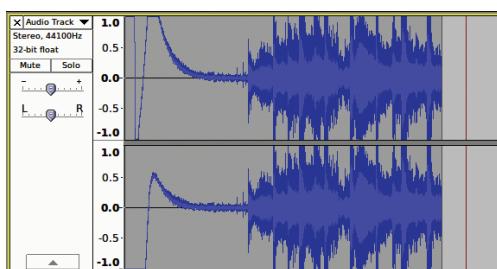


**Figure 4.2 Audacity window**

- ◆ Now we can present a speech titled 'I have a dream'. Take care to present the ideas in a firm voice with proper modulation.

Don't you notice the changes in the *Audacity* window as shown in Figure 4.3. This indicates that the sound recording of our speech is taking place.

- ◆ Once you finish the presentation of the speech you can end the recording by pressing the stop button .



**Figure 4.3 Audacity window at the time of recording**

Now we can save the speech that we recorded in the computer for later use.

### Activity 4.2

#### Let's save the audio

We have already recorded the audio. To save this file

- ◆ Select **Save Project** in the **File** menu.
- ◆ Click **OK** in the window that opens.
- ◆ Type a suitable file name
- ◆ Select the folder where the file is to be saved and press **Save** button.

The file that we saved now is an *Audacity* Project file. It is better to save it as a Project file for bringing about changes and making additions to it.

#### Audacity Project File

*Audacity* Project file has to be opened with the help of *Audacity* Software. It is saved as .aup file.

### Activity 4.3

#### Let's listen to the recording.

Shall we open the recorded file once again? Open the folder and double click on the *Audacity* file. See the recorded file opening in the *Audacity* Software.

Now

- ◆ Press the play button  in *Audacity*.



- ◆ If you want to stop listening , press STOP button .

To play the recorded audio in various gadgets (mobile phones, video players, other computers etc.) we have to save the audio file in the suitable format. MP3 is such an audio format. WAV, MP3 and Ogg are all audio file formats. Using *Audacity*, we can prepare audio files in any format.

### Activity 4.4

#### Let's convert the speech to an audio file

For this, do the following steps.

- ◆ Click **Export Audio** in **File** menu.
- ◆ Type a suitable file name in this window.
- ◆ Select the folder to save the audio file.

Next step is to select the audio format. We can select any format such as WAV, MP3 or Ogg. (Figure 4.4)

- ◆ Select **OggVorbis Files** and press **Save**.
- ◆ Click **OK** in the window that opens.

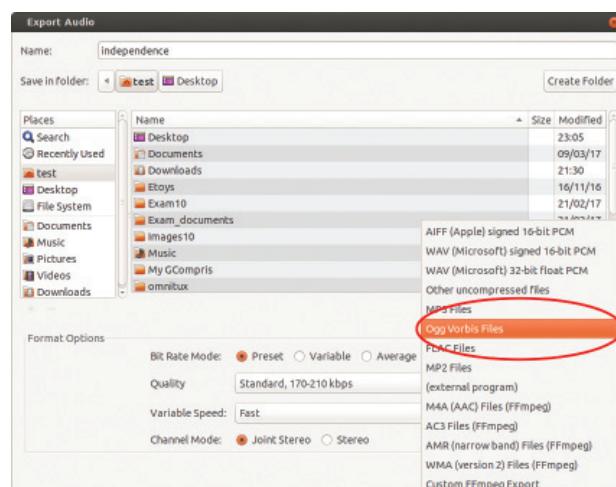


Figure 4.4 Export Audio Window

## Activity 4.5

### Let's listen to our Speech

Play the audio file that has been saved. In which software did the file open? Why didn't the file open in *Audacity* Software?

- ◆ ..... is the software for preparing audio files.
- ◆ ..... is the software for making the audio files function.

### Let's assess



- ◆ Let's record the poem 'Jeevalspandangal' in 'Adisthanapadavali' using *Audacity* Software and save it as a project file.
- ◆ Compose the poem हम सब सुमन एक उपवन के in the Hindi Textbook and record it using *Audacity* Software. Now **export** it as an Ogg file.

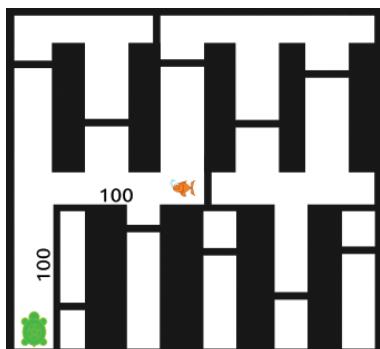
### Extended Activities



- ◆ Record the poem 'To My Mother' in your English Textbook in *Audacity* and **export** it as an MP3 file.



## Chapter 5

**The Tortoise that Draws Pictures**

**Figure 5.1**  
Game to bring the tortoise  
near the fish.

We have all heard about robots. Some robots can be used as toys and others to perform hazardous tasks.

Have you ever thought of how these robots work? They operate in accordance with certain special instructions understood only by such machines.

We have to bring the tortoise in Figure 5.1 near the fish. The tortoise moves only in accordance with the instructions given below.

What instructions shall we give? Fill in the blanks.

### Instructions

- Forward .....unit
- Towards right 90 degree
- Forward .....unit

You have completed the instructions, haven't you?

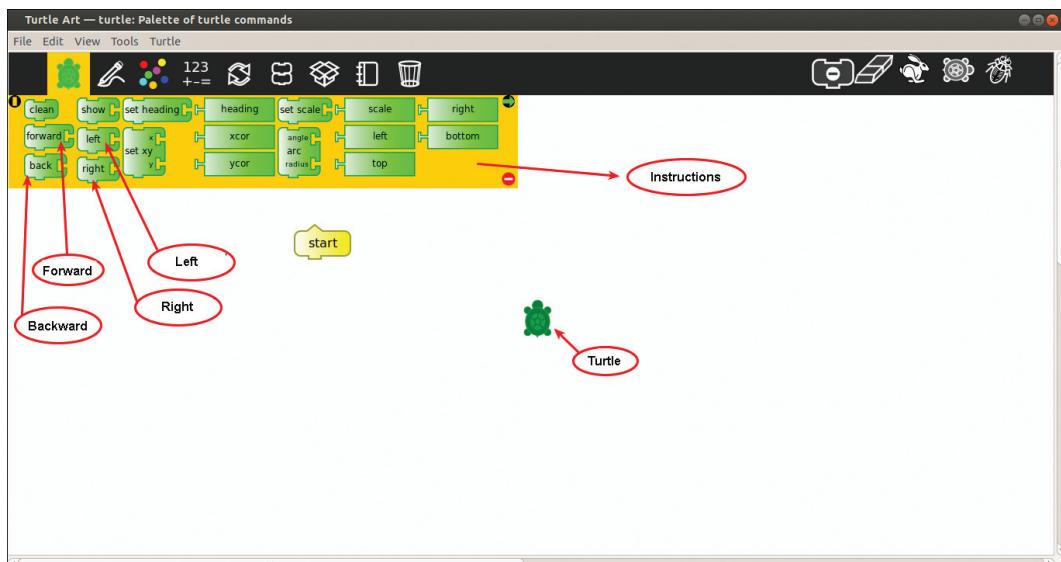
Similarly, let us play another computer game to move the tortoise according to our instructions.

## Activity 5.1

### Let's move the tortoise

For this, let us do the following steps.

- ◆ Open the *TurtleArt* software from the **Education** menu.



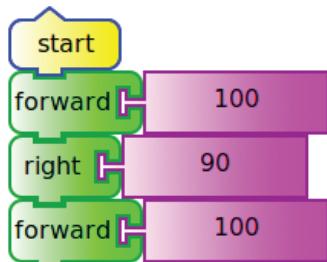
**Figure 5.2 TurtleArt Window**

Did you notice the instructions in the *TurtleArt* window?

With the help of Figure 5.2 find the instructions similar to the ones that we prepared.

- ◆ Have you found the instructions to move the tortoise in *TurtleArt*?

Now arrange them below the **start** button as in figure 5.3 by dragging them using the mouse.



**Figure 5.3 To arrange the instructions in TurtleArt**

*When the tortoise moves, a red line is drawn.*



- ◆ Now click the  button.

Don't you see that the tortoise moves when we apply the instruction? Don't you see a red line formed by the movement of the tortoise?

Shall we make the tortoise draw certain geometric figures which we have learnt, by giving it specific instructions?

### Let's clean the screen



After giving instructions in the *TurtleArt*, we can erase the lines drawn by the turtle and get a new screen using this button.

### Before including new instructions

Before starting a new activity, don't we have to clear the instructions used for the previous activity? We can do it by following the instructions below.

- ◆ Take **New** from the **File** menu. Then a new page will open.
- ◆ Detach the instructions below the  button with the mouse and shift it to the tool area in the top.

Forward 100	<b>Activity 5.2</b>
Right 90	<b>Let us draw a square</b>
.....	Look once again at the line , which was formed when the tortoise moved. How do we give instructions to make these lines a square? Based on the instructions mentioned in activity 5.1, write down the instructions in table 5.1.
.....	
.....	
.....	
Forward 100	

**Table 5.1 Instructions to draw a square.**

The instructions are ready, aren't they?

Now let's give these instructions to the tortoise in *TurtleArt* and see how it works. The file that includes the instructions should be saved, shouldn't it? For that,

- ◆ Select **Save** from **File** menu.
- ◆ Give a suitable file name.
- ◆ Select our folder.
- ◆ Click the **Save** button.

### Making changes to the instructions

We can add desired values to the instructions such as  forward, left, right, etc. Click on the value in the instruction and press the **Backspace** in the keyboard to erase it. Now type in the desired value.

*We can also move the tortoise by using the mouse.*



### Activity 5.3

#### Let us draw a rectangle of specific length and breadth.

We have drawn a square of hundred units length, haven't we?

Then, what are the instructions that we need to make the tortoise draw a rectangle of two hundred units length and hundred units breadth?

After writing the instructions in Table 5.2, give these instructions to the tortoise in the *TurtleArt* software.

Forward 200 unit
Right ____ degree
Forward _____ unit
.....
.....
.....

Figure 5.2 Instructions to draw the rectangle.

Have you seen the tortoise draw the rectangle?

Don't forget to save the file with these instructions, to your folder.

### Let's control speed



We can use the above buttons to regulate the speed at which the tortoise operates the instructions. Try it.

### Activity 5.4

#### Let's make patterns

Write down the instructions necessary for drawing the pattern given below (Figure 5.4) in a notebook. Then include these instructions in the *TurtleArt* software and operate it.

Don't forget to save the file with these instructions.

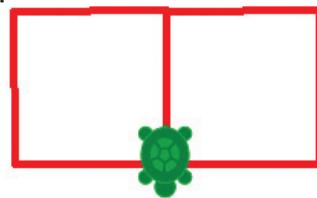


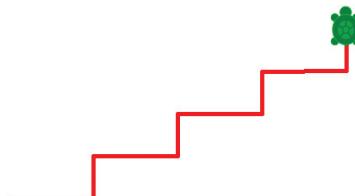
Figure 5.4 TurtleArt pattern

Hints: Prepare instructions to draw a square. Work out these instructions twice.

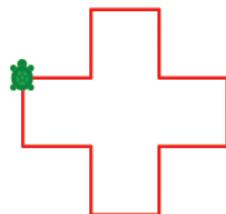
### Let's assess



- ♦ Draw the pattern given below by giving instructions in the *TurtleArt* game



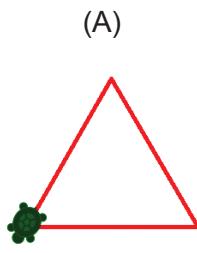
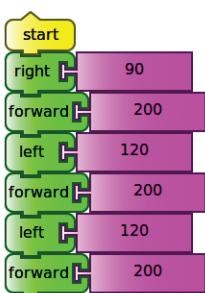
- ◆ Draw the pattern given below by giving instructions in the *TurtleArt* game



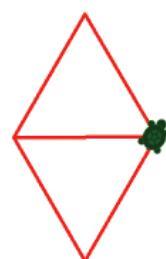
### Extended Activities



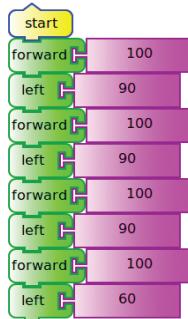
- When the given instructions were used in the *TurtleArt* game we got the shape which is given in (A). In order to get the second shape (B) what are the changes to be made to the instructions?



(B)



- Prepare these instructions in *TurtleArt*, work it out several times and observe the patterns that you get. Practise making similar patterns.



## Chapter 6

# Along the Information Pathways



We all have heard of the Internet. As suggested above, is the Internet just a means for collecting news? What are the other kind of information available on the Internet?

Many of you might have used the Internet, haven't you?

Some services provided on the Internet are given below. What else can you add?

- ◆ Provides news.
- ◆ Shows pictures

## What is the Internet?



Internet is a chain of interconnected computers all around the world. The computers which collect and store information are called **server computers**. In addition to written information we can store pictures, videos, sounds, animations etc., on the Internet. Information stored on the Internet is available in our

computers too if we connect to the Internet.

- ◆ Provides books for reading.
- ◆ .....
- ◆ .....

You may wish to know more about the technology of the Internet.



Adul, we need more pictures. We can't take them from these books, can we?



If we search the Internet, we will find plenty of pictures .



Haven't you heard of Rajaram Mohan Roy, Sir Syed Ahmed Khan, Swami Vivekananda, etc.? They are our Renaissance heroes.

Where can we find more information and pictures about the activities of great men like them? Let's see whether we can collect them from the Internet.

### Information in the Internet

In the Internet, pages containing information are known as web pages. Such web pages are used to create a website. We can view them with the help of browser software. Mozilla Firefox, Google Chrome, etc., are some of the browser software. When we type the website address in the address bar of the browser software and press the Enter key, we are taken to the website.

If we want to visit the website 'Google', type [www.google.co.in](http://www.google.co.in) in the address bar of the browser software. The website address of Yahoo! is <http://in.yahoo.com>.

## Search engines

In addition to websites which collect information there are plenty of websites to search for information on the Internet. Such websites are known as search engines. The box which appears for typing when we open these search engines is known as the search box. The words we type in search box for information are called keywords. Google, Yahoo!, Bing, WebCrawler, etc., are search engines on the Internet.

Websites with information on  
Swami Vivekananda

## Activity 6.1

### Let's collect information

Let's examine how to collect information and pictures of the activities of Swami Vivekananda with the help of the Internet.

We have learned that information on the Internet is stored in various servers.

For connecting this to our computer, a browser software is required. What are the browser software available?

Let's follow the steps given below.

- ◆ Open a browser.
- ◆ Type the web address of any search engine in the address bar and press **Enter** key.
- ◆ Type 'Swami Vivekananda' in the search box. Press **Enter** key.

What happens next? Look at Figure 6.1.

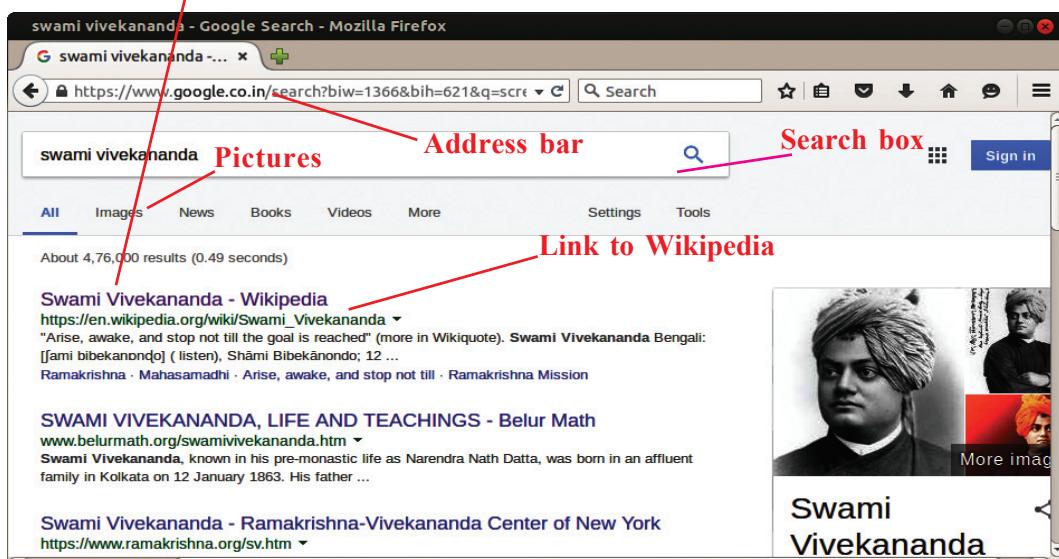


Figure. 6.1 The Google page that opens when we type 'Swami Vivekananda' in the search box.

- ◆ Information on Swami Vivekananda is available on all the websites that are listed below the search box. Let's open the first website. See Figure. 6.2.

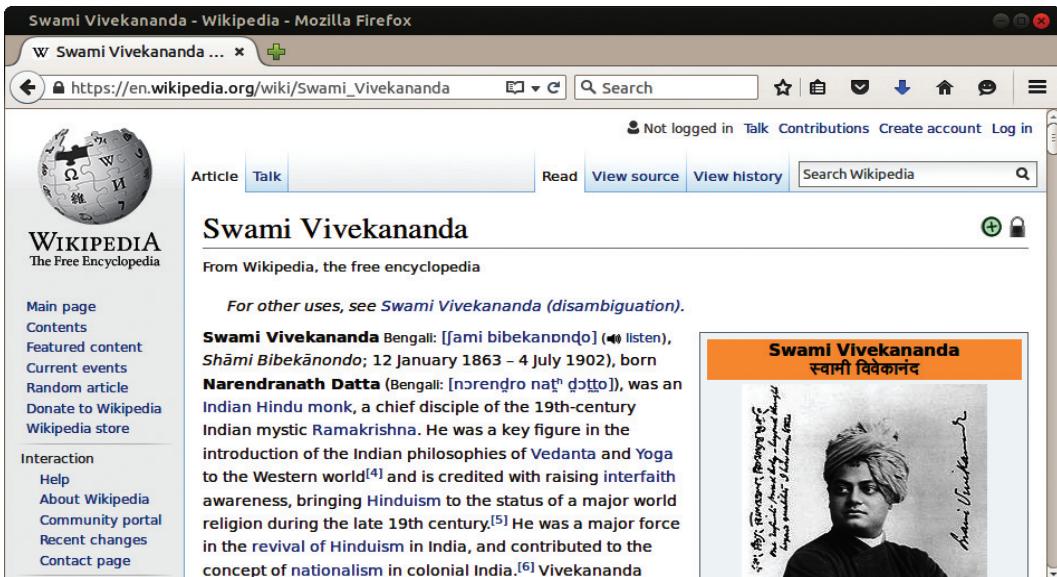


Figure 6.2 Webpage providing information on Swami Vivekananda

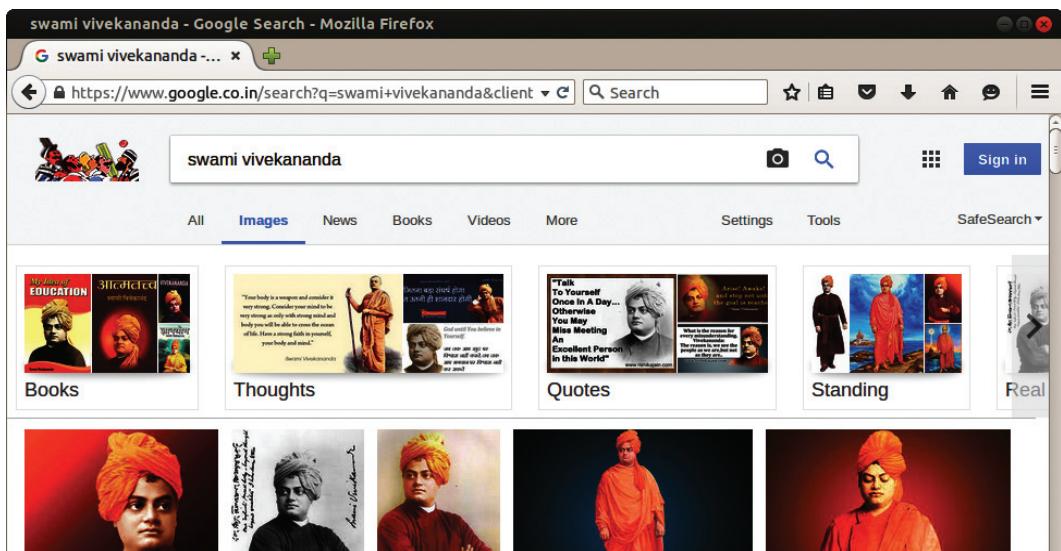
- ◆ Look at the information available on the webpage that opened. We can copy and use what we need from this.
- ◆ If you want to copy the page to your computer, keep the mouse at any position on the page where there are no pictures. Right click the mouse and select **Save Page As**. Give a suitable file name in the window that opens and save it.
- ◆ What if you need pictures? Can you see the link **Images** in the window (Figure 6.1). Click here. What do you see? Look at Figure 6.3.

We can also save the images available on the webpage in our computer. For this,

- ◆ Click on the image you intend to save. Now the Image will be seen in an enlarged size.

### While copying from Internet

All information available on the Internet cannot be copied without permission. Copying certain kinds of information without permission is a crime. So before copying anything, ensure with the help of the teacher that the material is permitted to be copied.



**Figure. 6.3. The Google page that opens when you type Swami Vivekananda in the search box and click the link 'Image'.**

- ◆ Keep the mouse on the image required. Right click and select **Save Image As**.
- ◆ Type a suitable name for the picture in the window that appears and save it.

So you have learned how the Internet can be used to collect information. Now let's get familiar with another use of the Internet.

Usually we use dictionaries to find the meanings and synonyms of words. Is there any provision for this on the Internet? Let's see.

### Activity 6.2

#### Internet dictionary

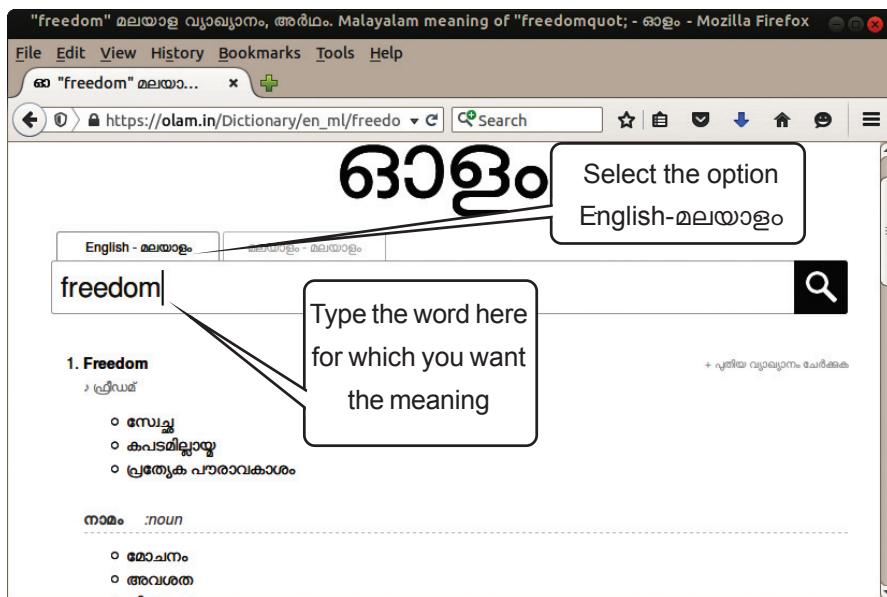
#### Olam

It is an English-Malayalam dictionary available on the Internet. This dictionary is available in the web address <https://olam.in/>

Dictionaries are available on the Internet also. **Olam**, **Wikitionary** are such dictionaries. Let's search the Malayalam equivalent of the word 'freedom' with the help of the website **Olam**. For this let's follow the steps given below.

- ◆ Open browser software. Type <http://olam.in/> in the address bar.

Press **Enter** key.



**Figure 6.4** The homepage of Olam website.  
The word to be translated is to be typed as suggested.

- ◆ Type ‘freedom’ in the search box. Press **Enter**. Note down the information provided , in your notebook. (Figure 6.4)

Now you have learned how the Internet can be used for different purposes.

### Google Translate

Words can be translated using Google Translate. Let’s see how this can be done.

- ◆ Open the browser software. Type <https://translate.google.co.in>. Press **Enter** key.
- ◆ Type ‘freedom’ in the box of window that appears (Figure 6.5). Select Malayalam from the list provided in the tab above on the right side and press **Translate** button. Look! What do you see? Shall we change the language to Hindi?

The language into which it is to be translated can be selected from this list.

**Figure 6.5 Malayalam equivalent for the given English word appears in the output box.**

Suppose we need the English equivalent for a Malayalam word. What changes should be made to this window?

Don't forget to convert the keyboard to Malayalam before typing. Similarly this website can be used for one to one translations from different languages.

We can collect information relating to any field from the Internet. It can be used anywhere at any time and this increases the relevance of this medium.

### Let's assess



- ◆ Save to your computer the webpages available on the Internet with information on Rajaram Mohan Roy and Sir Syed Ahamed Khan.
- ◆ Find out the meaning of the following words from the Internet.
  - monk
  - traditional

### Extended Activities



1. Prepare a document on the Renaissance Heroes of India in the *Word Processor*. Use information collected from the Internet.
2. Collect proverbs in Malayalam from the Internet and prepare a document in the *Word Processor*.



## Chapter 7

**Data Analysis**

**Water level in the dam goes down:  
Load-shedding likely**

Thiruvananthapuram: Load-shedding is likely in the state due to steep fall in water levels in the dams.

In summer water levels in the dams fall. If the production goes down, shouldn't we use electricity judiciously? Activities to help us in this have been given in the chapter 'When Current Flows' in your Science text book.

Manju and Johny decided to undertake a project on the use of electricity and the actions that are needed to control them.

What are the things they should do?

- ◆ Collect the electricity bills from neighbouring houses.
- ◆ List the interferences after examining the monthly electricity bills.



We may have to sit in the dark if electricity is not used judiciously.





- ◆ Find out from the list the average consumption of the households.

- ◆ .....

Accordingly, they decided to collect 3 electricity bills each from their friends' houses. The idea was to analyse the bills and explain the consumption pattern on the basis of the analysis. They also hoped to give some suggestions to reduce the power consumption.

How can the collected bills be tabulated? It will be difficult to draw or write them down in a book or on paper if it is an exceptionally lengthy list. But *LibreOffice Calc*, a spreadsheet software in the system makes it easier.

### Activity 7.1

#### How can we tabulate data?

	A	B	C	D	E
1	Name	March	May	July	
2	Vijay	480	530	440	
3	Pranav	765	620	590	
4	Manju	530	560	590	
5	John	460	440	500	
6	Sarath	1240	1050	840	
7	Haseena	980	860	740	

Figure 7.1 Table of Electricity bills

To do this, click on the *LibreOffice Calc* in the office menu. Arrange the collected data in the appropriate rows and columns. Look at how Manju has recorded the collected information in the spreadsheet. (Fig 7.1) Column 1 has the names of the children, and the subsequent columns 2,3 & 4 show their respective bill amounts for three different months.

### Spreadsheet

Spreadsheet software is used for organization, analysis and storage of data in tabular form. Using a spreadsheet, it is possible to compare tables and to display them in the form of diagrams. *LibreOffice Calc* is one such spreadsheet software available in our computers. *Microsoft Excel (MS Excel)*, *Gnumeric* etc. are also spreadsheet software.

## Libreoffice Calc

Each rectangular space in LibreOffice Calc is known as a cell. Data Entry is done in these cells. (Fig. 7.2)

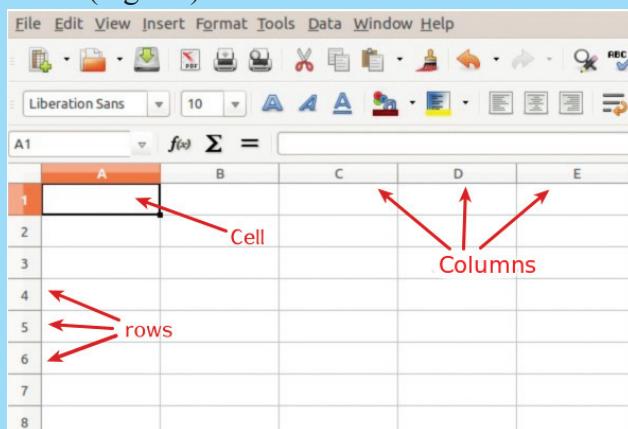


Fig 7.2. Libreoffice Calc windows

What is the formula to find out the average monthly electricity consumption of each family?



With the help of table 7.1 find out the following:

- ◆ Which row records the bill of John's house?  
.....
- ◆ Which column records the bills for July?  
.....
- ◆ Sarath's bill has been recorded in a particular cell. What is the cell address?  
.....
- ◆ What is recorded in the cell marked B7?  
.....

### Activity 7.2

#### Calculating the sum in a spreadsheet

To find the average electricity expense of a household, it is essential to have the sum of all its bills.

### Rows and Columns

The labels A, B,C in the spreadsheet each denote one column . Similarly, 1, 2 & 3 indicate different row. A cell address consists of the column letter and row number. For example, the cell addresses in column A is A1, A2, A3.... and the cells in Row 1 are A1, B1, C1 etc.

To find the average,  
shouldn't we find the  
sum first?



Dividing this by the number of bills, we can obtain the average.

Try out the following steps with the help of Figure 7.3, to find the average.

- ◆ Select the appropriate cell where the sum of the first row is to appear (E2 in the picture).
- ◆ Click on the tool for the sum. Press Enter. You will obtain the sum of the first row now.
- ◆ With the help of the picture, find out the sums of the other rows.

Find out the sums of all the rows. Save this file to your folder.

	A	B	C	D	E	F
1	Name	March	May	July	Total	
2	Vijay	480	530	440	1450	
3	Pranav	765	620	590		
4	Manju	530	560	590		
5	John	460	440	500		
6	Sarath	1240	1050	840		
7	Haseena	980	860	740		

The screenshot shows a LibreOffice Calc spreadsheet titled "Untitled 1 - LibreOffice Calc". The formula bar at the top shows the formula `=SUM(B2:D2)`. A red arrow points from the formula bar to the cell E2, which contains the value 1450. Another red arrow points from the cell E2 down to the cell E3, indicating that the formula can be copied down to calculate the sum for other rows. A callout box on the right provides instructions: "To see the sums of other rows click here and drag it down. Don't forget to select only the cell that contains the sum."

**Fig. 7.3 Tool in Libreoffice Calc to calculate the sum.**

### Activity 7.3

#### Using spreadsheet to find the average.

Now let's see how the average bill amount can be derived. Try the following steps.

- ◆ Select the cell meant for the average of the first row.
- ◆ Type out the formula ( $=E2/3$ ). Press Enter. (Fig. 7.4). Don't forget to type the equal sign!

Name	March	May	July	Total	Average
Vijay	480	530	440	1450	=E2/3
Pranav	765	620	590	1975	
Manju	530	560	590	1680	
John	460	440	500	1400	
Sarath	1240	1050	840	3130	
Haseena	980	860	740	2580	

**Fig 7.4 Table showing the formula for finding the average.**

As in Activity 7.2 it will be possible to drag and find the average of the rows.

*Libreoffice Calc* offers the facility to display the data in different types of graphs. Let's now prepare a graph based on the electricity bills of our friends for the month of March.

#### Activity 7.4

#### Adding graphs

Do the following activities to include graphs in *LibreOffice Calc*.

- ◆ At least two kinds of information are required to draw a graph. Here, what is to be recorded in the graph are (i) the names of the children and (ii) their respective bill amounts for the month of March. Let's select these two columns simultaneously (Figure 7.5).
- ◆ Select **Chart** from the **Insert** menu.
- ◆ A new window opens. Select the appropriate

#### Equation can be used in calc

When equations are included in *Libreoffice Calc*, cell addresses are used instead of the numbers in the cell. For example, = E2/3 only needs to be typed instead of dividing the sum of cell E2 by 3.

Comparison becomes easier when facts can be displayed as pictures

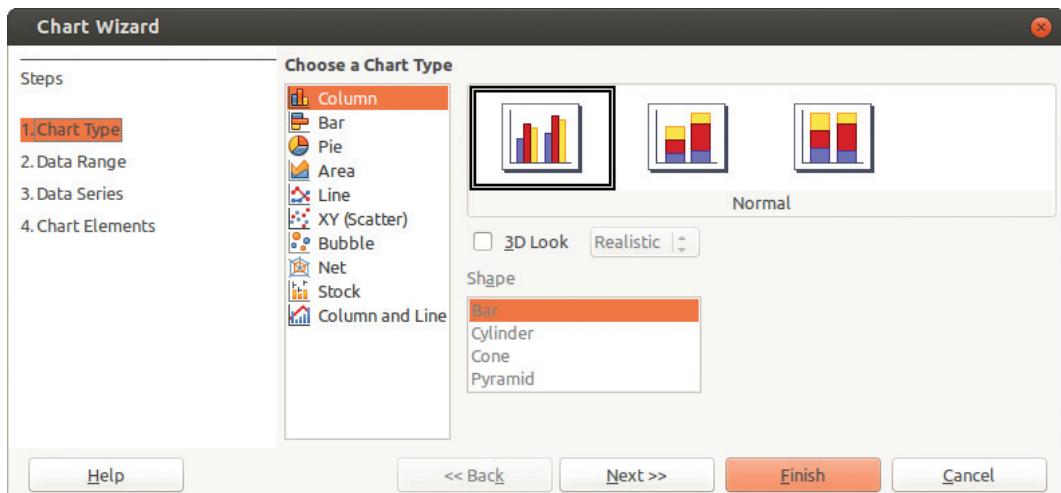


Name	March	May	July	Total	Average
Vijay	480	530	440	1450	483.33333
Pranav	765	620	590	1975	658.33333
Manju	530	560	590	1680	560
John	460	440	500	1400	466.66667
Sarath	1240	1050	840	3130	1043.3333
Haseena	980	860	740	2580	860

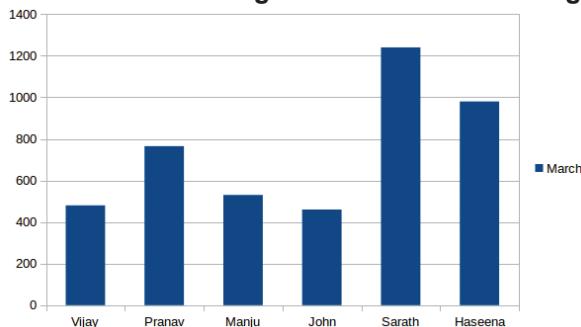
**Figure 7.5 Selection of cells**

columns and click on the **Finish** button (Fig. 7.6, 7.7)

- ◆ Save the file to our folder.



**Figure 7.6 Window showing the chart selection**



**Figure 7.7 Chart included in Calc**

### Different types of Graphs

Calc facilitates the display of data in different types of graphs like column diagram, bar diagram and pie diagram. Column and Bar are bar diagrams that are vertical and horizontal respectively. Pie diagram presents data in circular format.

### Selecting cells

To select the cells for graphs, etc, click on the first cell, and press the **shift** button and select the last cell. For selecting different columns, select the first column, keep pressing the **control** button and select the next column.

Select the names of children and their bill amounts for the three months and create the graphs. Compare this with the graph prepared earlier, to observe its special features.

These are many more tools available in the spreadsheet to analyse data . You will study them in higher classes.

**Let's assess**

- Given below is the take of the quantity of the food produced in India over a period of time. Prepare a column graph of the information using *LibreOffice Calc*.

Period	Production(Tonne)
1970-71	108.4
1990-91	176.4
2000-01	196.8
2010-11	257.4

- Using *LibreOffice Calc*, prepare a table as shown below, indicating the number of children and the various modes of transport used by them to come to school.

Mode of Conveyance	Cycle	School Bus	By Foot	Line Bus
Number of Students	...	...	...	...

Draw a column diagram based on this table.

- Scores obtained by students in four class tests are given below. Prepare a table and calculate the average score using *LibreOffice Calc*.

SI No	Name	English	Hindi	Science	Maths
1	Vipin	78	87	48	62
2	Asha	38	56	72	49
3	Hiba	55	67	73	59
4	Lakshmi	83	44	52	77
5	James	50	66	68	59

**Extended Activities**

- Reproduced below is a table from the chapter “Pie Charts” in your mathematics textbook. Type this out in *LibreOffice Calc* and draw a pie diagram based on it.

Name of Club	No of Members
Maths Club	30
Science Club	20
Social Science Club	25
Vidyarangam	15
English Club	10

- ◆ Your Basic Science textbook has a table indicating the quantity of various components of the atmosphere. Represent the table in *LibreOffice Calc* and prepare a pie diagram.

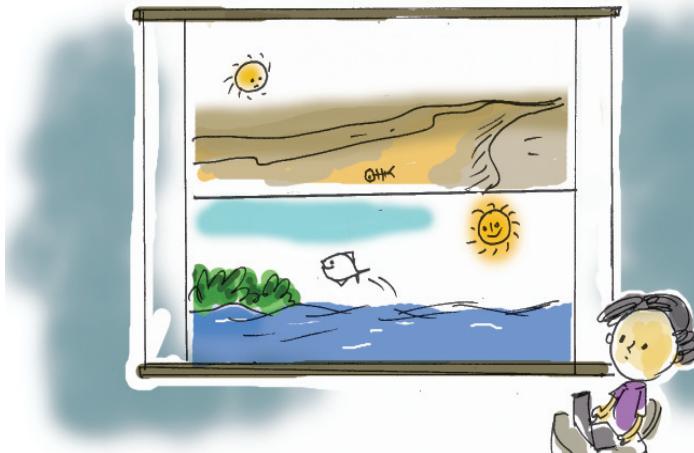
Nitrogen	78 %
Oxygen	20.9 %
Carbon Dioxide	0.03 %
Others	1.07 %

- ◆ Gather information from the internet on the amount of rainfall received in Kerala over the last four years. Prepare a table of the same using *LibreOffice Calc*. Draw a column graph based on this and analyse the data.
- ◆ The chapter “For a Pollution Free Nature” in your Basic Science textbook has a table showing the distribution of water bodies on the earth. Prepare the table in *LibreOffice Calc* and draw a pie diagram based on it.



## Chapter 8

# Let's Make our Presentations Impressive



“**ഇനിവരുണ്ടായും തലമുറയ്ക്ക്  
ഇവിടെ വാസം സാധ്യമോ,  
മലിനമായ ജലാശയം  
അതിമലിനമായെങ്കിലും”**

- Inchakkad Balachandran

Water is essential for our existence. But water pollution has become a very crucial issue now-a-days. The chapter ‘For a Pollution Free Nature’ in your Basic Science textbook had taught you how important it is to conserve water resources.

Appu and Annie are preparing to conduct an awareness talk on “**Conservation of Water Resources**”.

They have collected relevant information from periodicals, books and the Internet. How to give a beautiful presentation using all this information is the uppermost thought in their minds.

How can they make the awareness class appealing?



- ◆ Charts depicting the relevant information can be prepared
- ◆ Pictures can be displayed.
- ◆ .....
- ◆ .....

What about exploring the possibilities of ICT to make the presentation more effective? Haven't you noticed the special features of news presentation on television channels? What are the benefits of this?

- ◆ Images can be shown along with the presentation.
- ◆ News can be shown in written format.
- ◆ .....
- ◆ .....

Will it be possible to display facts and pictures simultaneously during the awareness class ? Many software solutions are now available that can facilitate this. *LibreOffice Impress* in our computer is one such software.

**Presentation Software**  
LibreOffice Impress, Calligra Stage, MagicPoint, Microsoft PowerPoint are examples of presentation software.

What are the preparation to be done to make a presentation in the computer?

List the steps.

- ◆ Arranging the information to be presented in logical order.
- ◆ Deciding on the positions of the pictures.
- ◆ .....
- ◆ .....

Prepare a sequence of the presentation based on the points discussed.

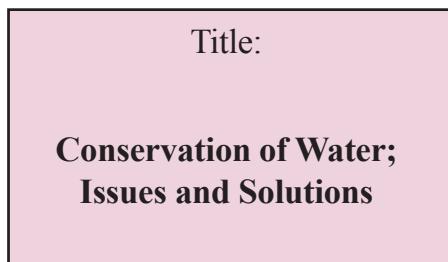
### Activity 8.1

#### Preparation of slides and their sequence

What should be presented first?

What should be the heading? What other things should be included?

Let's list the information in the format given below:



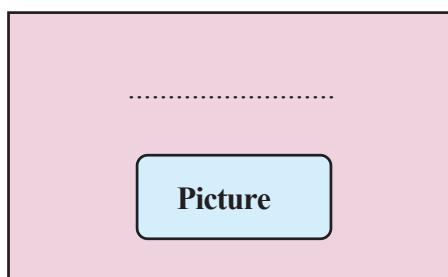
Font : Rachana.

Font Size : 48

Font Color : Red

Background colour: Sky blue

This is one of the slides of the presentation. Now decide on what else should be included .



Font : .....

Font Size : .....

Font Color : .....

Position of the picture : .....

Background colour: Sky blue

Prepare an outline of all the required slides in a similar way. This graphic outline organiser is called the storyboard. The storyboard contains the details to be included in each slide. Let's see how we can prepare a presentation in our computer into a story board.

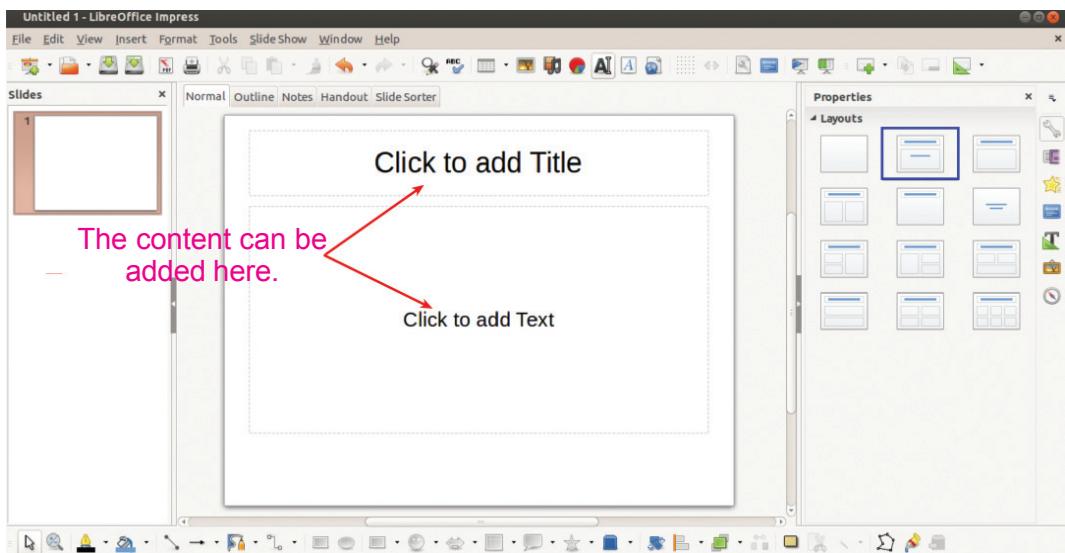
### Activity 8.2

#### Adding the content

Open the *LibreOffice Impress* from the Office menu. Content is to be added to the window that opens (Fig 8.1).

#### Slide

Content is organized in pages known as slides in the presentation software. A slide will have all the details that are to appear on the screen at one time.



**Fig 8.1 LibreOffice Impress Window**

Try the following steps:

- ◆ Click on ‘**Click to add title**’. Type the heading.
- ◆ Click on ‘**Click to add text**’. Type other details.

### Slide layout

Models of several pre - designed slides are available in slide layout.

We have now added the contents to the first slide. Let’s now make it more attractive by working on the font and size of the letters used in the title.

### Activity 8.3

#### Making the letters attractive

How can we do this?

Click on the text added to the slide. A window will appear on the right now. This enables us to change the size of the letters. (Fig 8.2)

- ◆ Click on the **FontName** box. Select the required font.

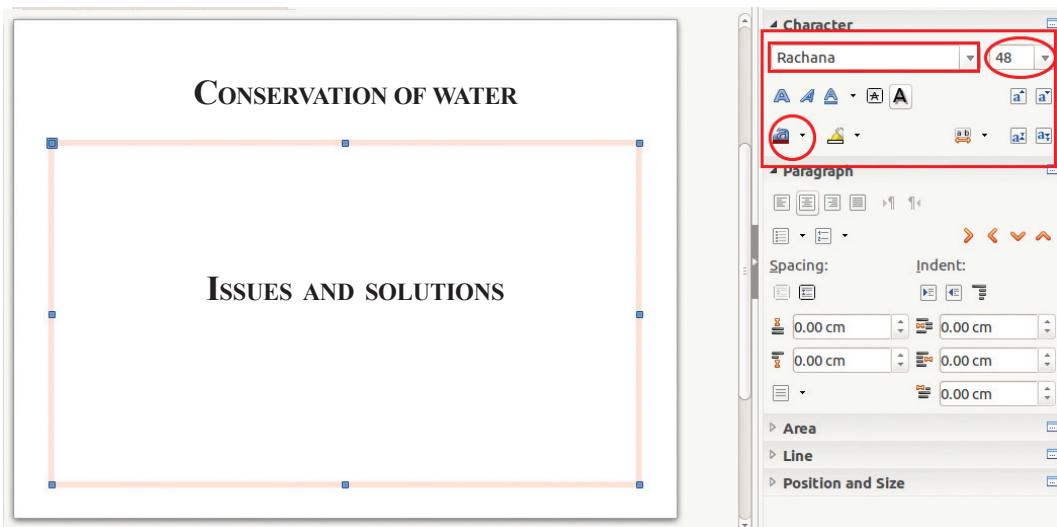


Figure 8.2 To change the font of the letters

- ◆ Similarly click on the icon for changing the size of the letters. Select the required size.
- ◆ Click on the font colour tool A window opens. Select the appropriate colour from this.

After completing the first slide, we can add a new one. For this click on the tool in the tool bar, as shown in Fig 8.3. This tool enables us to add a new slide. A new slide will open now. Shall we add a picture and related details to this slide? Won't it make the presentation more effective?

#### Activity 8.4

#### Adding pictures to the slide makes it more attractive.

Hope you remember how we included pictures using LibreOffice Writer. Pictures can be added in the same way in Impress as well.

Let's do the following.

Choose a layout appropriate for each slide's content, won't you?

Fig 8.3  
Tool to add a new slide.



**Fig 8.4**  
Tool for adding pictures

## Organizing pictures

Did the words on the slide disappear when you included the picture in it? Don't worry! Click on the left button of the picture. In the window that opens click **Arrange → Send to back**. Your problem is solved now!

- ◆ Click on the **Image Tool** in the menu box. (Fig 8.4)
- ◆ A window opens. Select the required picture from the picture folder with the help of this window. Click '**Open**'.
- ◆ Change the size of the picture to suit your requirement. Arrange it in its specific position.

Don't forget to save the file to your folder after giving it a suitable name.

Let's now give a suitable background colour to our slides.

### Activity 8.5

#### Make the background beautiful

We can give appropriate background colour to the slides with the help of the instructions in the figures given below.



**Fig 8.5** Page setup window

- ◆ Select '**Page**' from Format Menu.
- ◆ A window opens. Click on '**Background**' in it (Fig 8.5). Select '**color**' from among the options. This appears in the list seen below '**Fill**'.
- ◆ Select the suitable colour. Click '**OK**' (Fig 8.6).
- ◆ Click '**Yes**' on the window that opens. All the slides will now have the same background colour.

You will be able to observe the changes if you click on '**No**'.

How will we show these slides in the proper sequence during our presentation?



**Fig 8.6** Page settings

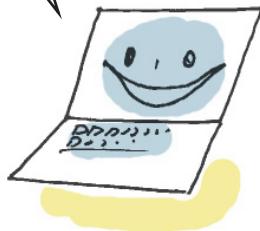
Let's do the following.

### Activity 8.6

#### Presentation

- ◆ Open the file that contains the prepared slides.
- ◆ Click on ‘Start from First Slide’ in the ‘Slide Show’ menu. Don’t you see the first slide now? Doesn’t it look enlarged? Press the Enter key to display the slides one after the other.

All the slides can be done with the help of the story board .



You can now proceed to make an impressive presentation after connecting the projector to the computer. The teacher will help you.

#### Let's assess



1. Vidyarangam KalasahityaVedi is organizing a function commemorating O N V Kurup. You have to present a brief biography of the poet on this occasion. Prepare a presentation for this .
2. You have to introduce your school, in four slides. Prepare a presentation in LibreOffice Impress titled “EnteVidyalayam” (My School)

#### Extended Activities



1. There is an assignment in your Social Studies textbook, asking you to organize a seminar as part of the extended activity on ‘**Towards a New Kerala Society**’ Collect relevant information from the Internet and prepare a presentation for the seminar.
2. Prepare a presentation on all the activities in your school. Present it during *Mikavulsavam*.

