Post Graduate Course in Reflective Teaching with ICT

C01 Introduction to ICT in Education

Teacher Coursebook

ICT in Education

4 Credits

TPD

CLI

CONNECTED LEARNING INITIATIVE

The **Connected Learning Initiative (CLIx)** is a technology enabled initiative at scale for high school students. The initiative was seeded by Tata Trusts, Mumbai and is led by Tata Institute of Social Sciences, Mumbai and Massachusetts Institute of Technology, Cambridge, MA USA. CLIx offers a scalable and sustainable model of open education, to meet the educational needs of students and teachers. The initiative has won UNESCO's prestigious 2017 King Hamad Bin Isa Al-Khalifa Prize, for the Use of Information and Communication Technology (ICT) in the field of Education.

CLIx incorporates thoughtful pedagogical design and leverages contemporary technology and online capabilities. Resources for students are in the areas of Mathematics, Sciences, Communicative English and Digital Literacy, designed to be interactive, foster collaboration and integrate values and 21st century skills. These are being offered to students of government secondary schools in Chhattisgarh, Mizoram, Rajasthan and Telangana in their regional languages and also released as Open Educational Resources (OERs).

Teacher Professional Development is available through professional communities of practice and the blended Post Graduate Certificate in Reflective Teaching with ICT. Through research and collaborations, CLIx seeks to nurture a vibrant ecosystem of partnerships and innovation to improve schooling for underserved communities.

Collaborators:
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Post Graduate Course in Reflective Teaching with ICT

C01 Introduction to ICT in Education

Teacher Coursebook

This coursebook belongs to :

Name: ....

Class :...

Section:...

Table of Contents

Module : Invitation to CLIx

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Special Thanks to the students and teachers of all the schools where we piloted our modules.

Unit 1   Introduction and Indic Typing

In this module you will be introduced to the course platform and its features. The various activities in this module will also provide you contexts for typing practice.

Lesson 1.1   Introduction

Group Members: Date: Time:

Activity 1

Making Time

This activity introduces you to the basics of a computer. In this activity you will learn how to navigate the CLIx platform to access and work on the i2c activities and become familiar with the keyboard and use of the mouse.

Homework

What is a computer? Think about this and write down your ideas in your notebook.

Checkpoints

- Note the address of the course platform present in the location bar of the browser, in your notebook.
- Note the username and password that is given to you in your notebook. You will require this information to login again in the next session.
- Use a mouse to click on a button or link on the screen. Clicking the mouse, causes the computer to do different actions. A mouse has a left-click button and right-click button that can be used to do different actions.
- The keyboard is like a typewriter, it has keys labelled with English alphabets and numbers. It also has keys with different symbols like * & % called special characters and some editing keys like Enter and Backspace.

Glossary

Browser: A computer programme that helps opens websites and other files.
Platform: A place for all interactions for the i2C course.
Username: A name by which the computer or a website will identify you.
Password: A secret word that will allow you to login to a computer or a website.
Help Pages: These are special pages in which there is help for you to do specific tasks.

Blog Time

Entries in your computer notebook should include these points:
- What are the different features /pages you see on the platform? What activities can you do with these?
- How do you tell the computer to open the course platform?

For Notes and Rough Work

Lesson 1.2   Writing a story

Group Members: Date: Time:

Activity 1

Making Time

In this activity we learn to create a story in collaboration. Our teacher will start the story by typing the first sentence of the story. The first group will write the next sentence which is related to the sentence written by the teacher. The second group wiltl write after the first group, till all the groups have written one sentence each. We will continue this till each group has written at least 5 sentences. At the end of the class we will have a story which is written collaboratively by the entire class!

Checkpoints

- We can Reply to a question by clicking on Reply button.
- We can Add text formatting like bold, italics, underline using the text editor.
- We can Reply to the story in English or Mizo.
- The reply that we write should (a) have only one sentence (b) connect to the previous sentence (c) be meaningful to our friends.
- Write down our response first in your paper notebook and then type it on the computer.

Glossary

Comment: A text message given by us on the platform using the Comment button.
Computer Notebook: A place on the course platform where we write down the work that we have done. Computer Notebooks are also called as blogs. You can see them in the Note Book section on the platform.
Post: We can Post a message posted on the course platform as a response to an activity by using the Post button.
Reply: We can give a response to a comment, post, page or a file by using the Reply button.
Tags: We can add Tags to the blogs we make and files we upload on the platform. Tags help us in finding and organise our work on the platform effectively.

Blog Time

Entries in your computer notebook should include these points:
- What have you learned so far?
- What did you do in this activity?
- What do you think are the advantages and disadvantages of working collaboratively?
- Do you know why we are using a nickname instead of your real name?

For Notes and Rough Work

Lesson 1.3 Describing an image

Group Members: Date: Time:

Activity 1

Making Time

In this activity we look at a photograph and tell what we feel after looking at it. We will have to suggest a title or a name for the image. Thus we write a story about the photo.

Checkpoints

- Look at the photo and discuss with our group members what we want to write in the story.
- We use the Reply button to answer in the activity.
- We make any changes to the posted story, by using the Reply button to post the changes.
- We look for any replies by others on our posts by seeing the notifications.

Glossary

Text Editor: A place in the platform where we can type text. The text editor allows us to add formatting to the text, create lists and tables, add images.

Text Format: The text in the Text Editor can be changed to make it more readable. This can be done by adding sections, changing the text style (bold, italics) in the text editor.

Notification: The information that we receive when someone has given a response to our work on the course platform.

Quiz Items: The Quiz Items are small questions on the course platform at the end of each session. The quiz helps us to know how we are learning.

Blog Time

Entries in your computer notebook should include these points:
- What does the photograph show?
- What is the subject of the photograph? Where do you think the photo was taken?
- What did you like or dislike in the photo?

Feedback Time

Use these pointers to give feedback to your friends
- Look at the description of the photo made by your friends. Write down two questions that we want to ask about their work.

For Notes and Rough Work

Lesson 1.4   Questioning and answering

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will read a paragraph and ask questions based on this paragraph. We will have to create at least five questions. The questions that we create will be given as an exercise to our friends, in turn we will have to answer the questions that they ask.

Checkpoints

- We can ask the questions by using the Comment button.
- We answer the questions asked by using the Reply button.
- For each question that we ask, we respond via the Reply button separately for each question.

Glossary

Numbered List: We can create a list whose items are numbered like 1, 2, 3 ...using this Numbered List function in the text editor.

Bulleted List: We can create a list whose items are points using this Bulleted List function in the text editor.

Filters: We can change how the files in the gallery are shown by using various options in the Filters. Filters help us in searching through the gallery files.

Copy, Paste: We can Copy a part of text by selecting it and pressing Control+C. To Paste the copied part of the text we press Control+V.

Blog Time

Entries in your computer notebook should include these points:

- The questions you have created.

- Were your questions, answered by your friends?

- Could you answer the questions that were asked to you?

Feedback Time

Use these pointers to give feedback to our friends

- Write the comments that you want to give to your friends on their work.

For Notes and Rough Work

Unit 2   Analysing with Spreadsheets

Data collection, handling and analysis are an essential skills required for doing science. In this module we will learn to use various features of the spreadsheet tool to enter, tabulate and analyse data.

Lesson 2.1   Introduction to spreadsheets

Group Members: Date: Time:

Activity 1

Making Time

In this activity, we are going to look at a bill for purchase. We enter this bill into a spread- sheet. After entering the data in the spreadsheet we explore various features to get additions of the bill.

Checkpoints

- The name of the files created by Calc ends with .ods.
- Each cell has a unique number, cell number of selected cell is displayed at the top left corner.
- You can select multiple cells, columns and rows by clicking with keeping Control button pressed.
- Save your file every few minutes, short-cut for saving file is Control+S.
- We use cell numbers to find average and sums.

Glossary

Spreadsheet: A Spreadsheet is a computer application that helps us to enter, tabulate, view and analyse data in form of tables.

Data Table: An arrangement of data in form of a table. A Data Table has information about its contents.

File Upload: The action of submitting a file from the computer to the course platform. We upload files from the gallery or text editor.

Gallery: The course Gallery is a place where we can see all the files uploaded by us and our friends.

Blog Time

Entries in your computer notebook should include these points:

- The different functions of the spreadsheet that you used in this activity.
- How did you decide upon how you want to make tables from your data?
- The questions you have asked from the tables.
- Links to the spreadsheet (.ods) files you have uploaded to course gallery.

For Notes and Rough Work

Lesson 2.2   Creating a marksheet

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will tabulate and create a marksheet which will calculate total marks, percentage. Our spreadsheet should also tell if the class the student has obtained. For this we will use conditional and binary operations.

Checkpoints

- You can apply a formula to a cell by entering "=" sign at the beginning.

- Basic arithmetic operations (+, -, × and ÷) can be used directly in formula.

- Make sure that you input the correct cell address for entering into the formula.

- Think through the formula before using it, if your formula logic is incorrect it will give incorrect results.

Glossary

Operator: An Operator is an action which operates on the content of a cell. An operator can act on the content of the cell which gives us the required result.

Conditional Operator: Operators which check the content of cell for a particular condition are called as Conditional Operators. Then include operators like IF, THEN, ELSEIF etc.

Conditional Formatting: Conditional Formatting can change the formatting of the content of the cell like font, colour etc. depending on the content of the cell.

Blog Time

Entries in your computer notebook should include these points:
- The different functions of the spreadsheet that you used in this activity.

- New things that you have learned.

- Links to the spreadsheet (.ods) files you have uploaded to course gallery.

Feedback Time

Use these pointers to give feedback to our friends
- Write down two questions that you want to ask your friends on their work in this activity.

- How can they can improve on their work.
- Do not forget to add rating to your friend's work.

For Notes and Rough Work

- How can they can improve on their work.
- Do not forget to add rating to your friend's work.

Lesson 2.3   Analysing a T20 match 1

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will tabulate and handle raw data from a T20 cricket match. You will learn to use various functions of the spreadsheet to tabulate the raw data in a format that is easy for saving, viewing and for further analysis.

Checkpoints

- We can format the text entries in the spreadsheet for bold, colour, background colour.
- We can adjust the width of rows and columns by double clicking or moving the border of row or column header.
- We can add extra rows or columns to existing ones by right clicking on the selected row and choosing the required option.
- We can use the freeze function to fix rows above the selected row.

Glossary

Rows: In a spreadsheet the data is stored in a tabular form with in vertical and horizontal entries. The Rows are the horizontal entries in a table. Each row has a unique name, usually a number.

Columns: In a spreadsheet the data is stored in a tabular form with. The Columns are the vertical entries in a table. Each column has a unique name, usually letters of alphabet.

Cell: A Cell in spreadsheet is a location where information is stored. The address of a cell is determined by the intersection of rows and columns. A cell can be selected by clicking on the cell.

Data Type: A cell can store different types of data types like text, numbers, date, time etc. One cell can have only one Data Type.

Functions: Functions in spreadsheet are specially defined instructions which do a specific task on the selected set of cells.

Blog Time

Entries in your computer notebook should include these points:
- The different functions of the spreadsheet that you used in this activity.
- How did you decide upon how you want to make tables from your data?
- Were the questions that you had asked, answered by your friends?
- The questions you have asked.
- Links to the spreadsheet (.ods) files you have uploaded to course gallery.

Feedback Time

Use these pointers to give feedback to our friends
- Write down two questions that you want to ask your friends on their work in this activity.
- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Lesson 2.4   Analysing A T20 Match 2

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will analyse the tabulated data from the last activity. For this we will use the graphing tools in the spreadsheet. These tools will draw graphs from the data that we select. The graphs will allow us to ask and answer various questions related to the match.

Homework

The data to be used should be tabulated and ready from the previous activity.

Checkpoints

- The same data can be represented in many ways.
- We select the row or column containing data to plot it
- We can also add labels, title and legend to our graph after we have plotted it
- We export the graphs as images using the Export function

Glossary

Graph: A graphical representation of information using different symbols like bars in bar graph. In spreadsheets one can draw Graph by selecting the required rows or columns.

Table: A Table is an arrangement of information in columns and rows.

Formula: A particular cell can store results of calculations from other cells. This can be done by defining a Formula in that cell.   A formula can be entered in a cell by typing = followed by the function.

Sum and Average: The Sum function provides the addition of the numbers in the selected cells. The average function provides the Average of the numbers in the selected cells. The cell contents should be numbers to use these functions.

Blog Time

Entries in your computer notebook should include these points:
- The different spreadsheet functions that you have used in this activity.
- The graphs (.png) you have uploaded to the course gallery.
- What are the different graphs that you have plotted? Write down the title of the graph and the variables on the X and Y axes.
- Based on the graphs, write questions that you could ask and also answer.
- Links to the spreadsheet (.ods) files you have uploaded to course gallery.
- A newspaper report based on the match scores.

Feedback Time

Use these pointers to give feedback to our friends
- What did you like in the newspaper report that your friends have written.

- Any questions that the newspaper report could not answer?
- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Lesson 2.5   Let us investigate birthdays

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will collect data from our classroom and analyse for any patterns or trends. Our teacher will ask you to enter your birthdays in a table. Record the data from all of our class and enter it into a spreadsheet. Plot a graph from this data which will show months and number of births in that month. Export the graph to an image. Think about what different questions that you can ask and answer with this data.

Checkpoints

• We can use Auto-Complete function to add months in the spreadsheet.
• We can use the SUM function to get sum of the entries of birth dates in a month.
• We use different columns for birth dates of boys and girls.

Glossary

Auto Complete: The function in spreadsheet in which a particular series is completed automatically. This is useful in creating lists in a given order, for example, 1,2,3,4,5.
Multi Column Graphs: Graphs in which data from more than one column from the spreadsheet is plotted.
Select: We can Select contents of a row or column by keeping Shift key pressed and moving the cursor with arrow keys.
Export: We can Export the graph into a picture by using export function.

Blog Time

Entries in your computer notebook should include these points:
• The functions that we used in this activity.
• Any patterns in the graphs that you have plotted.
• The different graphs that we plotted. Write down what is on the X and Y axis for each graph.
• The graphs (.png) you have uploaded to the course gallery.
• The questions that you asked based on the graphs.
• Links to the spreadsheet (.ods) files you have uploaded to course gallery.

Feedback Time

Use these pointers to give feedback to our friends
• Answer the questions that your friends have asked.
• Do not forget to add rating to your friend's work.

For Observations and Notes

Months	Birthdays	Months	Birthdays
January February March April May June		July August September October November December	

Lesson 2.6   What can you fit in a matchbox?

Group Members: Date: Time:

Activity 1

Making Time

In this activity we have to do a homework task as told to us by the teacher. Enter the observations from our table into a spreadsheet. Sort the data in increasing order. Plot a graph of objects versus the number of objects.

Homework

(1) Take an empty match box. Fill the matchbox with as many objects as possible of one kind. Try to cover all the space in the box.

(2) Note the number of objects in matchbox in this book.

(3) Repeat Steps 1 and 2 again with the different set of same object. For example, if you had chosen rice grains, repeat Step 1 with different set of rice grains. Note all the readings in the table provided in the this Handbook.

(4) Repeat Steps 1 and 2 for at least 8 different objects. Use the same matchbox for all the observations.

Checkpoints

• We can use sort function to sort the data entered in a column.
• We have to select the data to plot the bar graph.
• We the Export function to save the graph as an image.

Glossary

Sorting: The process of arranging a list in a given order. The Sorting can be done in increasing or decreasing order.

Packing: The process of filling a given space with maximum number of objects.

Data: Information and facts collected together for reference or analysis.

Collecting Data: The process of getting and storing information by doing observations and experiments or using references.

Blog Time

Entries in your computer notebook should include these points:
• List of the objects you choose to put in the matchbox.
• Why did you choose these objects?

- Which object had maximum number inside the matchbox?
- Which object had minimum number inside the matchbox?
- The spreadsheet functions that you used in this activity.
- The graphs (.png) you have uploaded to the course gallery.
- Questions that you asked based on the graphs
- Links to the spreadsheet (.ods) files you have uploaded to course gallery.

For Observations and Notes

Objects	Number of objects	Objects	Number of objects

Unit 3   Drawing with Inkscape

In this module we learn to design and draw using a vector graphics application named Inkscape.

Lesson 3.1   Making a book label

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will learn to make notebook labels that we use on our school using Inkscape. We learn to use various tools in Inkscape for creating various kinds of labels. We will also see variety of labels created by our friends on the course platform.

Checkpoints

The name of the files created by Inkscape end with ``.svg".
- Save the file with our username and activity number.
- Save the file every few minutes by pressing Ctrl + S.
- To colour an object select the object and click on colour palette.
- To move the object we need to select the object using Select tool.

Glossary

Object: An Object in Inkscape is anything that you create on the canvas. All the objects have properties which can be changed.
Select Tool: The Select Tool in Inkscape selects the object and allows to move, scale and rotate the selected object. To select an object, click on the Select tool, and then click on the object.
Text Tool: The Text Tool is used to add text material to the drawing. To type text, click on the text tool and then click where you want to type the text.
Basic Shapes: The Basic Shapes in Inkscape are Rectangle, Ellipse, Stars and Polygons. These shapes can be created by clicking on the tools in the Toolbar.
Canvas: The area where we can draw or create shapes or paint is a Canvas.

Blog Time

Entries in your computer notebook should include these points:
- The tools of Inkscape you used in this activity.
- The colours you used in this activity.
- The Inkscape (.svg) files you have uploaded to the course gallery.
- What else you would have liked to do with your label?

Feedback Time

Use these pointers to give feedback to our friends
- What did you like or dislike in the labels that your friend have made?
- What colours were used by your friends in their labels?
- What shapes were used by your friends in their labels?
- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Lesson 3.2   Creating a picture story

Group Members: Date: Time:

Activity 1

Making Time

In this activity we create a story using the picture icons given to us. We use the icons as we like to tell our story. We can colour the icons as we like want and use the text tool to write the story. We can use one picture icon as many time we like.

Homework

Create a story using the picture icons and write it in your notebook. This story should have text and picture icons as described above. You can use English or Mizo to write the story.

Checkpoints

• Download the template file for making the story.
• We can change the colors of the icon in the file.
• To move an icon, it must be selected. We can also use arrow keys on the keyboard to move the selected objects.
• Use text tool to add text, we can type in Mizo or English.

Glossary

Move Tool: This tool in Inkscape moves object on the canvas. Select an object using the

Select Tool and then drag the object to the required place.

Colour Palette: The different colours present at the bottom of the Inkscape window.

Stroke Colour: The outline colour of an object. To add Stroke Colour to an object, select the object and Shift+click on the colour in the palette.

Fill Colour: The colour of an object, without its outline. To add Fill Colour to an object, select the object and click on the colour in the palette.

Blog Time

Entries in your computer notebook should include these points:
• The title of your story and its main characters.
• The Inkscape tools that you used in this activity.
• The Inkscape (.svg) files you have uploaded to the course gallery.
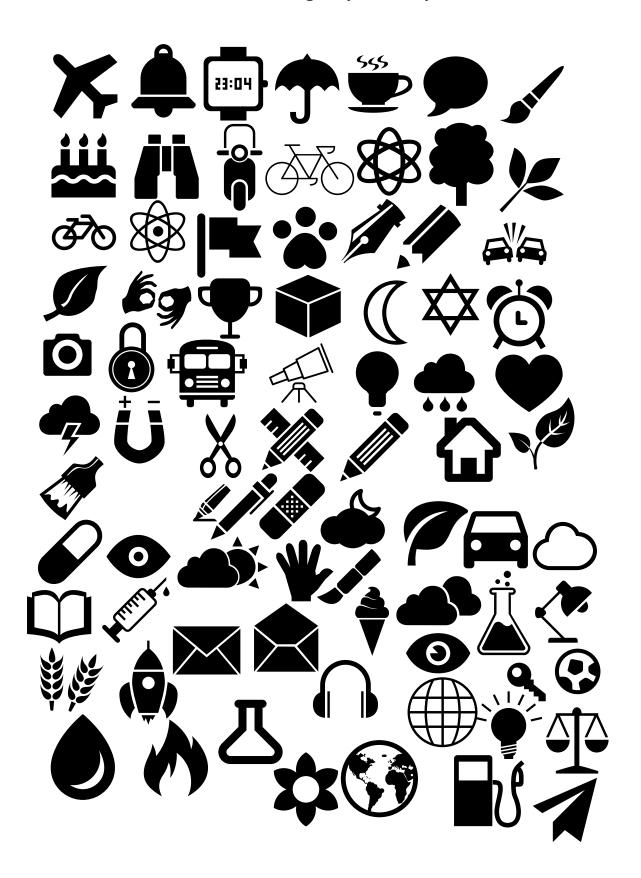• What do you want to do improve your story?

Feedback Time

Use these pointers to give feedback to our friends
• What did you like or dislike in your friend's story?
• What suggestions you have for improving friend's story?

- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Icon set for creating story in Activity 3.2.

Lesson 3.3   Making an object chart

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will create an object chart which will have images of similar kinds of object. We can create charts of animals, birds, Great people of India, Monuments in India, etc.

Checkpoints

- Download the templates and image files from Raw Materials.
- Use the import function to get files inside Inkscape canvas.
- While scaling (resizing) images we make sure that we keep the Control key pressed so that aspect ratio of images is preserved.
- For multiple selections while using Align tool use Shift key.

Glossary

Align: The Align tool can be used to adjust the positions of various objects relative to each other, or relative to a page.

Aspect Ratio: The Aspect Ratio of an object is the ratio of height to the width of an object. If we change the aspect ratio, we change the look of the object.

Scale: The action of changing the size of an object. An object can be scaled by using the "Arrow" handles when the object is selected. Keep the control key pressed if you do not want the aspect ratio to change.

Rotate: The action of changing the orientation of an object. An object can be rotated by moving the "Rotate Arrow" handles obtained by clicking on the object twice.

Blog Time

Entries in your computer notebook should include these points:
- The Inkscape tools that you used in this activity.
- The theme chosen to create the chart.
- The objects in chart.
- The Inkscape (.svg) files you have uploaded to the course gallery.
- Any other chart would you like to create in this activity.

Feedback Time

Use these pointers to give feedback to our friends
- What did you like most in the charts that your friends have made?
- What suggestions would you give them to improve their charts?
- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Lesson 3.4   Making compound shapes

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will learn to create compound shapes using simple basic shapes. The compound shapes can be drawn by combining two or more basic shapes using the intersection tool, difference tool and union tool. This tools will combine or cut the over- lapping shapes. It helps us to draw shapes like test tube, flask, flower, etc.

Checkpoints

- To select multiple objects use the Shift key
- The objects should overlap some part one another for path operations to work
- Order of objects (above and below) will determine the output of the operation
- If the results are not as desired you can press Control+Z on the keyboard to undo.

Glossary

Path: An object in Inkscape, which is made up of connected points. It can have any shape.

Union: A function in Inkscape which will combine shape of any two objects. The two selected objects must be paths to use this tool.

Difference: A function in Inkscape which will remove the overlapping region between two objects. The object on the top is also removed. The two selected objects must be paths to use this tool.

Intersection: A function in Inkscape which keeps the overlapping region between two objects and removes the rest. The two selected objects must be paths to use this tool.

Blog Time

Entries in your computer notebook should include these points:
- The Inkscape tools that you used in this activity.
- The shapes you created in this activity.
- Any other shapes you want to create.
- The Inkscape (.svg) files you have uploaded to the course gallery.

Feedback Time

Use these pointers to give feedback to our friends

- What simple shapes and tools do you think your friend used to create their shapes?

- What suggestions would give them to improve their shapes?

- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Unit 4   Organising with Mindmaps

In this module we organise information and create mindmaps. For this we learn to use the application called Freeplane.

Lesson 4.1   A mindmap about you

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will learn to make mindmaps using an application called Freeplane. The information needed for this mindmap is already created by you in Module 1. Classify the information and form nodes and sub-nodes to put in the mindmap.

Checkpoints

- The name of the files created by Freeplane end with ``.mm”.
- Save the file with our username and activity number. P Save the file every few minutes by pressing **Ctrl + S.**
- To create a child node press Insert.
- To create a sibling node press Enter.
- To edit a node double click on the node.
- To delete a node, select the node and press Delete.

Glossary

Mindmap: A visual representation of information in form of nodes and linkages between them. Each node has information primarily in form of text and image. A Mindmap can be thought of as a tree with branches as edges and leaves as nodes.

Node: A Node is a part of a mindmap which can display information in form of text, images, icons.

Edge: The graphical connection between two nodes is called as an Edge.

Root Node: The Root Node is the main node of a mindmap. The Root Node is the central theme or subject of the mindmap.

Child Node: A node which is a sub-node to any other node is called a Child Node. A Child Node can have sub-nodes too.

Sibling Node: Nodes at the same level are called as Sibling Nodes.

Blog Time

Entries in your computer notebook should include these points:
- The tools of Freeplane that you used in this activity.
- The mindmap (.mm) and exported image files you uploaded to the gallery.
- Other information that you would have liked to add to the mindmap.

Feedback Time

Use these pointers to give feedback to our friends

- Are there any common likes between your friends and you?

- Did you find anything new about your friends from the mindmap?

- Did your friends use any tool that you did not know about?

- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Lesson 4.2   Mapping a family tree

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will create the family tree for either your family or of some historically significant family. Find out all the old ancestors that you can from your family members. The oldest ancestor that you find will be your root node, then rest of the family members can follow.

Checkpoints

- To add auto formatting to nodes you can use various styles from the Toolbar.
- Nodes can be moved up and down by using Control+Up Arrow and Control + Down Arrow keys respectively.
- Nodes can be moved left and right by using Control+Left Arrow and Control + Right Arrow keys respectively.
- You can drag and drop exisiting nodes on other nodes to create child nodes.
- You can fold or unfold nodes by using the circle with $\oplus$ or $\ominus$ button after the parent node.
- A $\oplus$ indicates that there are folded child nodes. Clicking on this button will unfold the child nodes.
- A $\ominus$ indicates the child nodes can be folded. Clicking on this button will fold the child nodes.

Glossary

Hierarchy: The relation between various nodes forms the Hierarchy of the mindmap. Hi- erarchy of the node is determined by its distance from root node.

Folding: The hiding of the child nodes from the parent nodes, this can be done by clicking on $\ominus$ button after the parent node.

Unfolding: The unhiding of the child nodes from the parent nodes, this can be done by clicking on $\oplus$ button after the parent node.

Properties: For each node and edge we can give definite font and font size, colour, width etc. All this formatting is covered in the Properties Panel.

Styles: Styles (classes) are a means to quickly apply or change a group of visual properties or define a template text for all related nodes at once. They can be accessed by either Toolbar or in menu Format > Apply style.

Blog Time

Entries in your computer notebook should include these points:

- Any new information did you learn about your family history in this activity.
- The tools of Freeplane that you used in this activity.

- If you applied any styles or changed properties of nodes and edges.
- The largest levels of nodes that you used.
- The mindmap (.mm) and the exported image files you uploaded to the gallery.
- Other information that you would have liked to add to the mindmap to improve it.

Feedback Time

Use these pointers to give feedback to our friends
- Did you find anything new about your friends from the mindmap?
- Did your friends use any tool that you did not know about?
- Do not forget to add rating to your friend's work.

<center>**For Notes and Rough Work**</center>

Lesson 4.3   Mapping an organisation

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will create the structural map of an organisation. Usually an organisation will have positions which are in form of hierarchies. You will need to find out about this using your textbooks, or you can ask your friends, teachers or parents. Once the information is collected, classify the information to form the mindmap.

Checkpoints

- You can add various icons to the nodes. The icons are present on the left side toolbar.
- To add an icon to the node, select the node and click on the required icon.
- To remove an icon use the top buttons from the icon toolbar.
- You can add images to nodes. For adding images you can Right Click on the node and then go to add image.
- Once added the image can be resized as required by using the handles at corners.
- To remove an image from the node, Right Click and select Remove Image.

Glossary

Organisation: An Organisation is composed of a group of people with a collective function.
Icons: An Icon is a small picture. Icons can be added to a node to give additional information.
Node Image: Each Node can have an image associated with it. Only one image can be added for a node.

Blog Time

Entries in your computer notebook should include these points:
- Reasons for choosing a particular organisation.
- The tools of Freeplane that you used in this activity.
- The mindmap (.mm) and the exported image files you uploaded to the gallery.
- Other information that you would have liked to add to the mindmap to improve it.

Feedback Time

Use these pointers to give feedback to our friends
- Did you learn any new thing from the mindmaps your friends have created?
- One thing that you liked about the mindmap.
- Anything your friends can to add to improve their mindmap?
- Did your friends use any tool that you did not know about?
- Do not forget to add rating to your friend's work.

For Notes and Rough Work

Lesson 4.4   Mapping a topic from the textbook

Group Members: Date: Time:

Activity 1

Making Time

In this activity we will create a mindmap from any of the concepts from your textbooks. You can choose any subject, and any given topic in that subject. Find out all the information about this topic and make the mindmap.

Checkpoints

You can add detailed notes to a node. To add a note, Right Click on the node and select Add Note.
- To see Notes, View > Notes > Display Note Panel should be selected.
- To visually group together nodes we can add a cloud.
- To add or remove a cloud, first select all the required notes, then Right Click and select Add Cloud. Alternatively you can use the **Cloud** button in the top Toolbar.
- If the cloud is added to a parent node, child nodes automatically become part of the cloud.
- A mindmap can also be exported to a text document by File > Export.

Glossary

Node Note: A detailed textual information about the node. The notes can be seen when we hover mouse over the node.
Node Cloud: A visual way of grouping together nodes. The selected nodes are added inside a cloud for easy identification.

Blog Time

Entries in your computer notebook should include these points:
- Your reasons for choosing the topic.
- The tools of Freeplane that you used in this activity.
- Anything new that you learned while doing this activity
- The mindmap (.mm) and the exported image files you uploaded to the gallery.
- Other information that you would have liked to add to the mindmap to improve it.

Feedback Time

Use these pointers to give feedback to our friends
- Did you learn any new information from the mindmap? item One thing that you liked about the mindmap.
- Anything your friends can to add to improve their mindmap?
- Did your friends use any tool that you did not know about?
- Do not forget to add rating to your friend's work.

For Notes and Rough Work

37