IT @ SCHOOL

Computer Science - Class III

Tux-Paint

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PREFACE

Computers play a vital role in the modern world, and even the most basic jobs today involve technology. Therefore, computer education becomes essential in any student's development. Expertise in computing enables children think critically, be more creative and innovative, giving space for collaborative work and individual effort.

The series of books (Class III – IX) aim to holistically develop digital skills, keeping pace with the dynamically changing industry requirements.

IT education has no boundaries and irrespective of the field of work, each one is expected to have the following digital skills:

- MS Office (MS Word, MS Excel, MS PowerPoint)
- Photo / Image Editing
- Programming
- Website development

The enriched curriculum therefore covers a wide variety of topics across various classes: *TUXPAINT; MS Word 2007 (Level I, II & III) ; MS Excel 2007 (Level I, II & III); MS PowerPoint 2007 (Level I & II); Image / Photo editing software using GIMP 2.8; Scratch Programming; HTML Programming; Web creation tool using WordPress.*

The curriculum uses only open source software (freely available on the Internet) installed in Windows 7 Operating system.

A brief description of every concept and its application / purpose is provided in every lesson with colorful screen shots. This not only attracts the readers but also gives them an experience of self-learning. **'Activity Based Learning'** exercises have been included as part of the curriculum.

We hope this text book finds its place in the readers' library for future references.

CHAPTER 1

INTRODUCTION TO COMPUTERS

A Computer is an electronic device that can store, retrieve and process data at extremely high speed.

- It works very fast.
- It does not make mistakes.
- It makes our work very easy.
- It can remember many things.
- It does not get tired even if it works for a long time.
- It can do big calculations very fast.
- It is used to write, draw, do sums, play games, listen to music and watch cartoon films and movies.

MAIN FUNCTIONS OF A COMPUTER

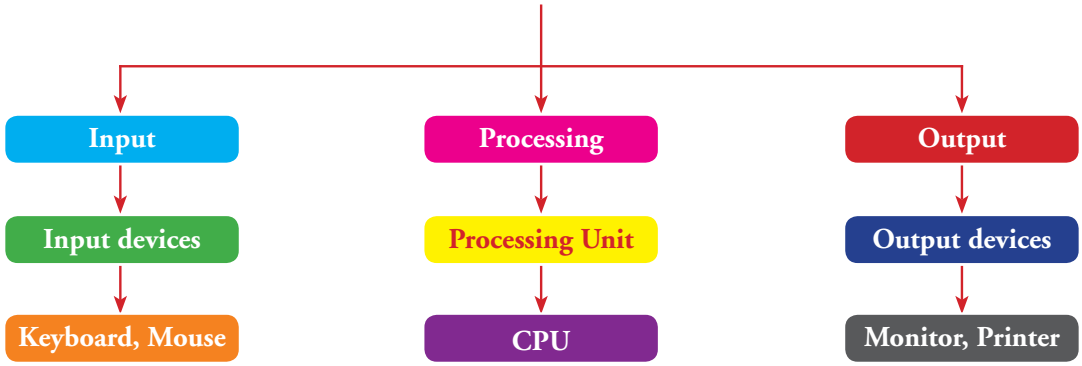
1. Input
2. Processing
3. Output

MADE UP OF MANY DIFFERENT PARTS OF A COMPUTER THEY ARE

1. Monitor
2. Keyboard
3. Mouse
4. CPU
5. Printer
6. Speaker

Each of these devices has a special function to perform.

FUNCTIONS OF A COMPUTER



The **Keyboard** and the **Mouse** are used to enter data into the computer; hence they are called **input devices.**

CPU stands for **Central Processing Unit.** It is also known as a brain of the computer. It carries out instructions and computer programs and performs all the basic arithmetical and logical operations. The CPU processes the input to give the output.

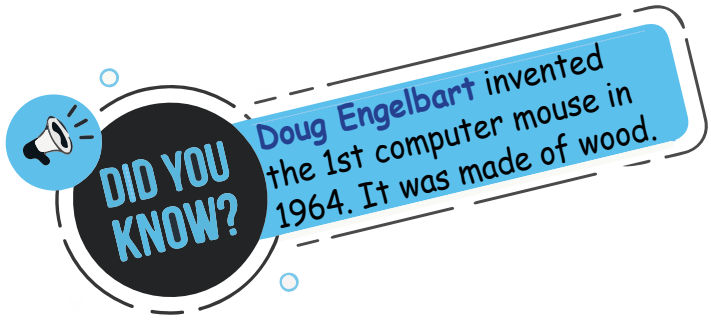
The **Monitor** displays the output produced by the CPU. The **printer** is used to print the output on paper. Both these devices are used for output and so they are called **output devices.**

KEYBOARD

Keyboard is an input device which is similar to typewriter. Keyboard has a set of keys which allows the user to give input to the computer in the form of letters, numbers and symbols.

The standard keyboard has 104 keys. The keys in the keyboard can be grouped under five categories.

- Letter keys (A to Z)
- Number keys (1 to 9)
- Arrow keys
- Function keys (F1 to F12)
- Special keys such as Enter, Esc, Delete etc



MOUSE

Mouse is an input device. It shows the position of the cursor /mouse pointer on the screen. When the mouse is moved along a flat surface, the cursor on the screen automatically moves. The items on the screen can be selected or moved by using the mouse buttons.

There are two types of mouse – **wired** and **wireless** mouse.

Mouse is also called as a **pointing device**. It has three buttons namely left, right and scroll button.

HOLDING THE MOUSE

Hold the mouse and place your index finger on the left mouse button and your middle finger on the right mouse button. Hold the mouse on the sides with your thumb and the remaining two fingers.

ACTIONS OF A MOUSE

Left click-Pressing and releasing the left mouse button once.

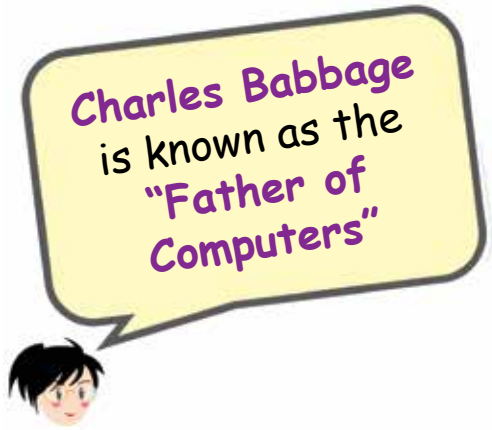
Double click- Pressing and releasing the left mouse button twice in quick succession.

Right click- Pressing and releasing the right mouse button once.

Drag- Moving the mouse while keeping the left mouse button pressed.

Drop- Releasing the left mouse button after dragging it.

CPU

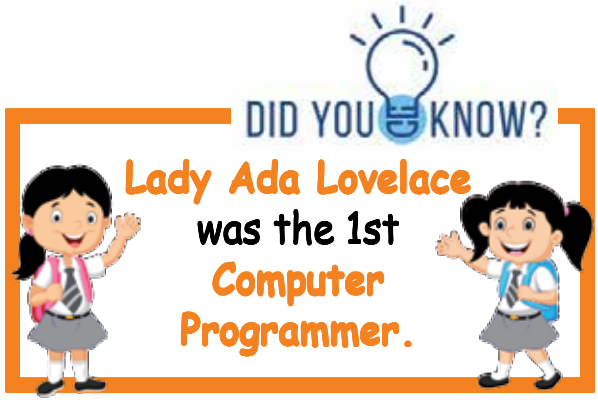


CPU stands for **Central Processing Unit.** It is also called the brain of the computer. It performs the basic arithmetic, logical and input/output operations. It controls the overall activities of the computer.

MONITOR

Monitor is an output device. It looks like a television screen. It helps us to see what we are doing in the computer. It displays texts and images. It is also called Visual Display Unit (VDU).

SPEAKER



Speaker is an output device. It is used to hear music, songs and other sounds.

PRINTER

A Printer is an output device. We can take printout of text and pictures on paper through the printer and prepare a permanent document. A printout on the paper is called a **hard copy.**

Microphone enables many types of audio recording devices for purposes like music and speech recording.

STARTING AND SHUTTING DOWN THE COMPUTER

To start a computer, follow these steps:

Step 1: Switch ON the Power supply.

Step 2: Switch ON the UPS.

Step 3: Switch ON the CPU.

Step 4: Switch ON the Monitor.

After switching on the monitor, wait for a while till you see a screen. This screen is called Desktop.

The small pictures on the desktop are called icons. You can click on these icons to start working on your computer.

TO SHUT DOWN THE COMPUTER FOLLOW THESE STEPS

Step 1: Move the mouse pointer to the start button on the desktop and left click on it.

Step 2: Left click on shut down from the start menu.

Step 3: A screen with a message 'Shutting down' will be seen.

Wait for the CPU to turn off. Then follow steps 4 to 6.

Step 4: Switch OFF the Monitor.

Step 5: Switch OFF the UPS.

Step 6: Switch OFF the Power supply.

BRAIN DEVELOPER

I) READ THE CLUES TO NAME THE PARTS OF A COMPUTER

1. I look like a TV. I am the _____.
2. My name is the same as that of an animal. I am the _____.
3. I have many keys. I am the _____.
4. I work like your brain. I am the _____.
5. I am also called Visual Display Unit. I am the _____.

II) MATCH THE COLUMNS

1.	A device used to give input	a)	microphone
2.	A device used to listen to sound	b)	printer
3.	A device that shows output	c)	keyboard
4.	A device that prints the output on paper.	d)	speaker
5.	A device used to record sound	e)	monitor

III) TICK THE CORRECT ANSWER

1. We use computers to

   a. Play games ☐ b. eat food ☐ c. walk in a park ☐

2. This is a part of the computer

   a. Cat ☐ b. Mouse ☐ c. Rabbit ☐

3. This supplies electricity to the computer.

   a. CD ☐ b. Microphone ☐ c. UPS ☐

4. This is also called brain of the computer

   a. CPU ☐ b. Monitor ☐ c. Keyboard ☐

5. It is a pointing device

   a. Monitor ☐ b. Printer ☐ c. Mouse ☐

IV) COLOUR THE CIRCLES THAT SHOW THE THINGS YOU CAN DO ON A COMPUTER

1. Playing Games

2. Washing Hands

3. Doing calculations

4. Booking Tickets

5. Watching Movies

6. Doing homework

Teacher's Signature

CHAPTER 2

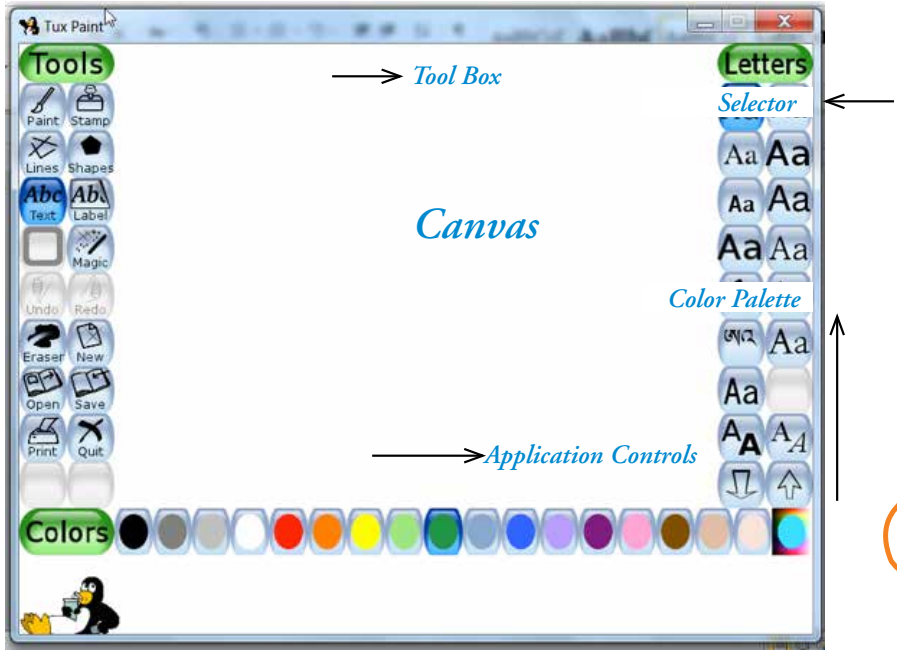
INTRODUCTION TO TUX PAINT

- Tuxpaint is a free drawing program with a Graphics Editor.
- It is used for simple animation in the form of Slide Show.
- It has an easy interface, fun, sound effects and drawing tools to make you creative.

STARTING TUX PAINT

Start→ All Programs→Tuxpaint and choose Tuxpaint Windowed Option.

A SAMPLE SCREEN LAYOUT



Did You Know?

Tux Paint can be downloaded for free. It was developed by Bill Kendrick.

TUX PAINT COMPONENTS

- **Tool Box-** Contains various basic tools. On the left side of the screen is the tool box, when any tool is clicked, on the right side of the screen all the options available under that tool are displayed.

  Ex: If you select Shapes tool then you can select different shapes from the right side to draw.

- **Application Controls-** for creating a new pictures, save, undo and print them.
- **Canvas-** where images are drawn and edited.
- **Colour Palettes-** Where colours can be chosen. You can select different colors to draw from here.
- **Selector-** Provides various selectable objects like brushes, fonts etc.

➢ **Help:** Help, information and tool tips, etc., are given by the penguin in the help tool bar below the color palette.

- You can start painting in the paint area with a default paint brush. You can try some other types and sizes of brushes from the selector. Click on Paint Brush tool and observe various brushes available on the right tool bar. Or click on Shapes tool observe various shapes available on the right tool bar to draw it on the paint area.
- After you finish drawing you can save your picture as a file using "Save" tool bar. To open your saved pictures you can use "Open" tool bar.
- You can click 'Quit' button or close the Tux Paint window or press the Esc key to quit Tux paint.

BRAIN DEVELOPER

I) MATCH THE FOLLOWING QUESTIONS WITH THE OPTIONS GIVEN BELOW.

1. An Application that plays funny sound effects when you select any tool. ☐
2. Where do you find a paint brush in Tux Paint? ☐
3. Which option is used to colour an apple picture in Tux Paint? ☐
4. Where do you edit a Picture in Tux Paint? ☐
5. Which option is used to remove the last inserted image in Tux Paint? ☐

OPTIONS

a) Canvas b) Colour Palette c) undo d) Tool Box e) Tux Paint

II) FIND THE HIDDEN WORDS

A	U	N	D	O	B	C	D	E
F	G	E	S	A	V	E	H	I
J	K	P	E	L	M	N	O	P
T	O	O	L	B	O	X	Q	R
P	A	L	E	T	T	E	S	T
A	U	V	C	A	N	V	A	S
I	W	X	T	Y	E	Z	A	B
N	C	D	O	E	W	F	G	H
T	I	J	R	K	L	M	N	O

Teacher's Signature

CHAPTER 3

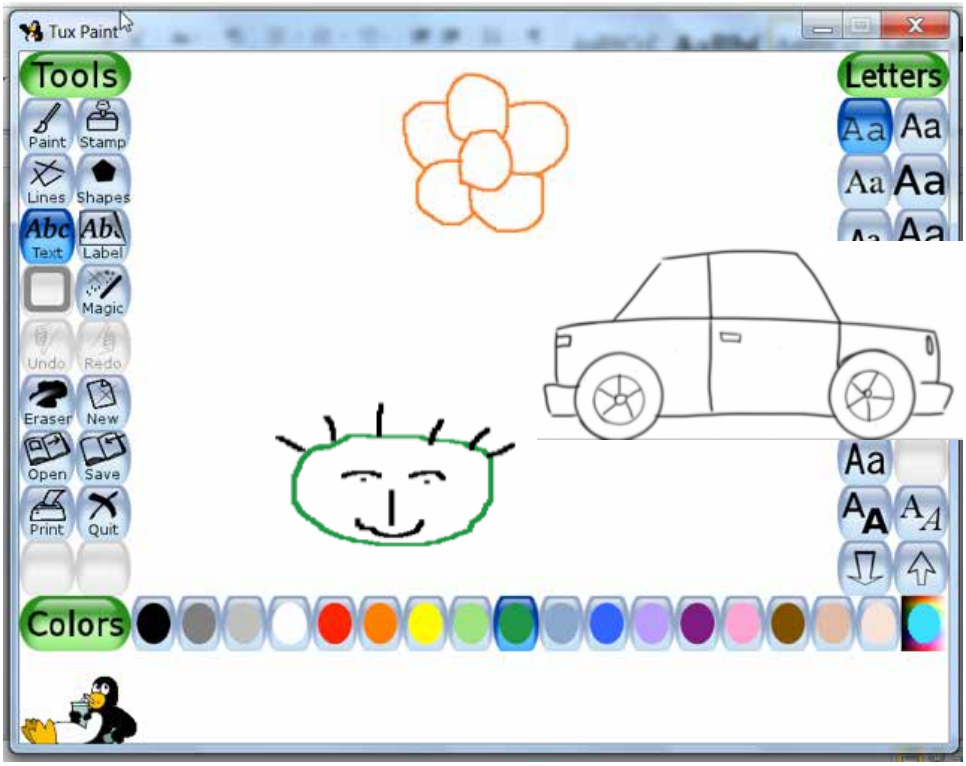
DRAWING TOOLS IN TUX PAINT

Tux Paint has a large variety of **Drawing Tools** that help children to bring out their creativity.

- **Paint Tool-** To create free hand drawing and readymade patterns.
- **Stamp Tool-**To add a readymade stamp in your drawing.
- **Lines Tool-**To draw straight lines and straight patterns.
- **Shape Tool-**To draw polygonal shapes.
- **Text Tool-**To enter text.
- **Magic Tool-**To draw andgive amazing effects to the picture.
- **EraserTool-**To erase the unwanted parts of the picture.
- **New Tool-**To open a new file.

BRAIN DEVELOPER

I) DRAW THE FOLLOWING PICTURES USING THE BRUSH TOOL



II) THE FOLLOWING WORDS ARE USED IN TUX PAINT. PICK OUT ALL THE RED COLOURED ALPHABETS TO GET THE ANSWER:

1) ABZTRURUIRXUIPARIBZNBGBT _ _ _ _ _ _ _ _

2) FGEHIJRASLPERRJK _ _ _ _ _ _

3) DYSCGTAJKLMPDR _ _ _ _ _

4) TUDSRACWBINGCANNVAMS _ _ _ _ _ _ _ _ _ _ _ _ _ _

5) RSTANIUEDFERXHGT _ _ _ _

III) REARRANGE THE JUMBLED WORDS:

1. HASEP _____
2. TIAPN _____
3. SINLE _____
4. MPTAS _____
5. CMGIA _____

IV) DRAW THE FOLLOWING MATHEMATICAL FIGURES USING THE SHAPES TOOL.

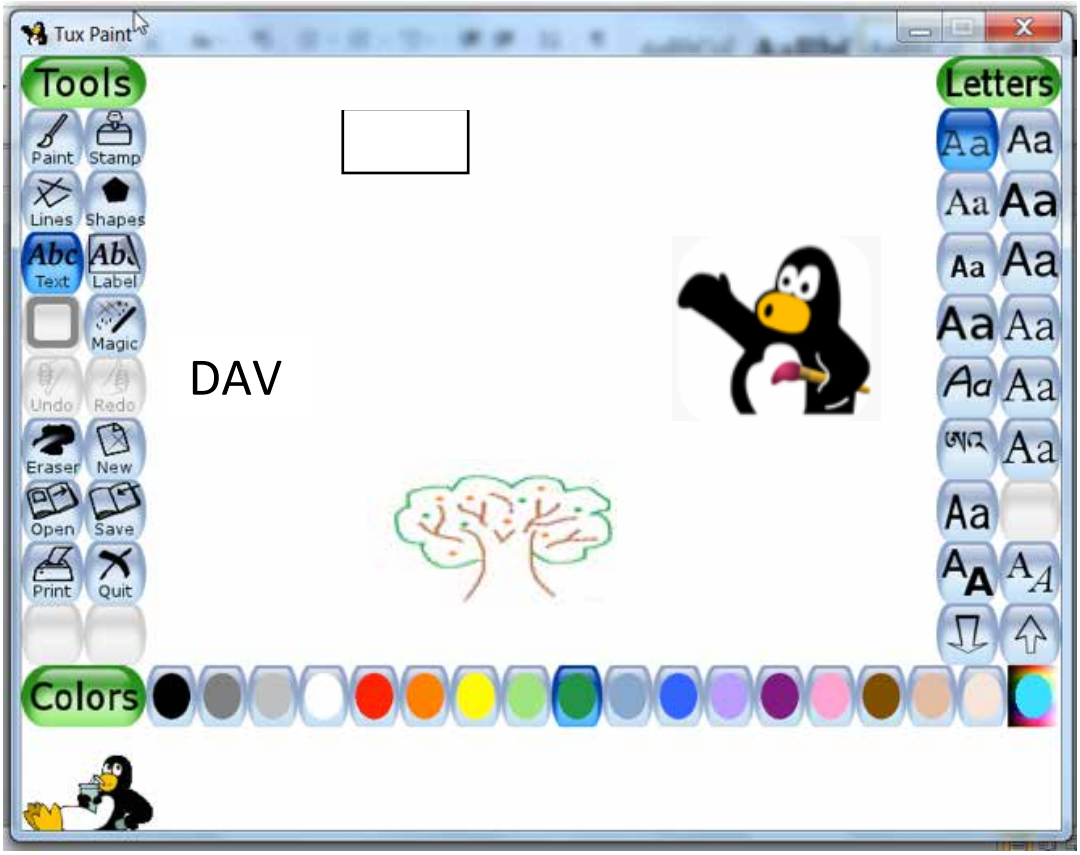
a) Triangle

b) Rectangle

c) Diamond

d) Square

V) IDENTIFY THE TOOLS USED FOR DRAWING THE FOLLOWING IMAGES



Teacher's Signature

DID YOU KNOW?

The wheel in a **scroll mouse** is used to scroll through pages in a document

CHAPTER 4

DRAWING PICTURES USING PAINT TOOL

We can make free hand drawings using the Paint tool. The Paint tool is selected by default whenever we start Tux Paint.

TO DRAW PICTURES USING PAINT TOOL

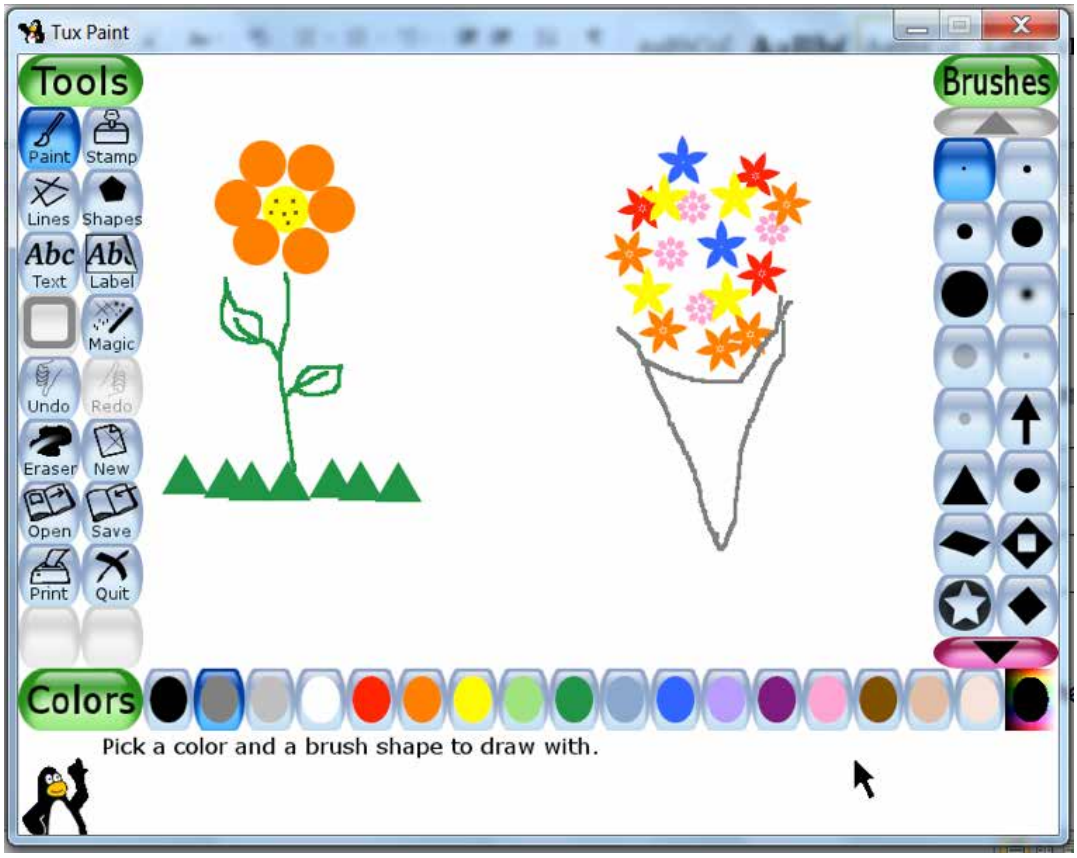
Step 1: Let click on the **Paint** tool in the **Toolbar.**

Step 2: Left click on any **brush** in the **Selector.**

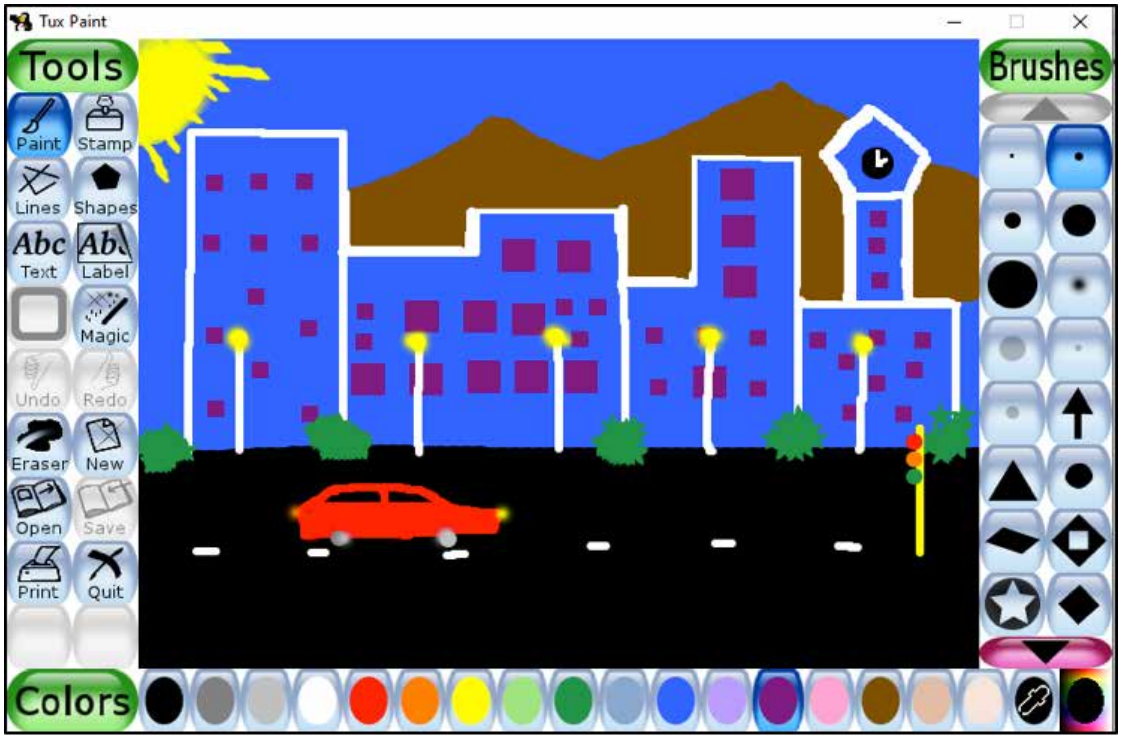
Step 3: Left click and choose a colour from the **Colour** box.

Step 4: Move the pointer to the **Drawing Canvas.** Left click at the position where you want to place the shape. You will notice the brush shape selected by you appears on the drawing Canvas.

Repeat steps 1-4 with different brushes to draw a colourful picture as shown here.

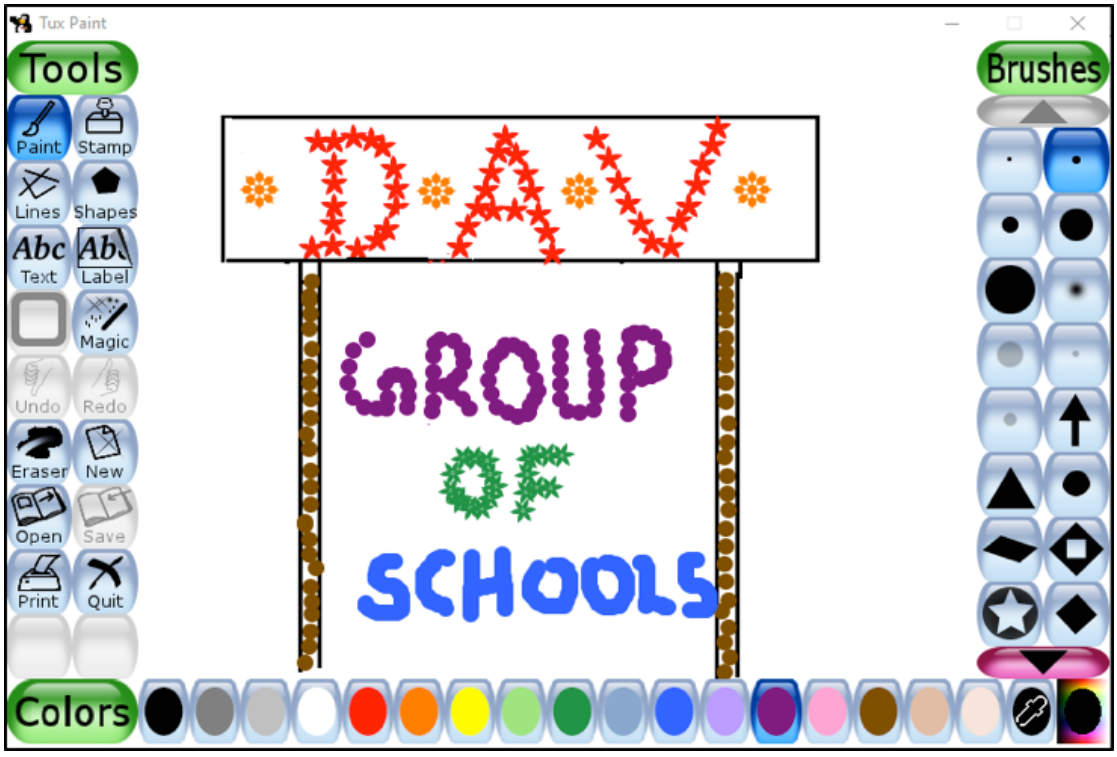


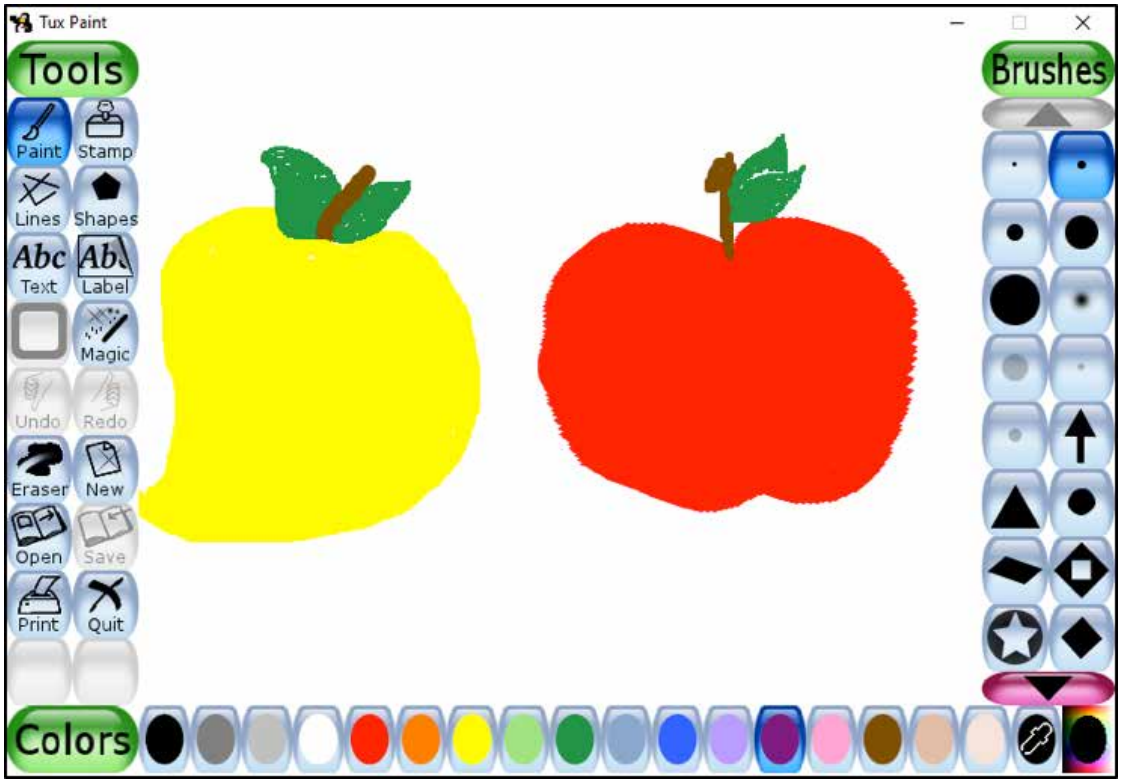
DRAW THE FOLLOWING PICTURES USING THE DIFFERENT BRUSHES AVAILABLE IN THE PAINT TOOL



DID YOU KNOW

The **help area** at the bottom of the window tells you about the selected tool.


Tux Paint
Tools
Brushes
Paint
Stamp
Lines
Shapes
Text
Label
Magic
Undo
Redo
Eraser
New
Open
Save
Print
Quit
Colors
DAY
GROUP
OF
SCHOOLS


Tux Paint
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Eraser
New
Open
Save
Print
Quit
Colors

BRAIN DEVELOPER

I) FILL IN THE MISSING LETTERS:

1) _ A_NT

2) _A_V_S

3) T_ _L _AR

4) B_U_H

5) S_L_CT_R

II) ANSWER IN ONE WORD:

1. The most commonly used free hand drawing tool. _____

2. The tool which is selected by default, when we open Tux Paint._____

III) MATCH THE FOLLOWING:

To print the application

To erase text/Lines

To cancel the last done action

To scribble something

To open an existing file

To type text

To draw pictures using lines

Teacher's Signature

CHAPTER 5

DRAWING PICTURES USING LINES TOOL AND ERASER TOOL

LINES TOOL

The lines tool is used to draw straight lines of various shapes. A line tool has the same brush shapes in the sub-tool-box as in the Paint tool.

TO DRAW PICTURES USING LINES TOOL

Step 1: Click on the **Lines** Tool from **Toolbar**.

Step 2: Click and choose a colour from the **Colors** box.

Step 3: Click and select the size of the line from the **Selector**.

Step 4: Keeping the left mouse button pressed, move the mouse pointer on the **Drawing Canvas**. When you finish drawing, release the mouse.

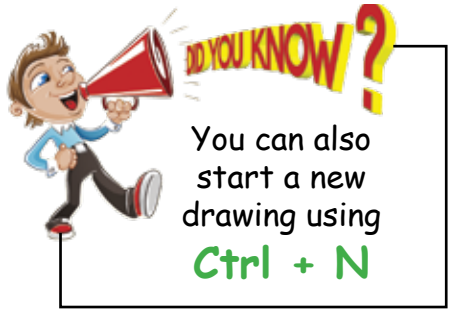
ERASER TOOL

The Eraser Tool is used to erase any part of the drawing.

To erase the picture using Eraser Tool

Step 1: Click on the Eraser Tool from **Toolbar.**

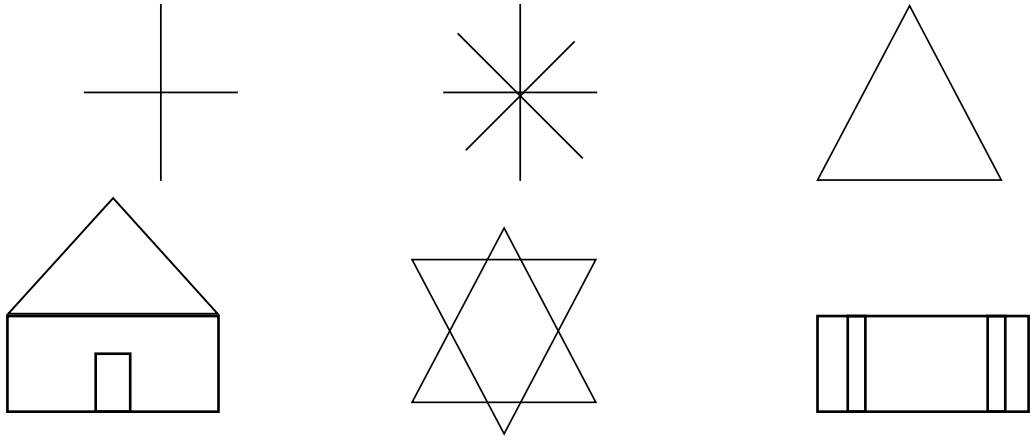
Step 2: Click and choose a size for the eraser from the Selector.



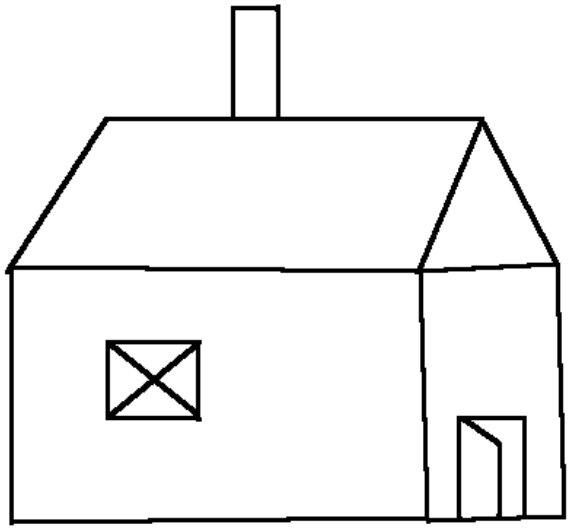
Step 3: Move the pointer to the Drawing Canvas.Keeping the left mouse button pressed, drag the mouse pointer over the part of the picture to be erased.When you finish erasing,release the mouse.

BRAIN DEVELOPER

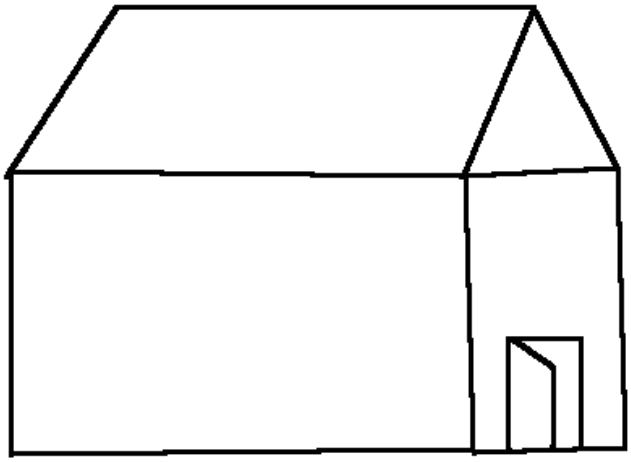
I) DRAW THE FOLLOWING PICTURES USING THE LINES TOOL



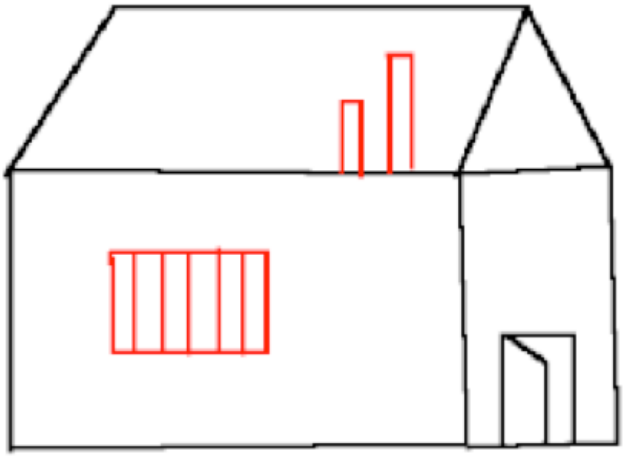
II) * DRAW THE FOLLOWING PICTURE USING THE LINES TOOL



* ERASE THE WINDOW AND THE CHIMNEY USING THE ERASER TOOL



* DRAW A NEW WINDOW AND CHIMNEY AS SHOWN HERE:



III) * CREATE A NEW BLANK PICTURE

* DRAW A STRAIGHT LINE WITH A THICK BRUSH SIZE

* USING THE ERASER TOOL, ERASE PARTS OF THE LINE EVENLY AS SHOWN HERE TO GET THIS PATTERN

IV) FILL IN THE BLANKS

1) The _____ has many tools that help us to work in Tux Paint.

2) The _____ tool help us to correct mistakes in Tux Paint.

3) The _____ tool is used to draw this picture .

4) The size of an eraser can be chosen from the _____.

5) There are _____ colours in the colors box.

6) The _____tool is used to draw straight Patterns.

Teacher's Signature

CHAPTER 6

DRAWING PICTURES USING SHAPES TOOL AND USING UNDO

Shapes tool is used to draw various filled and unfilled polygonal shapes. The unique feature of this tool is **Rotation.** We can also rotate the shapes to any angle on a 360° scale.There are 16 different shapes available in the sub-toolbox of the **Shapes** tool.

TO DRAW PICTURES USING SHAPES TOOL

Step 1: Click on the **Shapes Tool** from **Toolbar.**

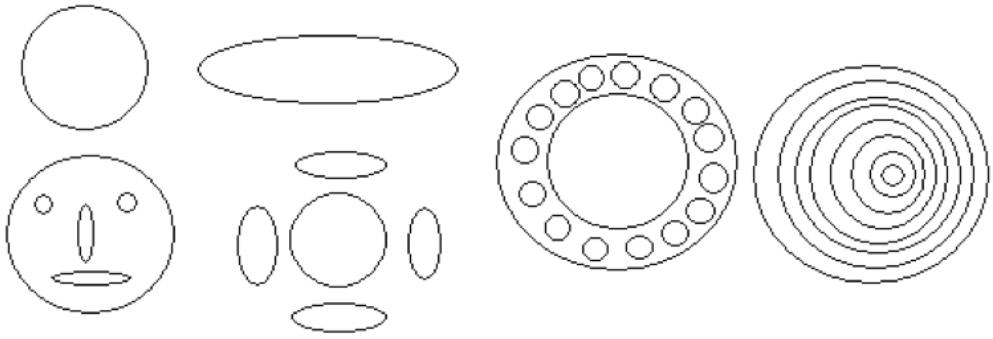
Step 2: Click and choose a colour from the **Colors** box.

Step 3: Click and select a particular shapefrom the **Selector.**

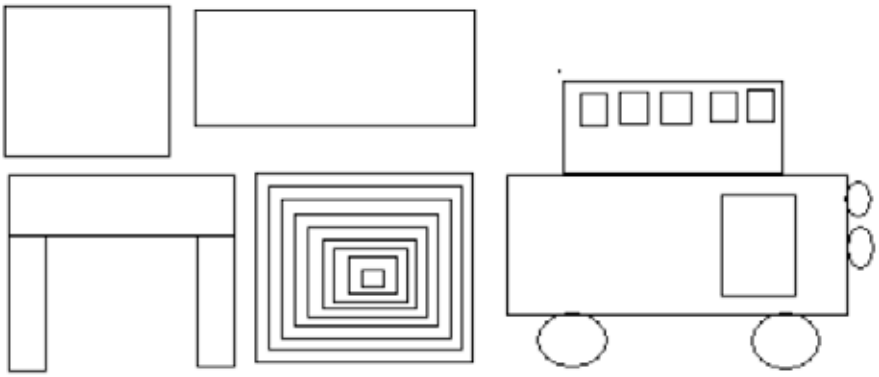
Step 4: Keeping the left mouse button pressed, move the mouse pointer on the **Drawing Canvas.** When you finish drawing the shape, release the mouse.

BRAIN DEVELOPER

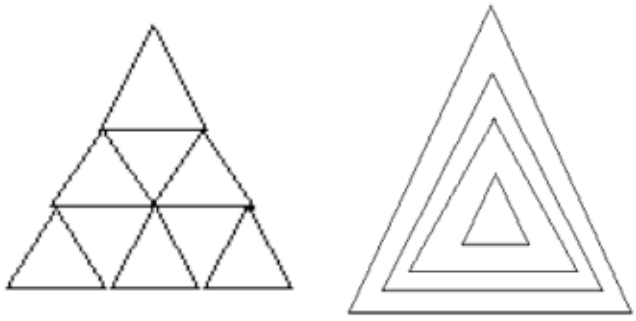
I) DRAW THE FOLLOWING PICTURES USING CIRCLE SHAPE:



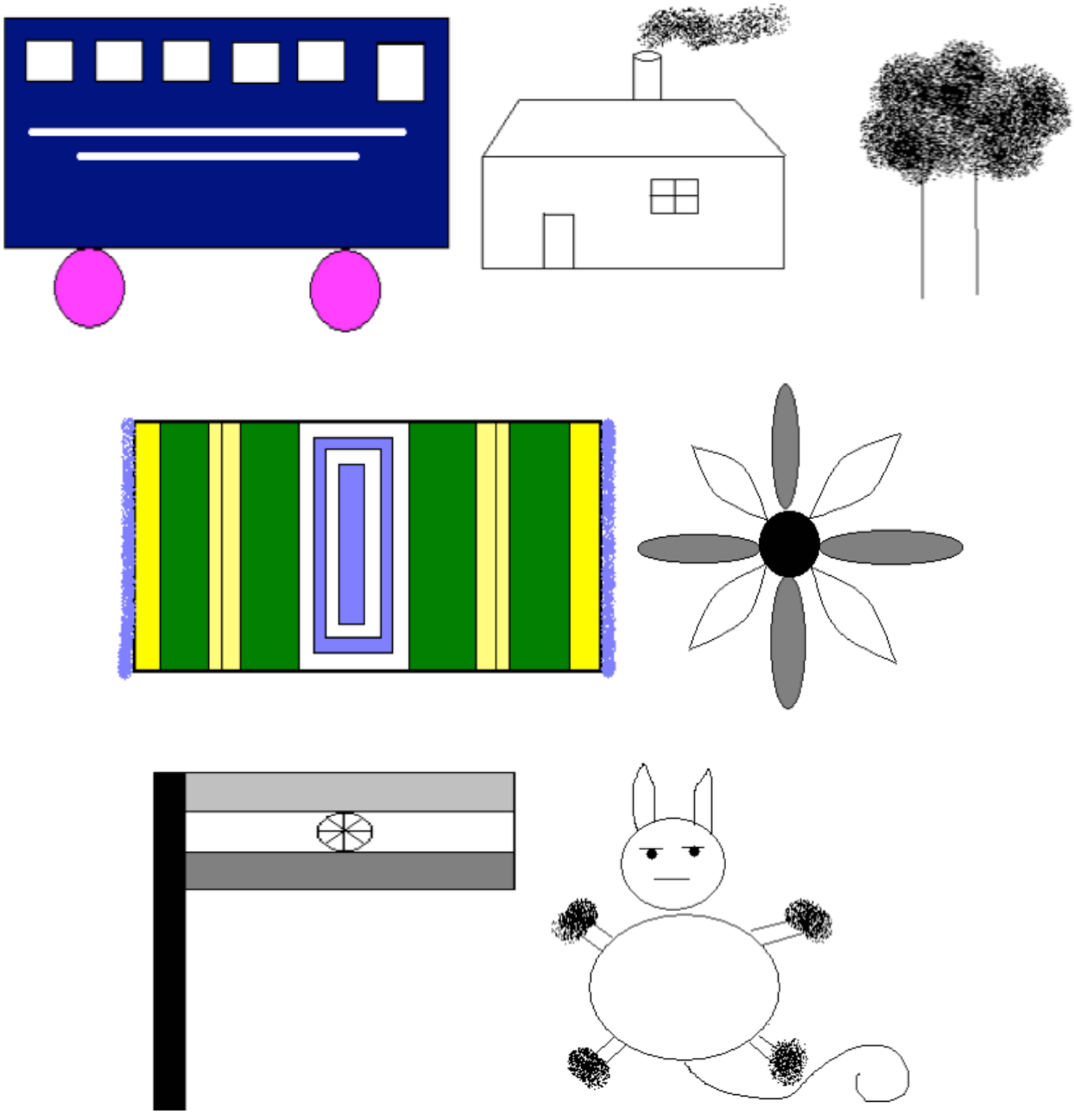
II) DRAW THE FOLLOWING PICTURES USING RECTANGLE SHAPE:



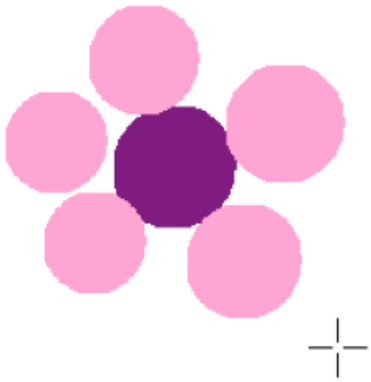
III) DRAW THE FOLLOWING PICTURES USING TRIANGLE SHAPE:



IV) DRAW THE FOLLOWING PICTURES USING VARIOUS SHAPES:



V) * DRAW A FLOWER LIKE THIS USING THE CIRCLE SHAPE

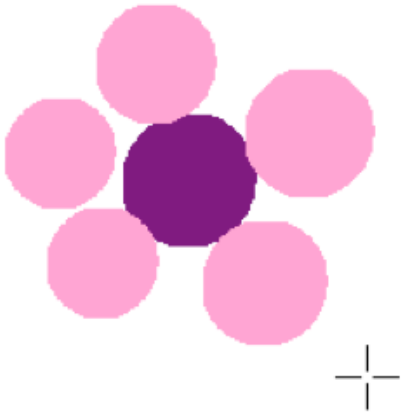


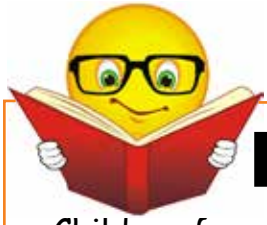
* CLICK THE UNDO BUTTON. THE LAST PETAL YOU PAINTED WILL DISAPPEAR

* CLICK THE UNDO BUTTON AGAIN

* CLICK THE REDO BUTTON. THE LAST PART YOU ERASED WITH THE UNDO COMMAND WILL BE BROUGHT BACK

* CLICK THE REDO BUTTON AGAIN





DID YOU KNOW?

Children from all over the globe submit their art work created in Tux Paint. The winner's drawing is then published in the Tux Paint website.

VI) ANSWER IN ONE WORD:

1.The tool that is used to draw filled and unfilled shapes._____

2.The command that will cancel the effect of the last action._____

3. The keyboard shortcut to undo an action._____

4.The unique feature of Shapes tool._____

5. Number of filled shapes available in the sub-toolbox of the Shapes tool._____

Teacher's Signature

CHAPTER 7

TEXT AND RUBBER STAMP TOOL

TEXT TOOL

The **Text** tool is the original text-entry tool in Tux Paint. Text entered using this tool can't be modified or moved later, since it becomes part of the drawing. However, because the text becomes part of the picture, it can be drawn over or modified using **Magic** tool effects (e.g., smudged, tinted, embossed, etc.)

The Text tool is used to type messages in the drawing canvas.

TO TYPE TEXT IN YOUR CANVAS:

Step 1: Click on the **Text** tool.

Step 2: Click and choose a **Letter Style** from the **Selector.**

Step 3: Click and choose a colour from the **Colors Box.**

Step 4: Click on the **Drawing Canvas.** A blinking line called cursor appears.Type your message.Once you finish typing,click on any other tool in the **Toolbar.**

STAMP TOOL

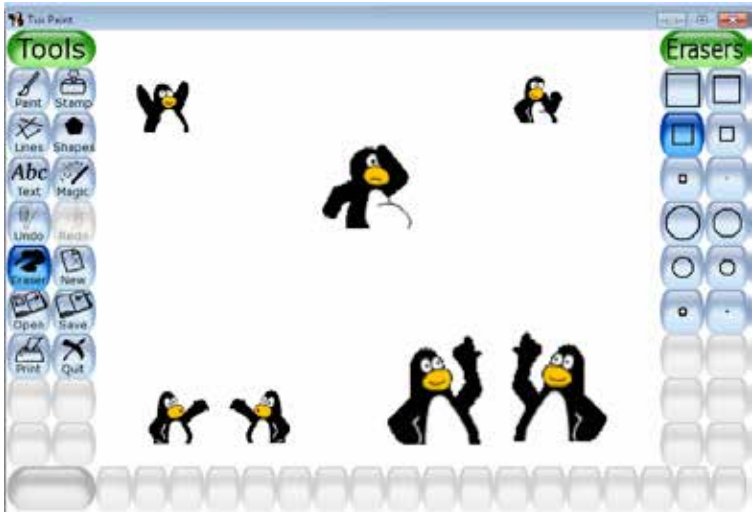
The Stamp tool works like a sticker or rubber stamp. It lets you place different pictures in the drawing.When this tool is selected ,different stamps are displayed on the right side which can be used. Each stamp can be resized and flipped before being stamped. Resize button is found at the end of options and above the colors. This button can be used to increase or reduce the size of the stamps.

BRAIN DEVELOPER

I) TYPE THE FOLLOWING WORDS AND CHANGE ITS STYLE USING TEXT TOOL

II) DRAW THE FOLLOWING PICTURE USING BRUSH TOOL AND NAME THE PICTURE USING TEXT TOOL

III) DRAW THE FOLLOWING PICTURES USING STAMP TOOL AND RESIZE THE PICTURES



IV) FILL IN THE BLANKS USING THE OPTIONS GIVEN IN THE BOX:

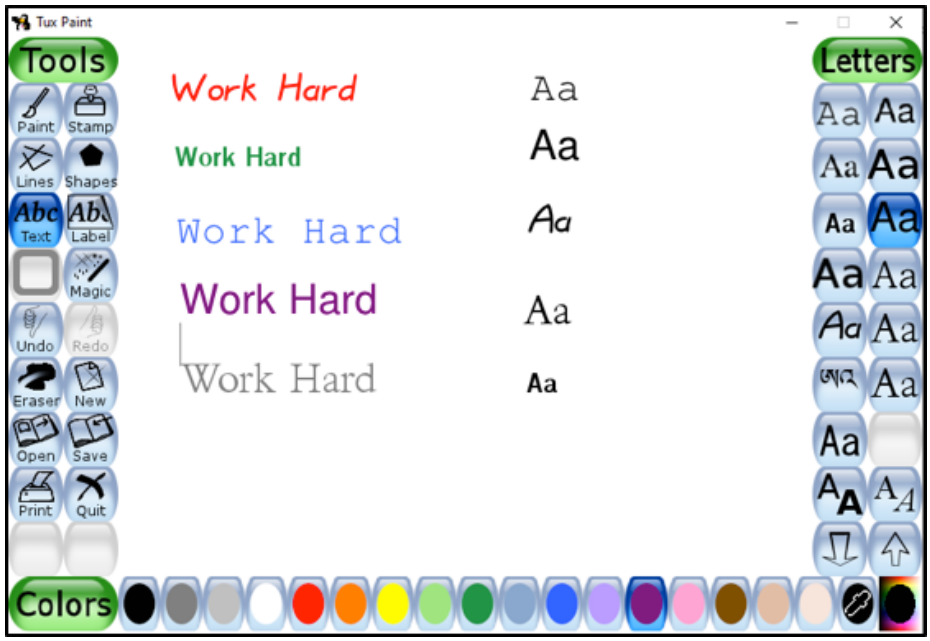
Open	Text	Color Box	Starters	

1. You can use the _____ tool to type messages on pictures.
2. The _____ is at the bottom of the Tux Paint screen.
3. The Tux Paint screen appears after the _____ window.
4. The _____ buttons are used to increase or decrease the size of the typed text.
5. _____ option in Tux Paint allows you to view all the saved files in the form of slide show.

V) STATE WHETHER TRUE OR FALSE:

1. The Toolbar is available at the right of the main screen._____
2. We can draw a picture in the Help area. _____
3. The selector provides options for a selected tool. _____
4. We can close a drawing by clicking the Erase button._____
5. The most commonly used free hand drawing tool is the Magic tool._____

VI) MATCH THE WORD WITH ITS RESPECTIVE FONT STYLE:



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CHAPTER 8

MAGIC TOOL

The Magic tool is a set of many special tools. You can make different effects using this tool.

Step 1: Click on the Magic tool.

Step 2: Click and choose a **magic** effect (tool) from the **Selector.**

Step 3: Move the pointer to the **Drawing Canvas.** Keep the left mouse button pressed,drag the mouse to draw on the Drawing Canvas.When you finish drawing release the mouse.

Note: Different stamps can have different sound effects. Buttons on the Bottom left corner allow you to replay the different sound effects.

SOME EFFECTS UNDER MAGIC TOOL:

Bricks Effect - Fills a pattern of bricks into the picture.

Blur Effect - Blurs the area of the picture on which this effect is applied.

Grass Effect - Used to give grass effect in a drawing.

Fill Effect - Used to fill colour in an object.

Flower Effect - Ready made option to draw flowers on the canvas.

Drip Effect - Gives a drip effect to our drawing.

Foam Effect - This tool adds a foam effect.

Rainbow Effect - Draws a trail of rainbow colours as you drag the magic wand on the drawing area.

Real Rainbow - Allows you to draw a rainbow that we see in the sky after a rainfall.

Noise Effect - Used to add white noise to our drawing.

Smudge effect - Used to mix two different objects smoothly.

Waves Effect - Used to wiggle any picture side to side.

Wavelets Effect - Used to wiggle your picture up and down (Vertical) rather than side to side.

BRAIN DEVELOPER

I) WRITE TRUE OR FALSE:

1. Using the Magic tool, we can apply beautiful effects to our drawing._____

2. The Grass tool is used to create flowers on the canvas._____

3. Fill effect tool is used to select a colour from the palette._____

4. Different stamps have same sound effects._____

5. Waves is used to mix two different objects smoothly._____

II) MULTIPLE CHOICE QUESTIONS:-

1. We can create a dripping effect of wet paints using the _____ effect of Magic tool.

   a. Drip b. Smudge c. Foam

2. We can rotate the shape upto _____ degrees.

   a. 180º b. 360º c. 260º

3. _____ effects adds vertical wavy effects in our picture.

   a. Waves b. Wavelets c. Tornado

4. _____ allows you to draw a rainbow that we see in the sky after a rainfall.

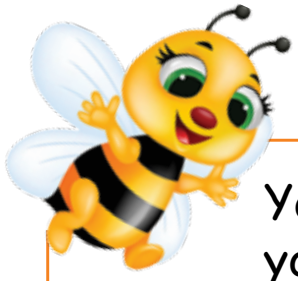
   a. Real Rainbow b. Rainbow c. Waves

5. _____ effect is used to add white noise to our drawing.

   a. Noise b. Sound c. Wavelets

III) MATCH THE FOLLOWING:

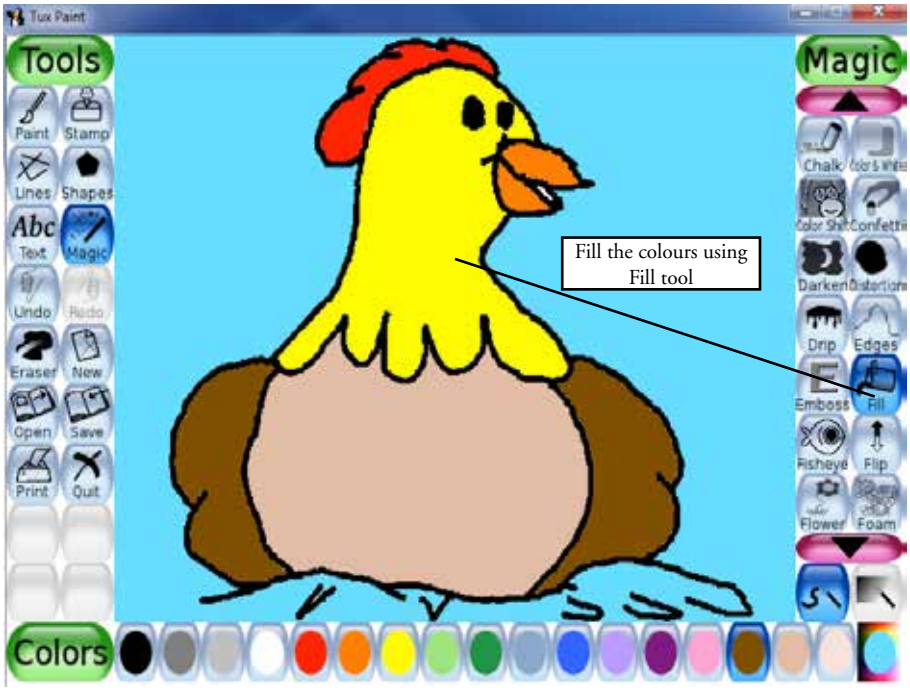
1.	Tux Paint Palette	-	a)	Bubbles
2.	Text tool	-	b)	17 colors
3.	Eraser tool	-	c)	Font size
4.	Magic tool	-	d)	Erases
5.	Foam	-	e)	Different effects



Did you Know

You can use a stamp in your drawing in 12 different sizes.

IV) CREATE THE FOLLOWING PICTURE USING NEW TOOL AND MAKE THE PICTURE LOOK MORE ATTRACTIVE BY COLOURING IT



DRAW THE FOLLOWING PICTURES USING MAGIC TOOL FILL OPTION.

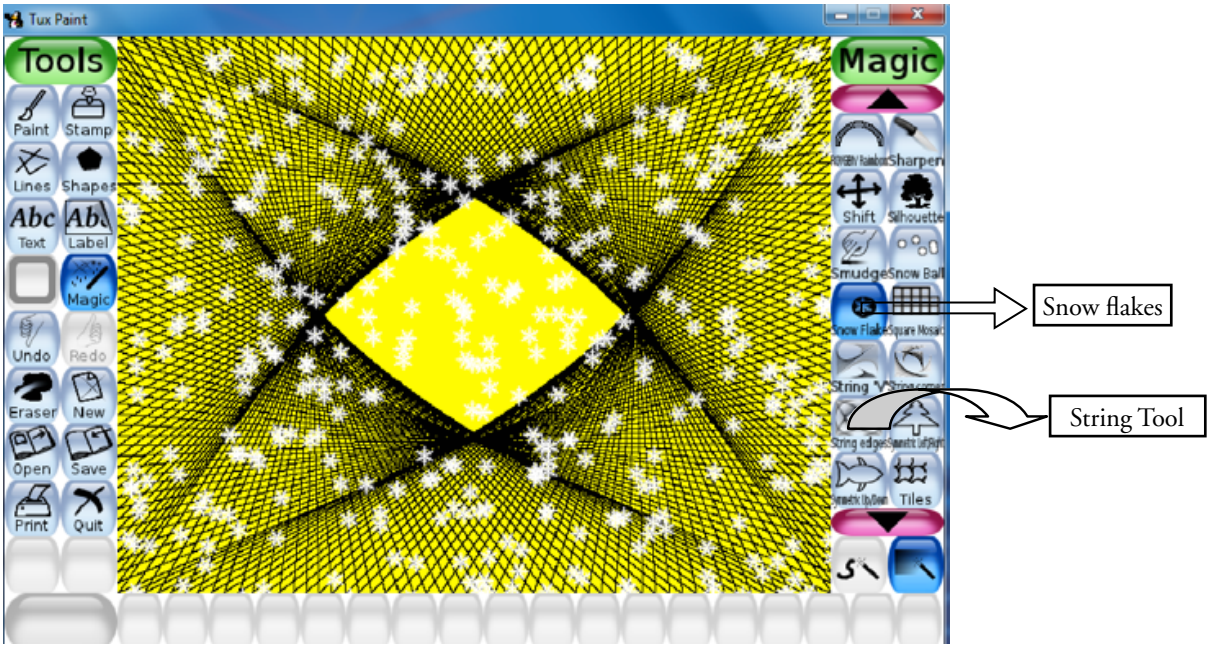
V) MAKE THE CLOUDS LOOK LIKE A CHALK DRAWING.

VI) DRAW THE FOLLOWING HOUSE USING SMALL BRICK PATTERNS IN THE MAGIC TOOL. CREATE A GARDEN AROUND THE HOUSE USING THE AVAILABLE TOOLS.

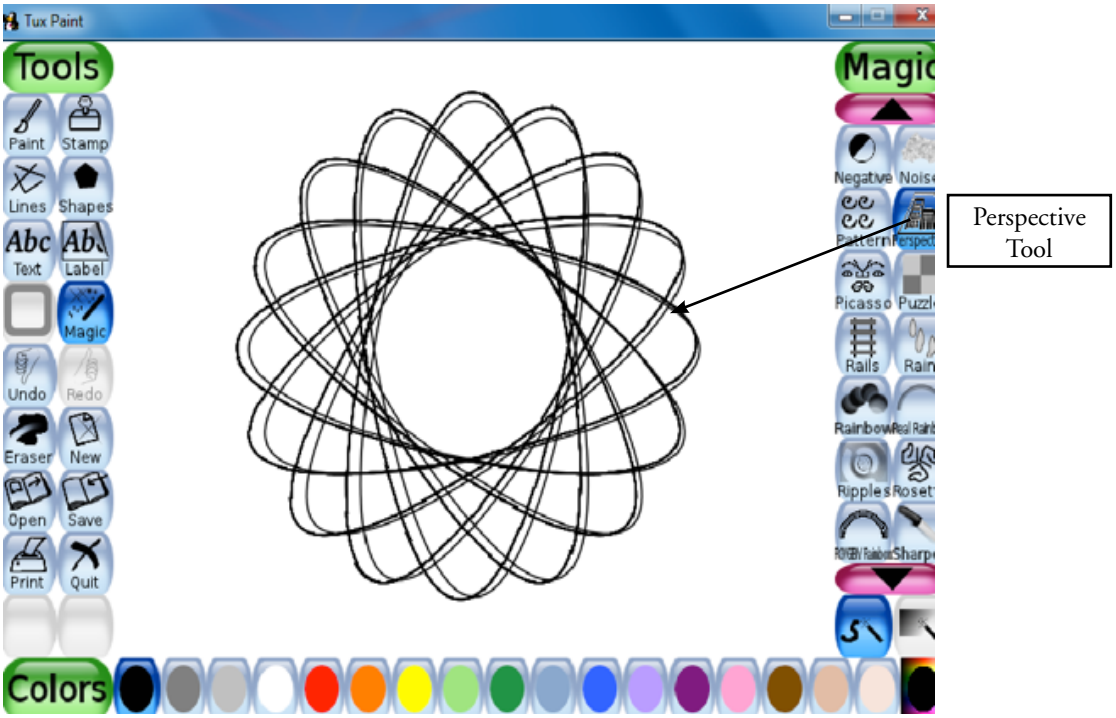
VII) CREATE THE FOLLOWING PICTURE AND DRAW A COLOURFUL ARC THAT RESEMBLES A RAINBOW.

The Recycle Bin icon changes to an empty dustbin when there is no file or folder present in it.

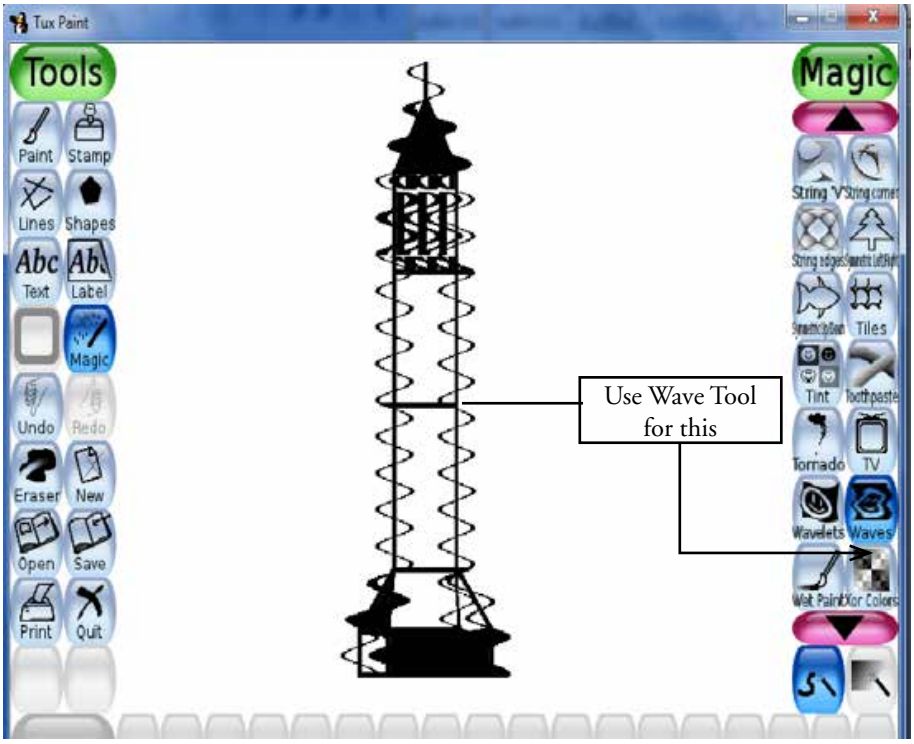
VIII) DRAW THE FOLLOWING PICTURE USING STRING ART AND COVER THE PICTURE WITH SNOW FLAKES



IX) CREATE THE FOLLOWING PICTURE AND BEND THE SAME USING PERSPECTIVE TOOL



X) CREATE THE FOLLOWING PICTURE USING NEW TOOL AND TWIST THE PICTURE USING WAVE TOOL



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Hewlett Packard developed the first Laser Printer named Laser Jet for Personal Computers in 1984.

DID YOU KNOW