

Requirements

1. Windows Operating system
2. Java Runtime Environment 1.8.0_101 or higher should be installed.

Link is provided:

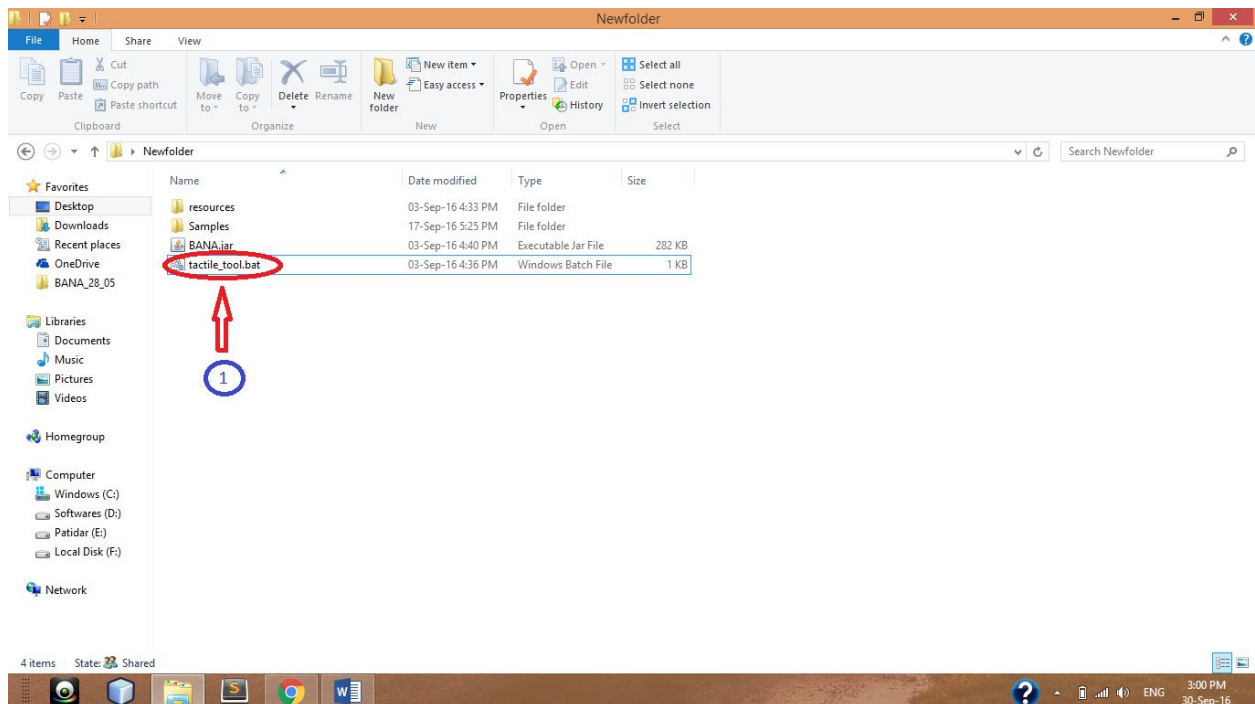
<http://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html>

Steps to install

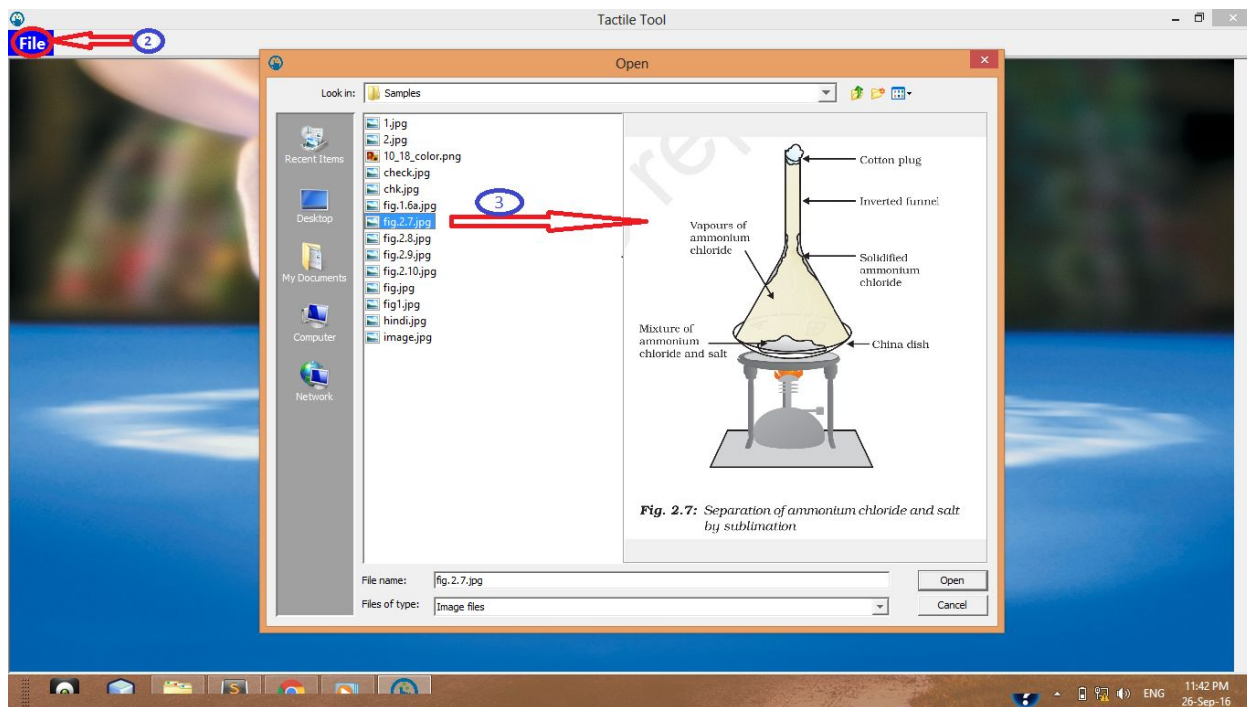
1. Extract zip file to a local directory. Do not leave space in the name of the directory.
2. There is a file “**tactile_tool.bat**” (This is the **executable** of the tool)
3. Package contains a folder named ‘**Samples**’ which contains some sample images.

We will go through each step with screenshot.

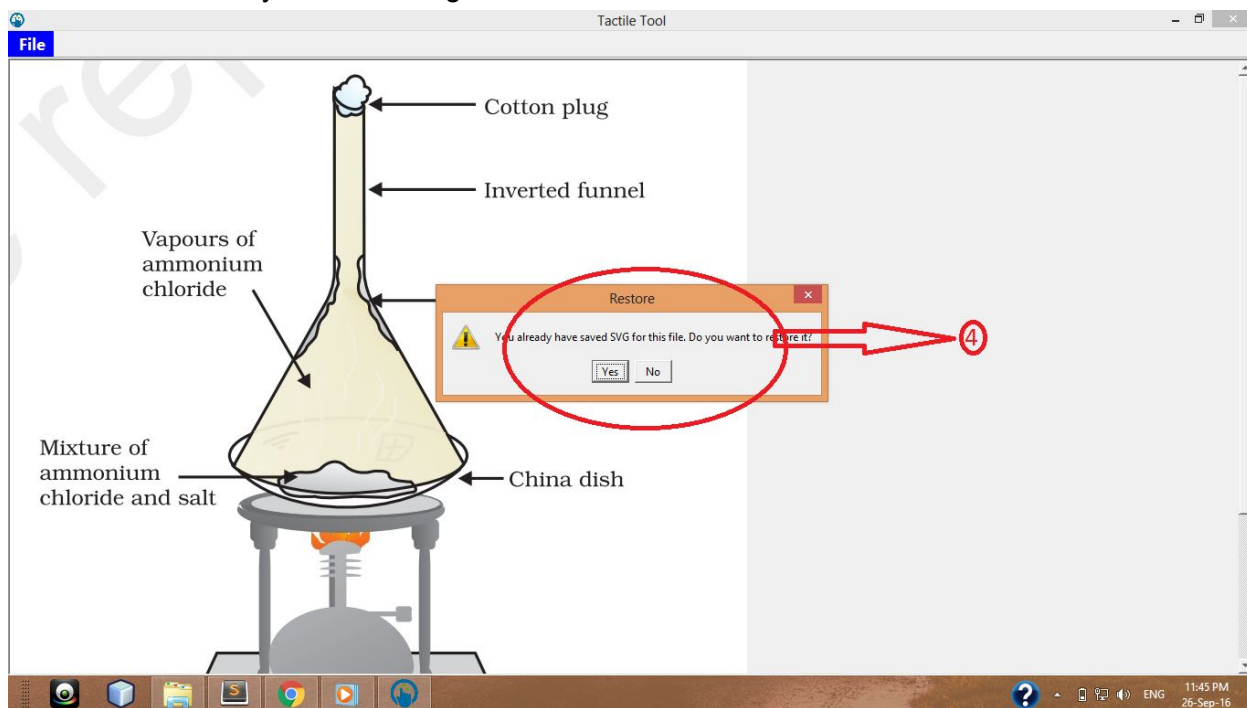
- 1) Double click on tactile_tool.bat(This is the executable of the tool)



- 2) Click on file menu , then open (Shortcut – ctrl+O) to open
- 3) Loading image – you can see the preview in the right side pane

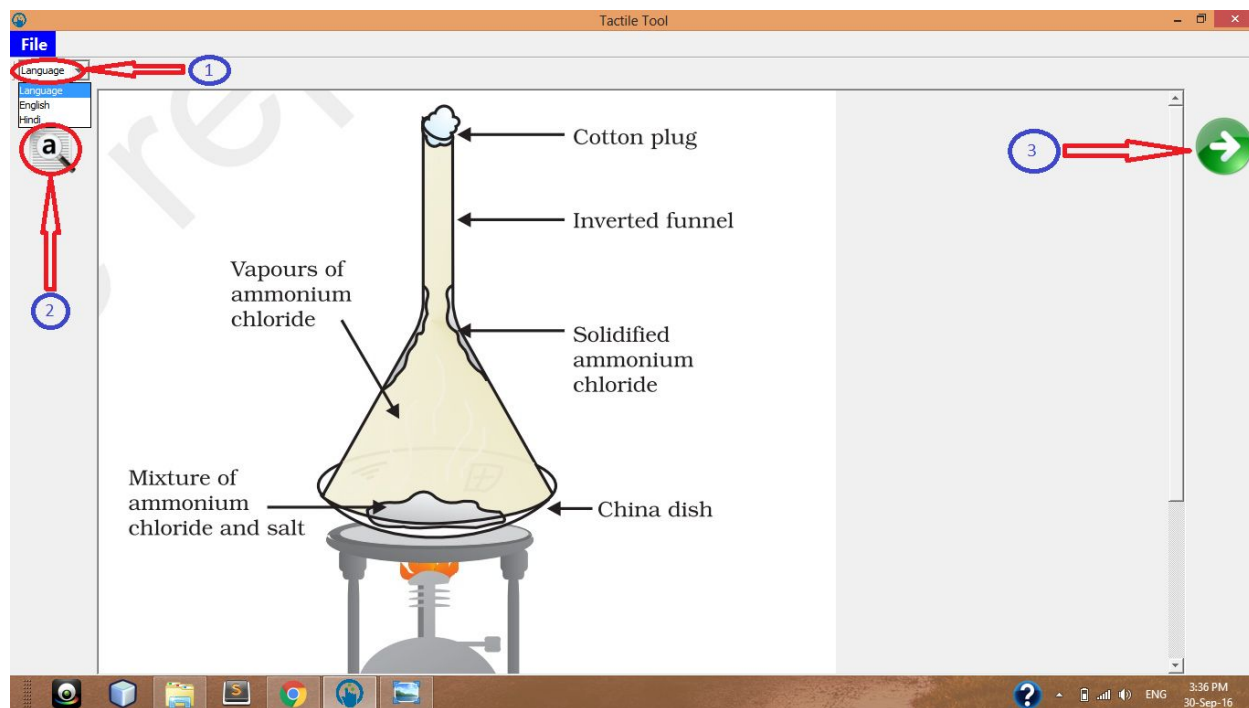


- 4) If there is already a svg file saved for opened image then a pop up will appear asking for Restoring saved work. If you click yes then it gets restored , if no, then svg file will get deleted and you will no longer be able to access saved work.



Stage-1

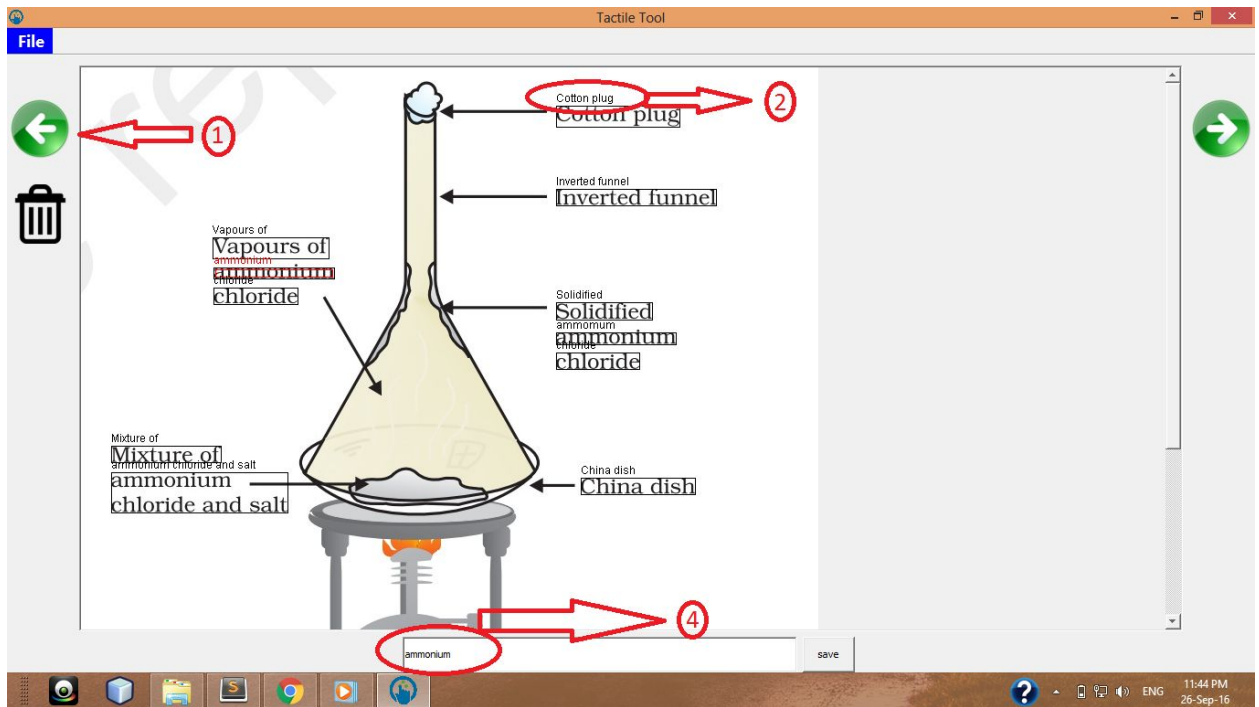
- 1) There is an option on the top to select language currently English and Hindi. Default language is English. If the text in the image is in Hindi, then select hindi in the language option
- 2) After that detect the text automatically by clicking on the icon on the left
- 3) You can also choose to skip this.



Stage-2

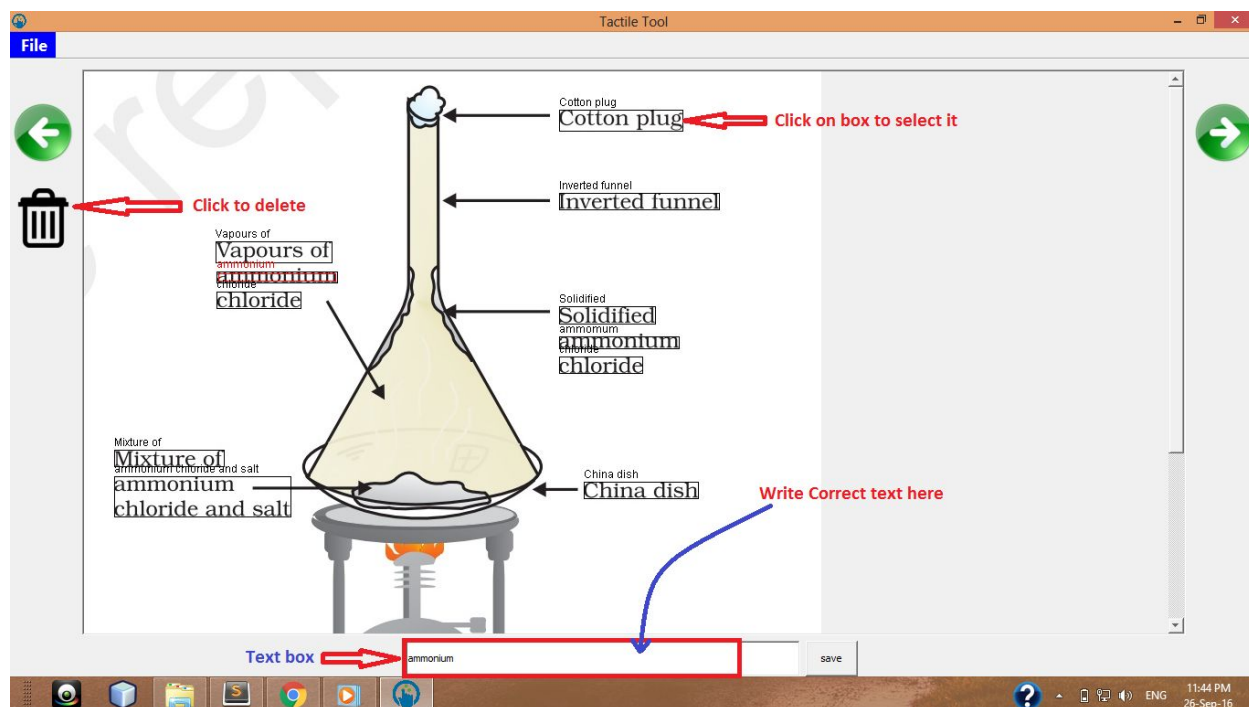
- 1) We have a option of going back to previous stage.
- 2) Detected text will be shown above a rectangle drawn surrounding the text in the image
- 3) At the end of this stage, all the text will get properly surrounded by rectangles because for the later stages we require image without any text, so we will clear these rectangles and new image without text will be passed to the later stages.

- 4) On clicking any rectangle, detected text will be shown in a textbox at the bottom and is editable.



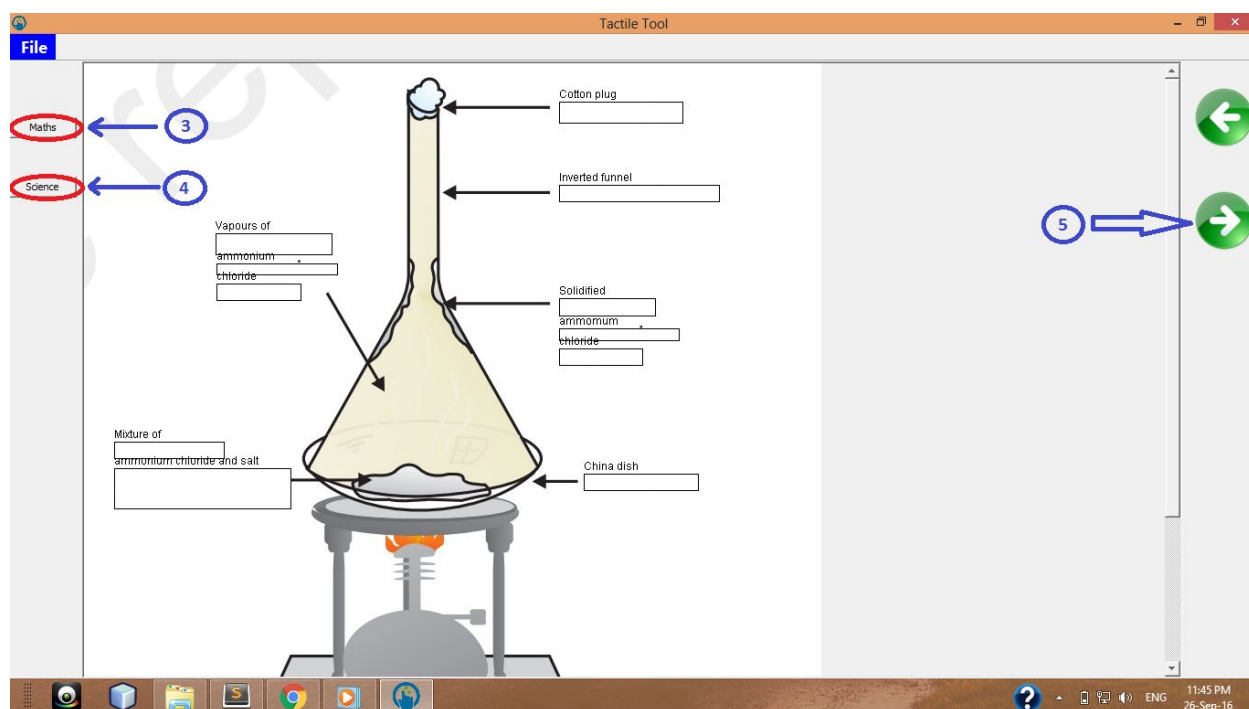
Corrections:-

1. If the rectangle is completely surrounding the text but the text is not correct. Then :-
 - 1.1. click the rectangle
 - 1.2. write the correct text in the textbox
 - 1.3. click on save
2. If the rectangle is not properly surrounding the text, then:-
 - 2.1. click the rectangle
 - 2.2. Press delete icon on the left
3. For undetected text :-
 - 3.1. Draw a rectangle by starting from top left corner and drag it towards bottom right corner of text to surround it.
 - 3.2. Write the text in textbox at the bottom and save (or press Enter)



Stage-3

1. Before proceeding ensure that there is no text left in the image loaded, if any then go back to previous stage and do the appropriate correction
2. In this stage an image without text will be loaded on the screen, And depending on whether it is a science diagram or a math diagram we would proceed differently
3. For science diagrams we detect different regions from the image automatically
4. For math diagrams, we have an option of detecting lines and circles automatically
5. You can also choose to skip this.



Stage-4

1. Draw a shape

1.1. Line

1.1.1. Click on the icon on left

1.1.2. Click on image to choose starting point, then click to choose ending point.

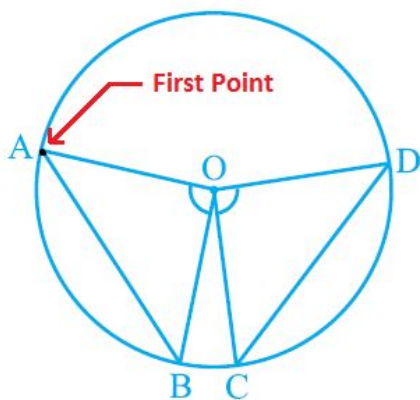


Fig. 10.13

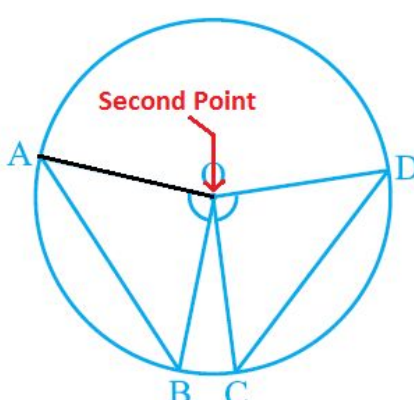
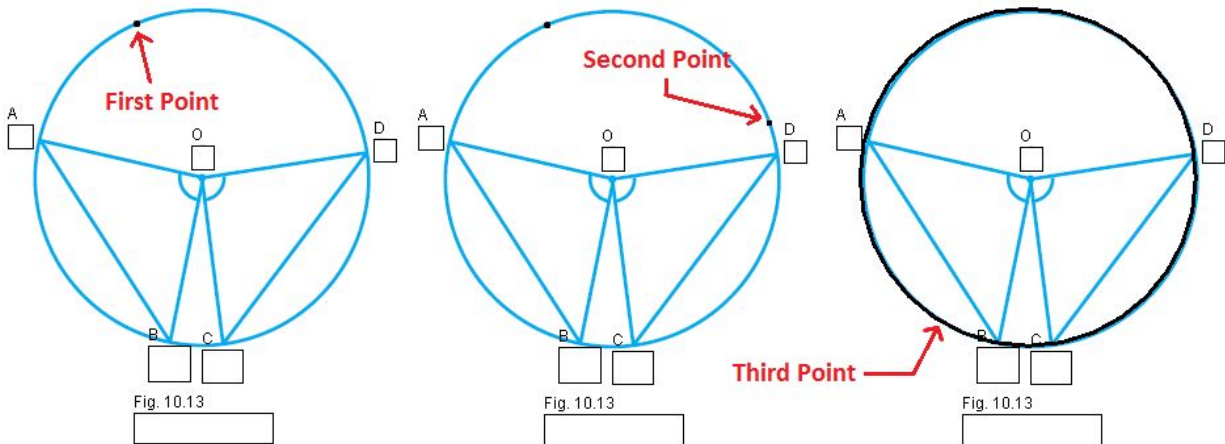


Fig. 10.13

1.2. Circle

1.2.1. Click on the icon on left

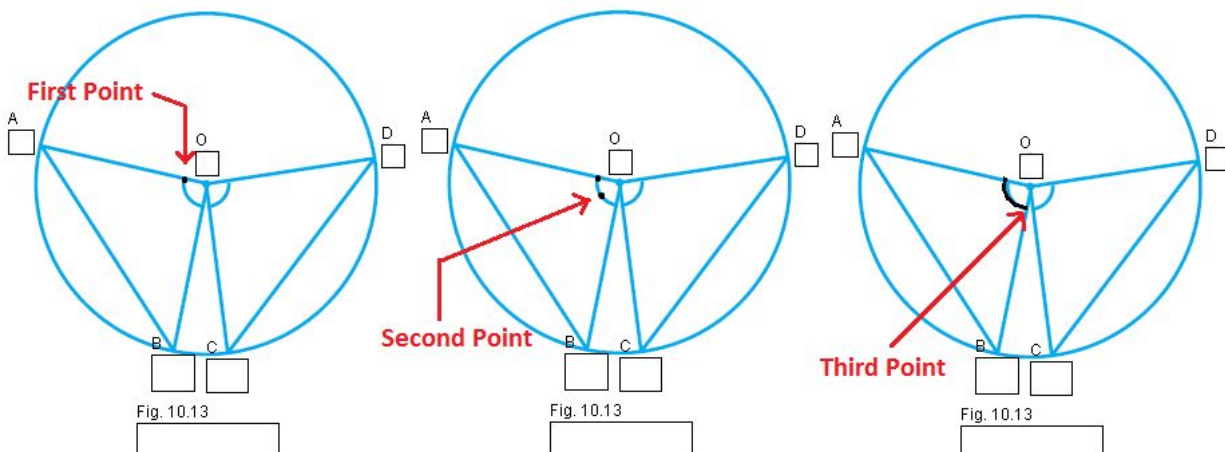
1.2.2. Click on image to choose any three points on the perimeter of the circle.



1.3. Arc

1.3.1. Click on the icon on left

1.3.2. Click on image to choose one endpoint of arc, then any intermediate point on the boundary, then the other endpoint.



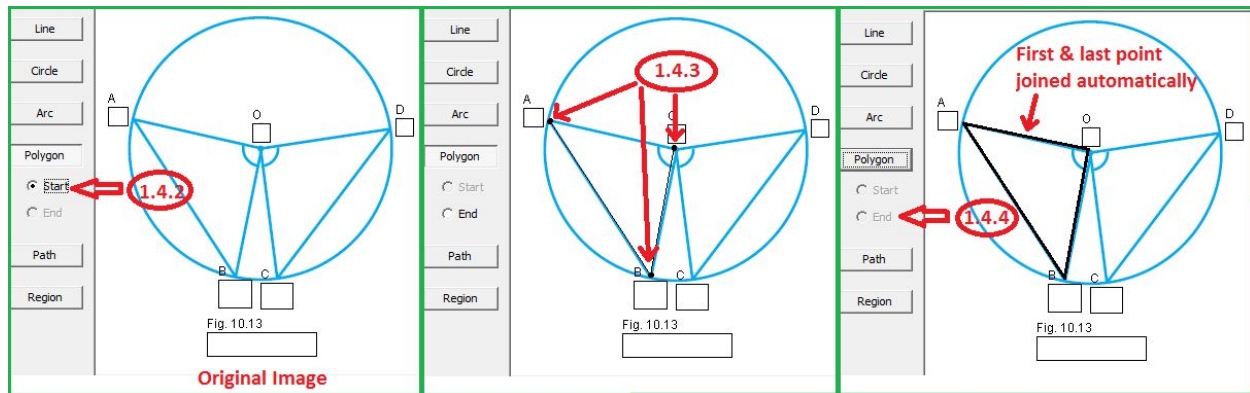
1.4. Polygon

1.4.1. Click on the icon on left

1.4.2. Click on '**Start**' radio button below the polygon button on the left.

1.4.3. Start clicking on image to select the corners of the polygon in an order

1.4.4. Click on '**End**' radio button to complete the polygon



1.5. Path

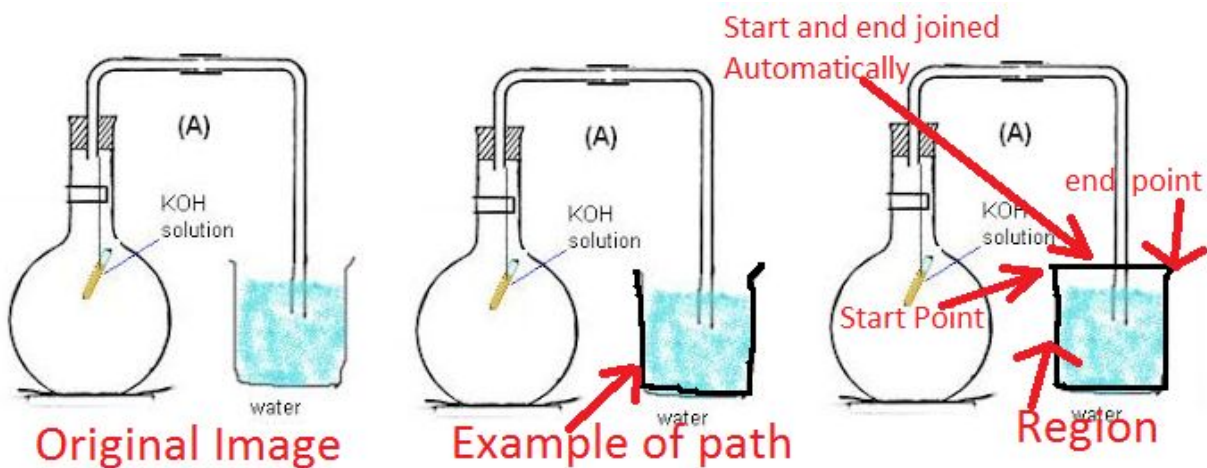
1.5.1. Click on the icon on left

1.5.2. Start dragging to draw a path, it is like free hand drawing. Release mouse to end the path.

1.6. Region

1.6.1. Click on the icon on left

1.6.2. Start dragging to draw a closed region, it is similar to the path except that when mouse is released here starting and ending point are joined with a straight line thus making a closed region.



2. Delete a shape

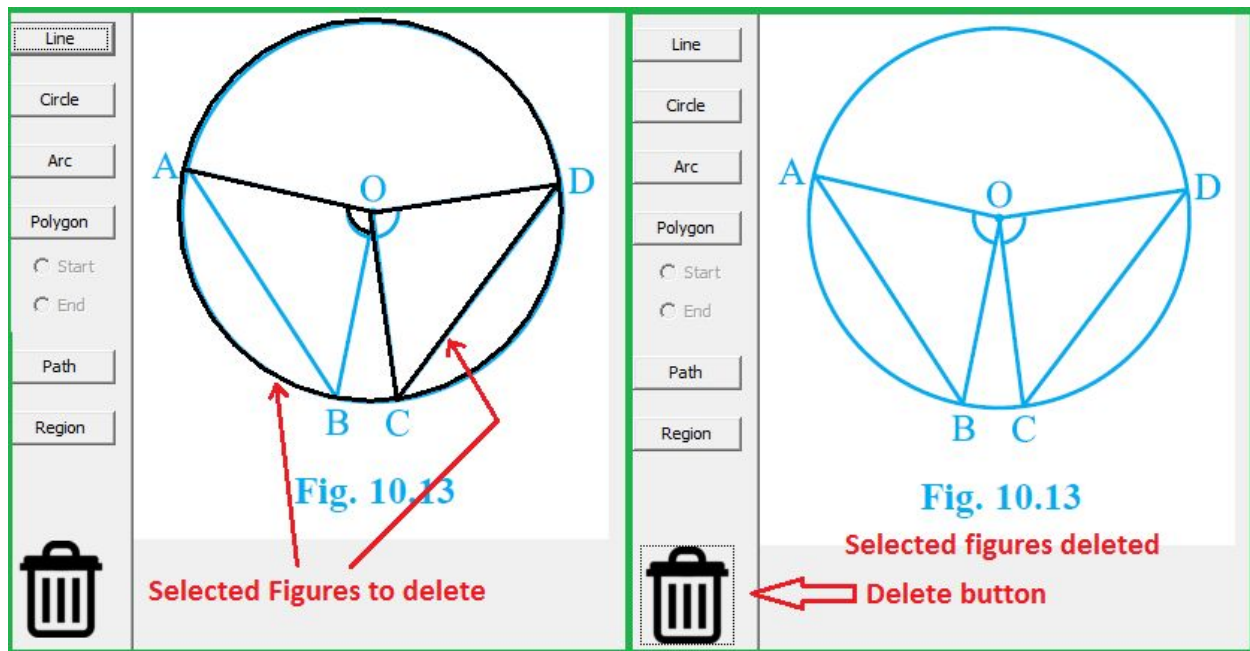
Note:- Ensure that none of the button on the left(such as “line”, ”circle” etc.) is selected already. Deselect these buttons first, then for:-

2.1. Line

2.1.1. Click on any point of line to select it.

- 2.2. Circle
 - 2.2.1. Click on any point inside the circle to select it.
- 2.3. Arc
 - 2.3.1. Click on any point inside the arc to select it.
- 2.4. Polygon
 - 2.4.1. Click on any point inside the polygon to select it.
- 2.5. Path
 - 2.5.1. Click on any point in the interior to select it.
- 2.6. Region
 - 2.6.1. Click on any point inside the region to select it.

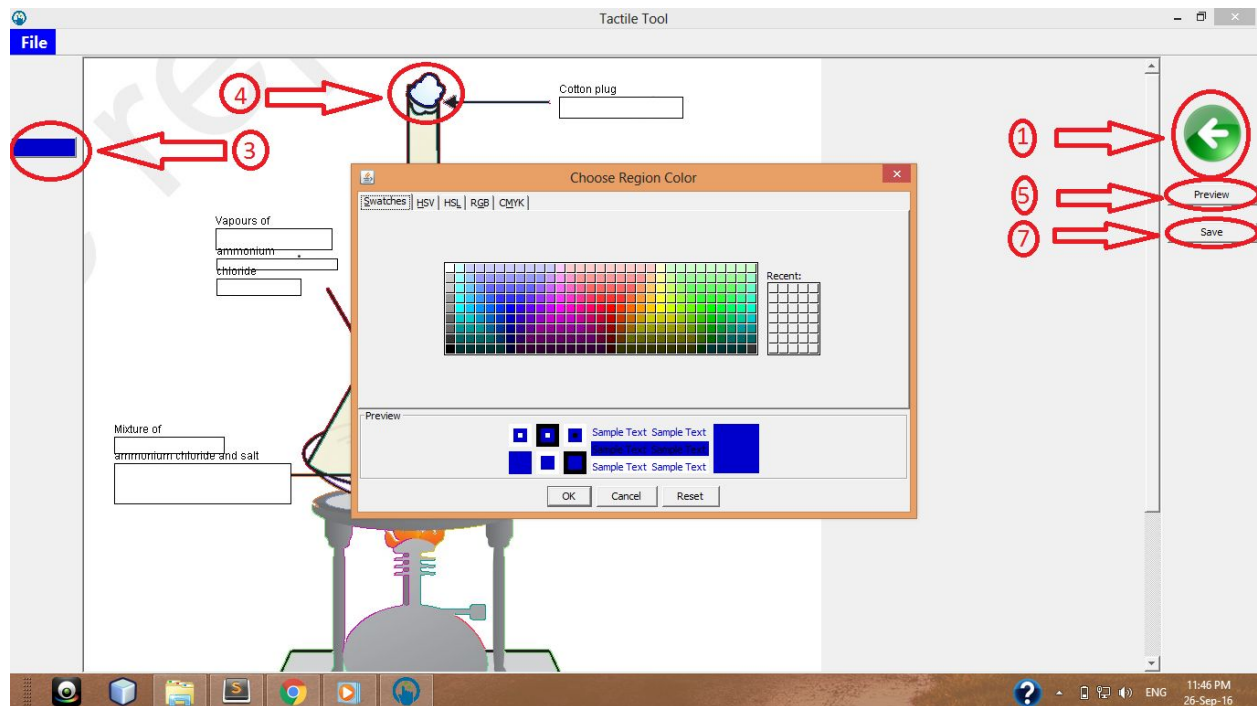
- Once selected the shape will become bold in terms of stroke.
- Then, press the delete icon on left to remove the selected objects



Stage-5

1. Before proceeding ensure that there is no shape left undetected in the image loaded, if any then go back to previous stage and do the appropriate correction.
2. Assign appropriate color to each of the shape, this color will be just like different textures to different shapes.
3. For this, first select a color by clicking on “**color chooser**” icon on the left and choose a color.
4. And then click on a shape to give the color to it.

5. Once done with the coloring, click on **“preview”** button on the right. This will open the svg file in the default web browser.
6. Now the **“save”** button on the right becomes active, if user wants to do any more modification he can do that.
7. Once done, click on **“save”** button on the right to generate and save the final svg file



Generated SVG file

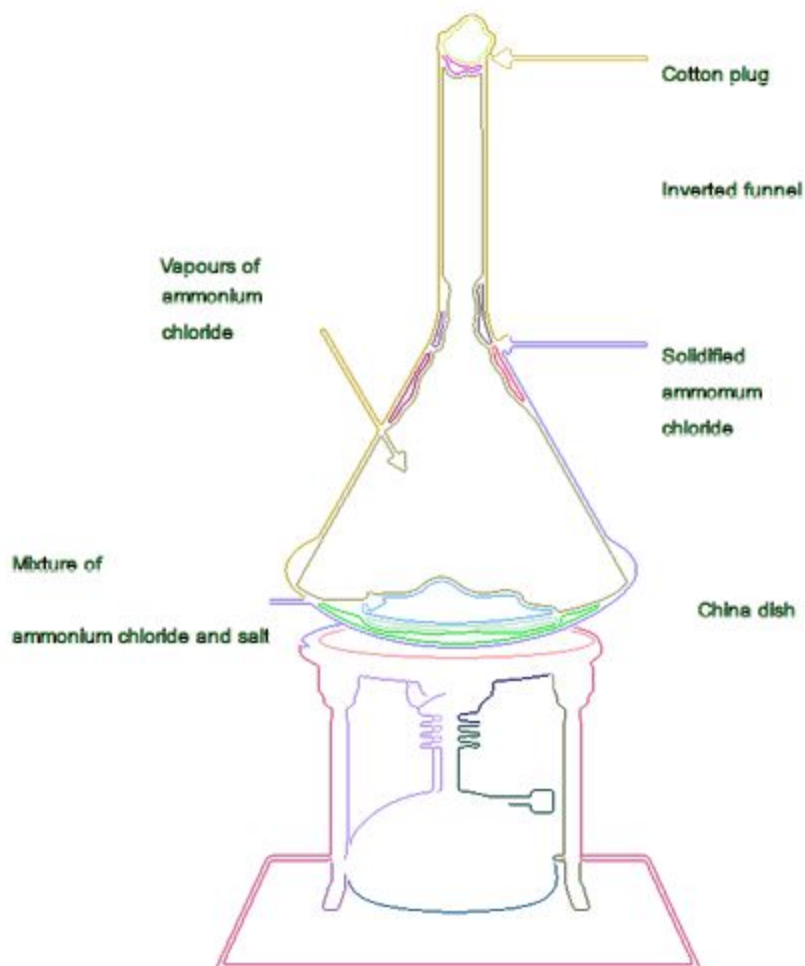


Fig. 2.7: Separation of ammonium chloride and salt by sublimation

SVG file in file system

As shown in the figure, since the original image name was "fig.2.7.jpg". So our tool generated SVG with name as "fig.2.7.jpg.html". This is a HTML file because we wanted to show it in the browser.

