

# Creating Your Own Shapes in Visio

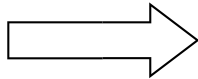
You can create your own custom shapes in Visio if you need a shape that is not in one of the standard templates. This example shows how to create the recycling symbol as a Visio shape, and how to create a Visio smart shape representing a three-input AND gate.

## Starting the Drawing

Click the **Start** button in the bottom left corner of the screen, then choose **All Apps**, then **V** and open **Visio 2016**, then click on **Basic Diagram**. You should see a **Shapes** window on the left side of the screen. Zooming in on the drawing is a good idea for the precision necessary to create the recycling symbol. To zoom in, use slider at the bottom of the page with the default case **50%** to make your picture larger or smaller.

## Creating the Parts of a Recycling Arrow

Create a copy of the **Arrow** shape called **Simple Arrow** by clicking on it in the **Arrow Shapes** template window and dragging it into the drawing window. That is the only shape that you will use in this example, so you can close the basic shapes template window if you want.



## Dividing the Arrow

You now need to divide the arrow into two parts so you can rotate the second portion of the arrow. To divide the arrow you need to:

In the **Home** tab, from the **Tools** group Choose the **Line Pointer tool** from the drop down menu.

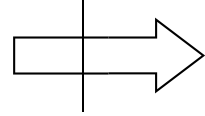


If the arrow is still selected, deselect it by clicking once anywhere on the drawing window outside of the arrow.

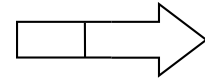
Draw a vertical line across the arrow slightly to the left of the center.

To do this, simply click above where you want to draw the line, move the mouse pointer directly below the arrow and click once more.

From the **toolbar**, choose the **pointer tool**.  
Select both the line and the arrow using the shift key (or drag a box around them both).



From the **Developer** tab, in the **Shape 2Design** group click the **Operations** drop down menu and choose **Fragment**. (If the Developer tab is not available in Visio, go to File>Options>Customize Ribbon. Under the Main Tabs options, make sure that the Developer tab is checked on.)



### Rotate the shaft of the Arrow

Select the shaft of the arrow.

There will be a white circle, click the circle when the rotate symbol appears and rotate the shaft.

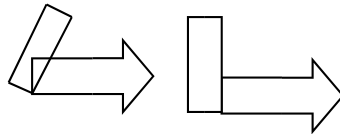
Move the arrow shaft so it is next to the arrow, but does not overlap it.

When you pass the pointer over the blue circle outside the box, another small blue circle with white in the center will appear, this is your center of rotation.

Drag the arrow shaft's center of rotation from the shape's center to the lower-right corner of the shape and release the mouse button.

Drag the outside circle to the right.

When the status bar at the bottom of the window shows an angle of 60 degrees, release the mouse button.

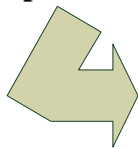


### Uniting the Components of the Arrow

Select the pointer tool in the Home Tab.

Select the arrow and arrow shaft.

From the **Developer** tab in the **Shape Design** group, choose **Operations**, then **Union**.



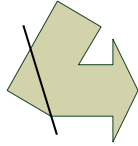
### Trim Excess corner of the Recycle arrow

In the **Home** tab, from the **Tools** group, choose the **line tool** from the drop down menu.

Draw a horizontal line under the recycle arrow.

In the toolbar, choose the **pointer tool**.

Drag the left end of the line up until the status bar shows an angle of -60 degrees.

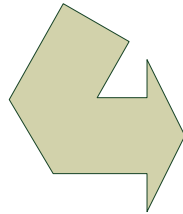


Move the line until it intersects the arrow as shown.

Select both the line and the arrow.

From the **Developer** tab in the **Shape Design** group, choose **Operations**, then **Fragment**.

Select the small triangle shape and delete it.



Now the main portion of the work is done. All that remains is to make two copies of the arrow and rotate those copies.

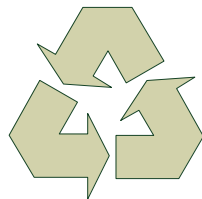
Press Ctrl and drag a copy of the recycle arrow to the left of the original.

Drag the new arrow shaft's center of rotation handle, and rotate the copy until the status bar shows 120 degrees.

Press Ctrl and drag another copy of the arrow to the top of the original.

Rotate the copy until the status bar shows -120 degrees.

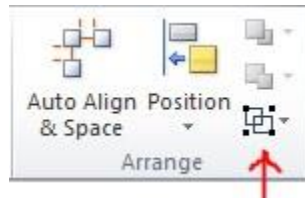
Move the copies until it looks as if they are in position.



### Grouping the symbol

Select all three arrows.

Under the **Home** tab in the **Arrange** group choose the **Group** icon, and then **Group**.



### Coloring the Symbol

Select the recycling symbol.

Under the **Home** tab, in the **Shape** group, choose **Fill**.  
In the pull down menu choose black.



## Saving the Symbol

From the **File** menu, choose **Save As**.

Under **Save as Type**, select **Stencil (\*.VSS)**.

Type a file name in the **File Name** box, then click **OK**.

Click **More Shapes** in the **Shapes** column.

Choose **Open Stencil** and select your saved stencil.

Right click on your stencil bar under the **Shapes** column and select **Edit**.

The red asterisk should be showing.



Drag your grouped stencil into the stencil field, then right click and **Rename** it. Click the save icon next to the stencil bar.



## Creating a Smart Shape

An example of creating a three input and gate will be shown.

Open Visio or select **New** under the **File** menu.

In the menu at the right choose **Blank Drawing**.

Zoom in to 200%

In the **Home** tab, from the **Tools** group, choose the **line tool** from the drop down menu. Draw three sides of a rectangle as shown:

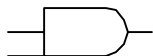


Using the **pencil tool** located in the same drop down menu as the line tool, draw a line that connects the ends of the rectangle.


To make the line look like an arc, use the **pencil tool** to stretch the line from its center point. Stretch it until it looks something like this:



The next step is to draw the lines that will be the connection points. Draw one line from the center of the right end, and three from the left end of the shape.



Select all parts of the drawing using the pointer tool and the shift key. Under the **Arrange** group select the **Group icon, Group**.

Now that the shape has been created, it is time to make the shape smart. VISIO has Shape Sheets that allow you to control how the shape acts. Begin by selecting the desired shape. From the **Tools** group click on the **Connection Point** tool . Press CTRL and click the desired points on the selected shape. (**Note:** Be sure that the shape is selected before you add the connection points. The selected shape has a blue, bold border. Connection points are created only for the selected shape, even if the pointer is positioned over a different shape.)

Gray squares will be present at each point that you clicked on the gate shape. This means that when you use the connection shapes, they will know what to connect.

Now a smart shape has been created. To finish this example, simply save your shape as a stencil. The process is just like saving the first example.