

Kaleidoscope Kreator

Users Guide

Version 1.0

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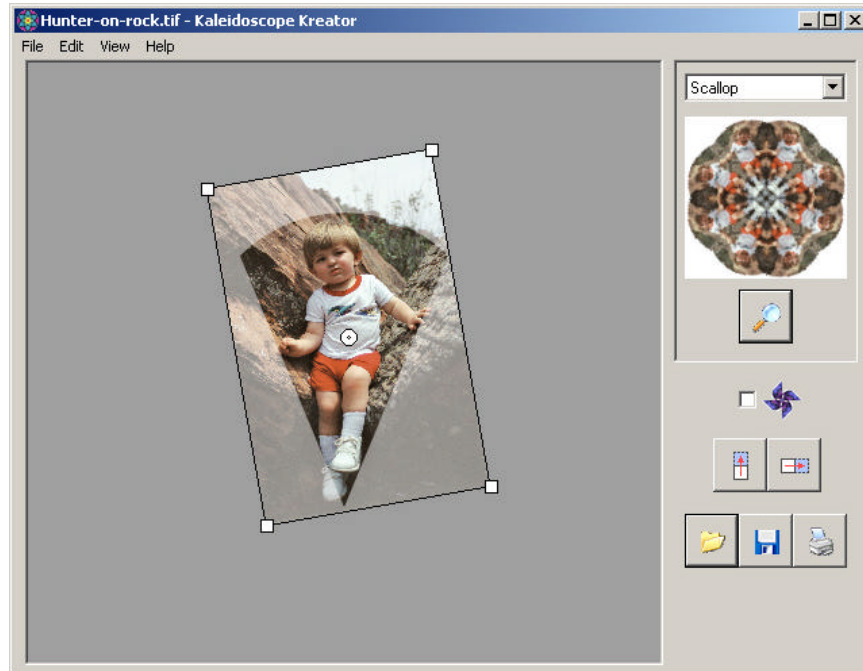
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1 – Overview

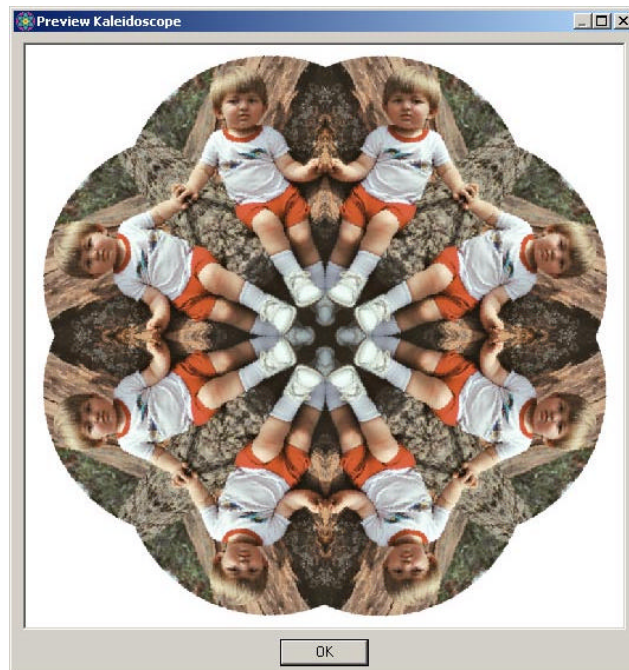
1.1 – What is Kaleidoscope Kreator?

Very simply, Kaleidoscope Kreator creates photo kaleidoscopes from digital images. It allows you to view your entire photo while choosing exactly what portion of your image will be used to create the kaleidoscope. This makes it ideal for creating kaleidoscopes of people or other distinct subjects to be used in both traditional and digital scrapbooking, card making, quilting and many other craft projects.

Workspace:



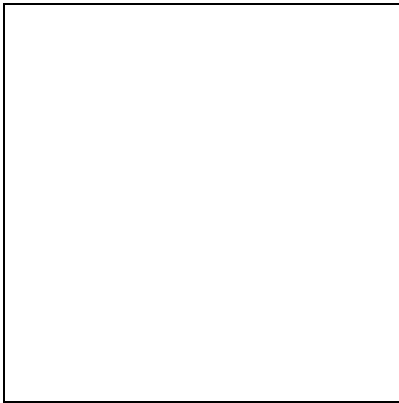
Preview:



1.2 – Creative Uses for Kaleidoscope Kreator

Kaleidoscope Kreator was designed with scrapbooking in mind, but there are many other uses for photo kaleidoscopes, including card making and quilting. Kaleidoscopes can be made from any image in digital format including photos and artwork. (Digital images can be obtained from scanners or digital cameras or created using other graphics/painting computer applications.)

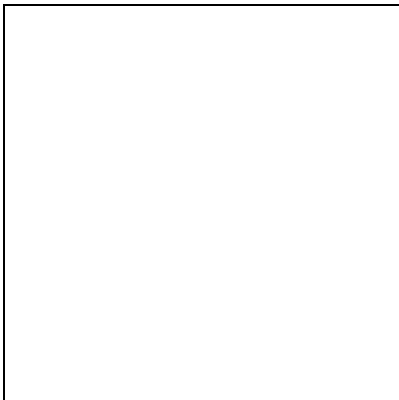
Scrapbooking



Traditional scrapbooking: A simple star kaleidoscope was printed from Kaleidoscope Kreator, then cut out and mounted on cardstock. A photo was then glued in the center and die-cut letters and stars were added to complete the page.

Shape: *Star*

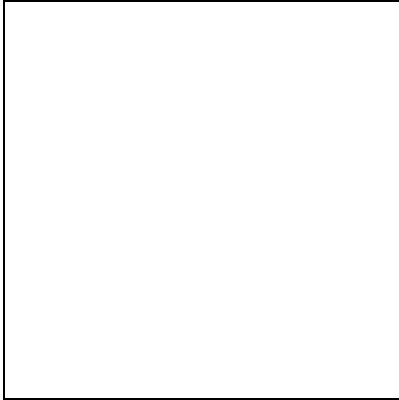
Pinwheel Mode: *Off*



Traditional/digital scrapbooking: This page layout was created from two different kaleidoscopes. The first kaleidoscope is easily recognized as the star shape of a baby boy in his carrier seat. The second kaleidoscope is found in the background paper! A small 2" square kaleidoscope was created from the same photo using just the booties on the feet. The small kaleidoscope was then brought into another image editing program and duplicated many times (4 across and 4 down) to create a patterned paper background. The patterned background was printed out separately from the larger kaleidoscope and they were then combined using traditional scrapbooking techniques.

Shape: *Star and Square*

Pinwheel Mode: *Off*

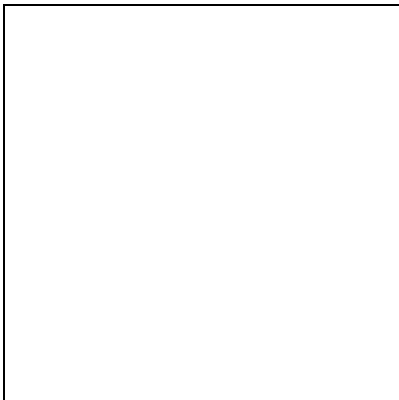


Digital scrapbooking: This kaleidoscope was created using Kaleidoscope Kreator and saved to a file. The file was then opened in another image editing program to complete the digital layout. A photo was added to the center and two smaller photos were added outside the kaleidoscope. Borders were added around each element and journaling was added to complete the page.

Shape: *Scallop*

Pinwheel Mode: *Off*

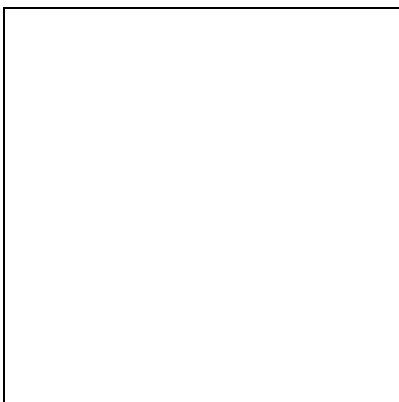
Scrapbooking Embellishments



Kaleidoscopes to match your photos: The corner embellishments in this layout are pinwheels that were created from the photo in the center (using only the section containing the baby birds.)

Shape: *Pinwheel*

Pinwheel Mode: *On*

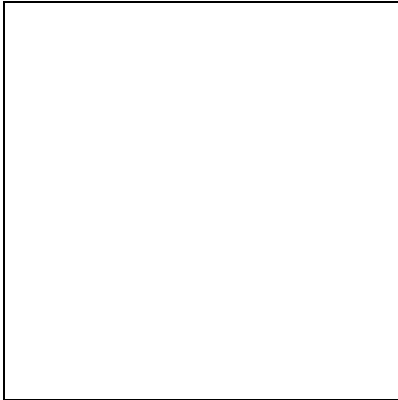


Kaleidoscopes in many different shapes: Don't limit yourself to just circular or square kaleidoscopes. The green strips and the die-cut "ZOO" letters in this layout are all created from one small kaleidoscope. The kaleidoscope was created using the greenery in the background of the main photo, then saved to a file. The file was then brought into an image editing program and duplicated many times to create a patterned paper effect. The "patterned paper" design was then printed and cut to create the long strips and letters in the layout.

Shape: *Square*

Pinwheel Mode: *Off*

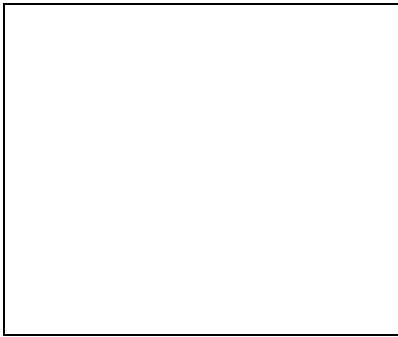
Cards & Other Paper Crafts



Kaleidoscope cards: There is nothing quite as simple yet so elegant as kaleidoscope cards. Simply print a kaleidoscope from Kaleidoscope Kreator and cut it out, then attach to cardstock for a beautiful card! (This card was created using five printed kaleidoscopes, each slightly smaller than the other, stacked on top of one another.)

Shape: *Lotus*

Pinwheel Mode: *On*

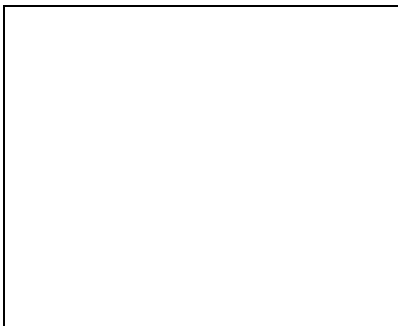


Oh, the possibilities! Whether used for cards or other paper crafts, the possibilities for Kaleidoscope Kreator are limited only by your imagination! Here we created a Flower shape kaleidoscope from a photo of roses. We printed the kaleidoscope in a few different sizes, then cut them out and inked the edges. Finally we arranged them with some leaves for something completely different!

Shape: *Flower*

Pinwheel Mode: *Off*

Quilting



Quilting: Now that there are a wide variety of colorfast fabrics available for inkjet printing, the creative possibilities for quilting have increased dramatically. Special memory "photo quilts" are now popular. Imagine a kaleidoscope as the center piece of a photo star quilt!

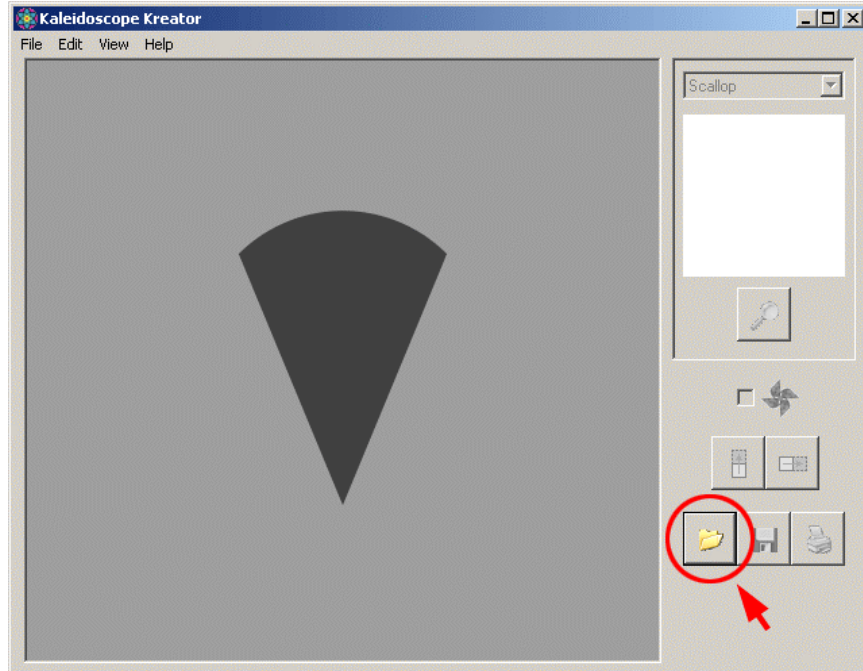
Shape: *Star Quilt*

Pinwheel Mode: *Off*

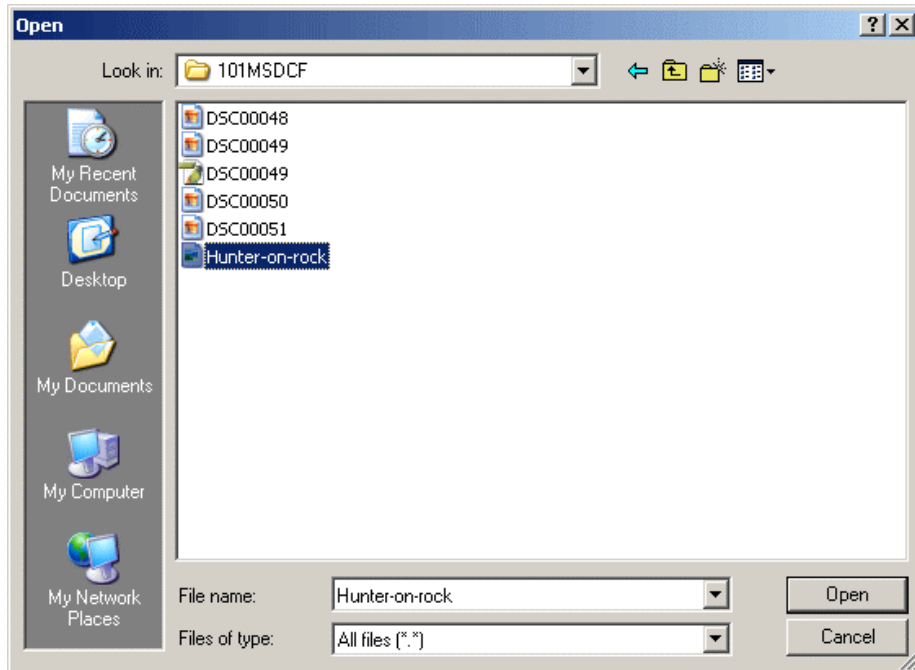
2 – Quick Start Guide – Four Simple Steps!

2.1 – Step 1: Open Image

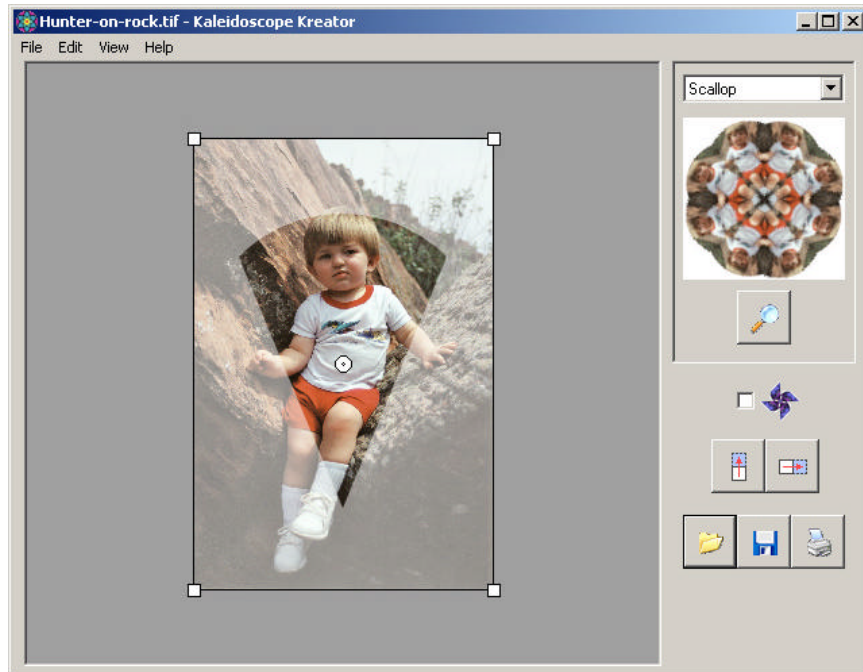
Click on the **Open Image** button and use the file browser to open an image:



After you click on the button, you will see the standard Windows® Open dialog box:





After opening a file, the workspace should look something like this:




2.2 – Step 2: Position Image

Using your mouse, you can position your image within the template shape. The mouse action changes as you position the mouse over or next to the image. The shape of the mouse pointer changes to indicate which action will occur when you click the mouse button.

 To resize the image, move the mouse over the corners, then click and drag.

 To rotate the image, click and drag the mouse outside the image boundary.

 To move the image around the work area, position the mouse over the image, then click and drag.

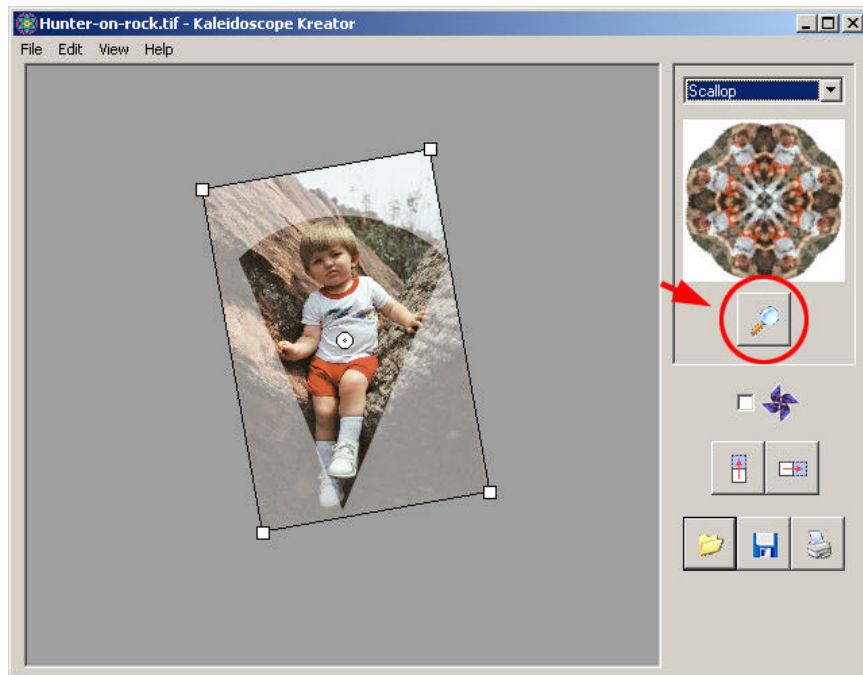
The goal is to position the image such that the part you want to use for the kaleidoscope is inside the wedge-shaped template in the work area.

In the example on the next page, the image has been reduced in size slightly and rotated to the left so that the subject's foot is centered in the tip of the wedge and the hands are just touching the edges:



2.3 – Step 3: Preview Kaleidoscope

Click on the **Preview** button to see what your kaleidoscope will look like.

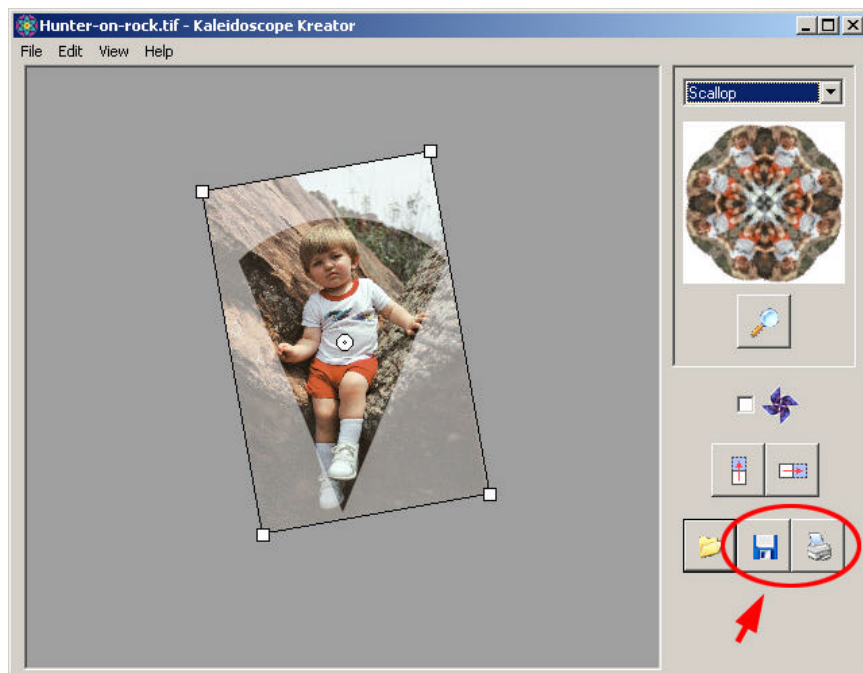


To continue, click **OK** to close the Preview window.

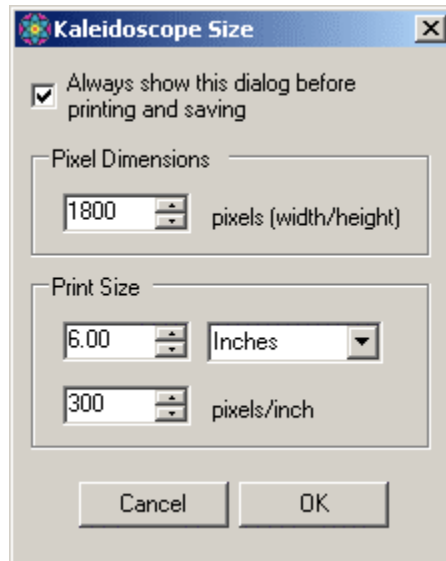


2.4 – Step 4: Print or Save

Print your kaleidoscope directly from Kaleidoscope Kreator using the **Print Kaleidoscope** button or save it to a file using the **Save Kaleidoscope** button to edit in another program or print later.



Kaleidoscope Kreator will ask you to specify the size before saving or printing. The default size is 6 inches at 300dpi resolution. You can change this or just click **OK** for now.



3 – Detailed Users Guide

3.1 – Workspace Description

The Kaleidoscope Kreator workspace is divided into the following areas:



A. Staging Area

The staging area is where all of the “action” takes place. This is the area where you arrange your photo so that the subject is inside the mask.

B. Shape Selection

The drop-down menu is where you to choose the shape of your kaleidoscope.

C. Preview Area

The Preview Area contains a small thumbnail of the kaleidoscope that is constantly updated as the photo is adjusted in the staging area. Clicking on the Preview button will generate a full-screen size version of the kaleidoscope.

D. Pinwheel Mode

Pinwheel Mode turns off the "mirroring" that occurs in normal kaleidoscopes. It can be used with any shape.

E. Flip Image

These two buttons allow you to flip the photo horizontally or vertically.

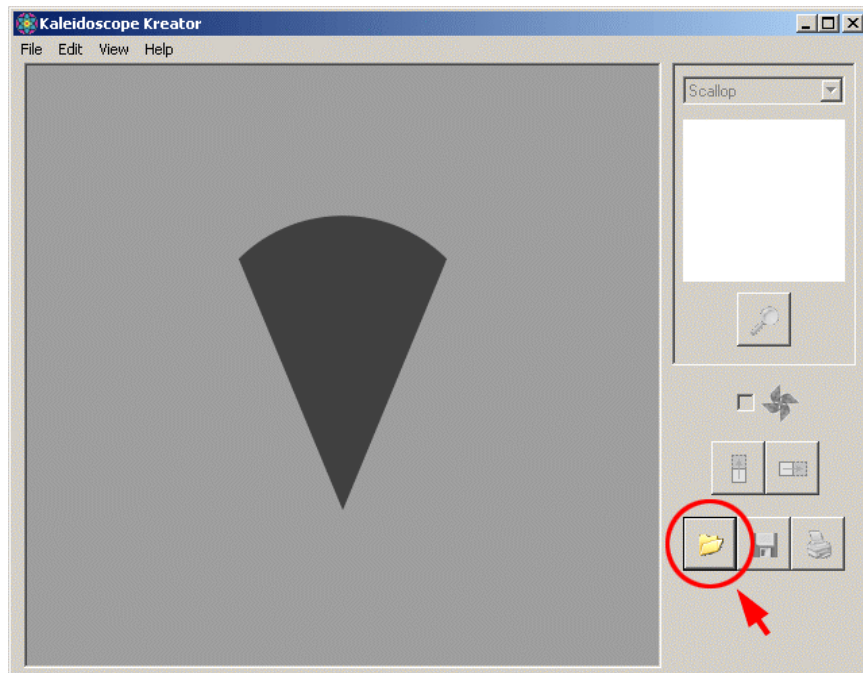
F. File Operations

These buttons control the file operations:

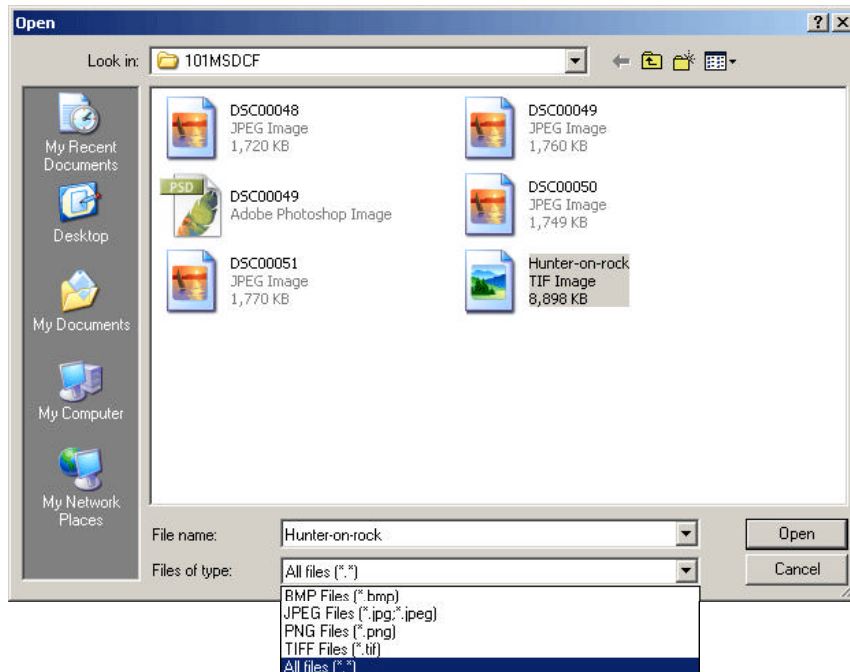
- a. Opening an image
- b. Saving a kaleidoscope to a file
- c. Printing a kaleidoscope

3.2 – Open Image

To open an image, either use the menu selection **File > Open Image...** or click on the **Open Image** button.

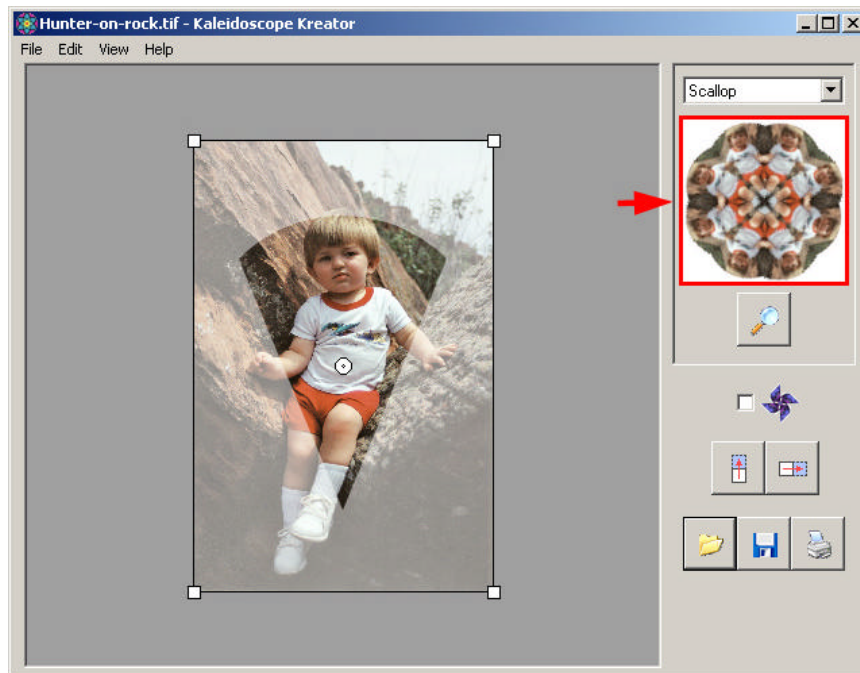


Use the standard Windows Open dialog box to browse for the file you want to open; Kaleidoscope Kreator will remember the last directory that you opened. Kaleidoscope Kreator supports BMP, JPEG, PNG and non-compressed TIFF files; files in other formats will result in an error if you attempt to open them. (See *Supported Image File Types* in the Appendix for more information on file types.)



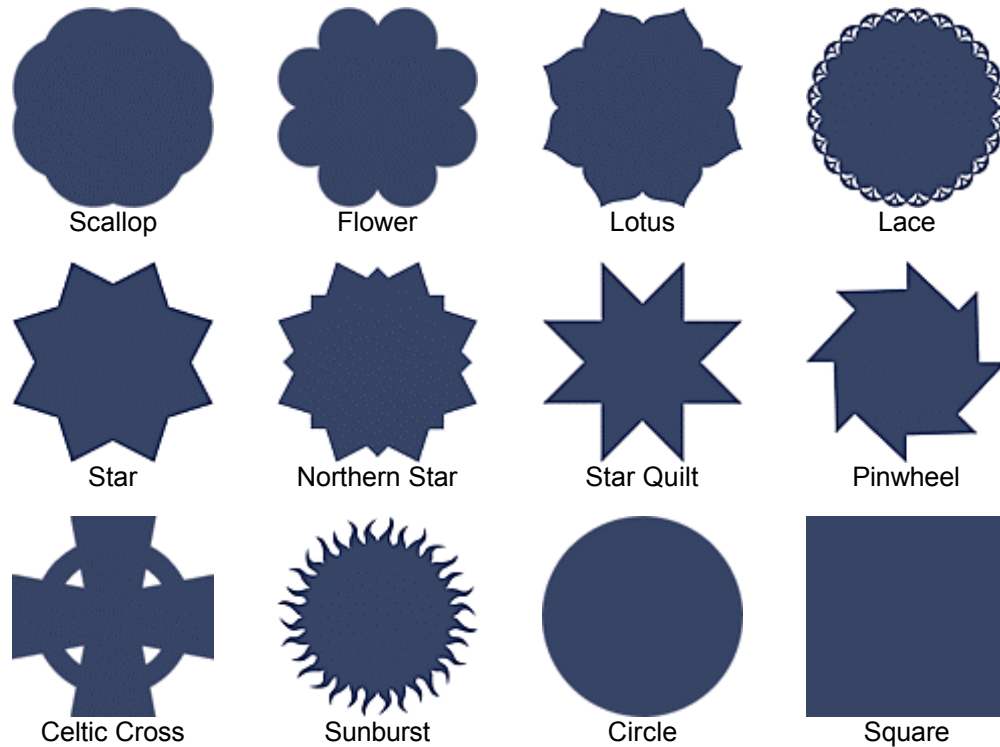
If you do not see all of your images on your hard drive, it is possible that you are viewing files of just one file type. In this case, choose "All files" to see all of your files.

As soon as an image is loaded, the Preview Thumbnail becomes active. The Preview Thumbnail is updated whenever the image is moved within the workspace, the image is flipped or the pinwheel mode is changed.

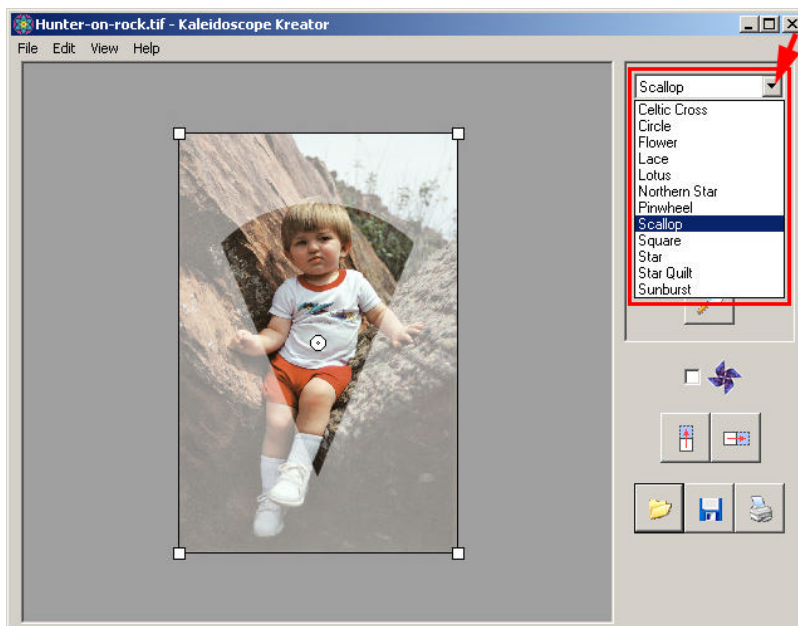


3.3 – Choose a Shape

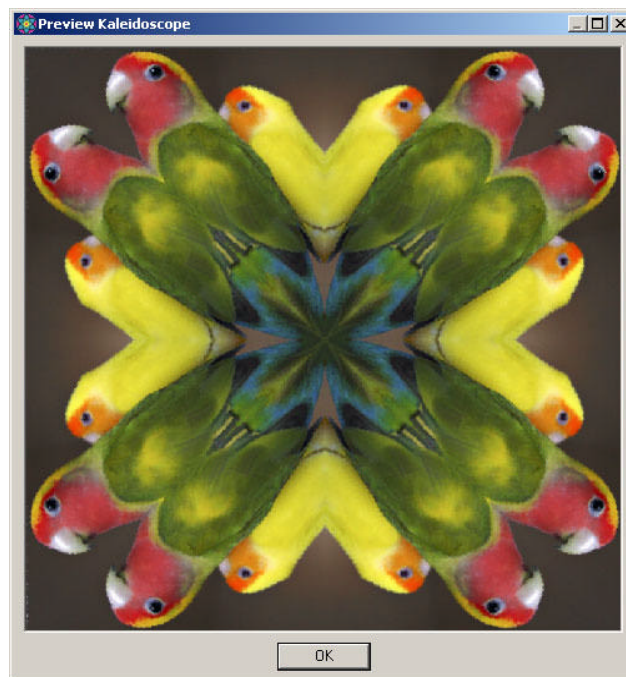
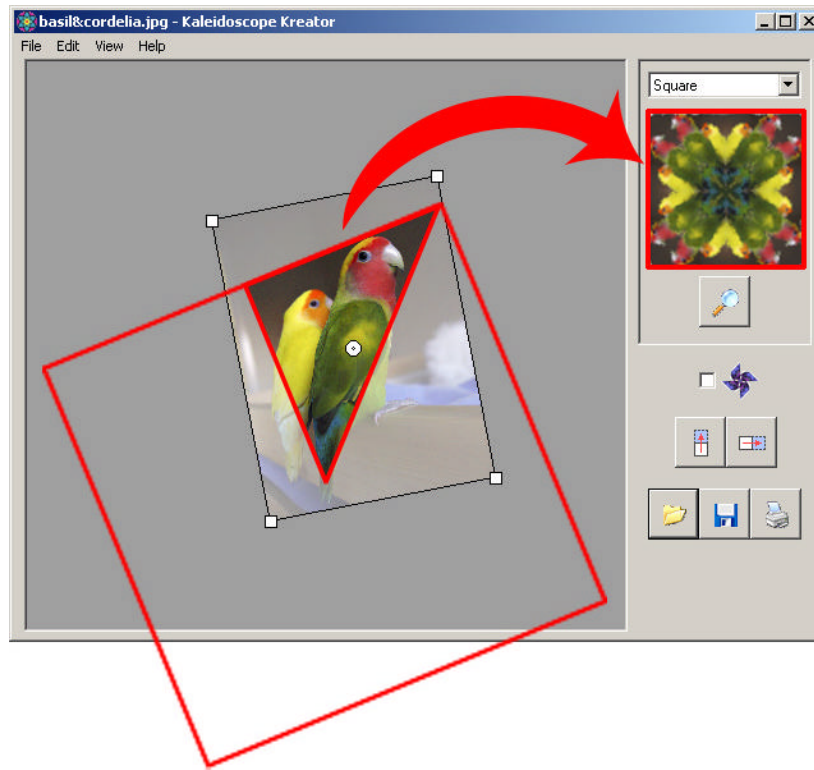
Once an image is loaded, select the shape you want for your kaleidoscope. You can choose from one of twelve shapes:



The shape is chosen from the **Edit** menu or the drop-down menu in the upper right portion of the application window.



The Square and Celtic Cross shapes are a bit of a special case and the templates may be confusing at first glance. The image below shows an overlay of the Square shape so that you can see how the template wedge fits into the square:



3.4 – Position the Image

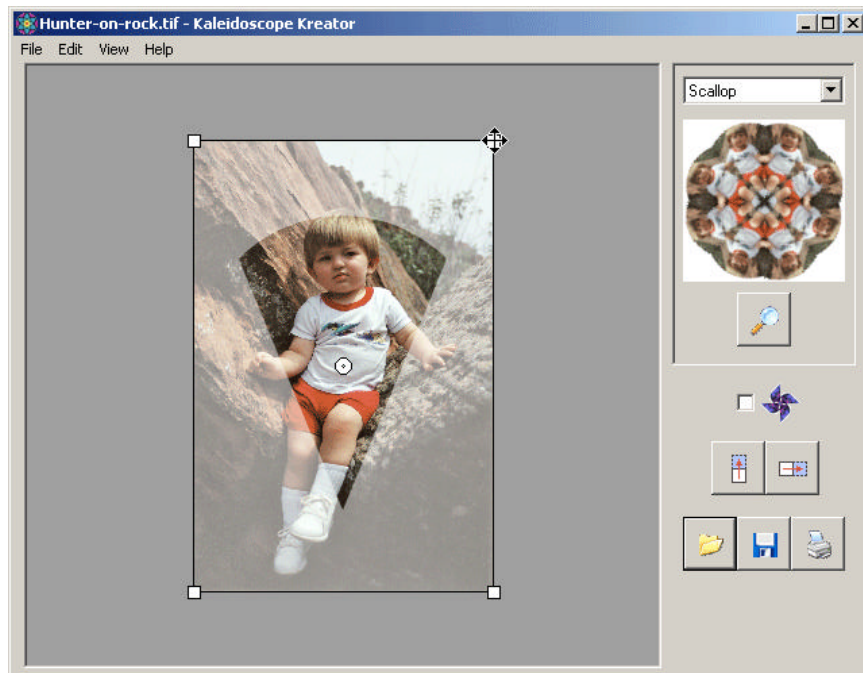
There are a number of ways you can position your image within the workspace staging area. The goal is to position the image such that the part you want to use for the kaleidoscope is inside the wedge-shaped template in the staging area.

Important Note: If the image is positioned such that it does not fill the entire template, the empty portion will be filled with white in the resulting kaleidoscope.

Using the mouse

The mouse action changes as you position the mouse over or next to the image. The shape of the mouse pointer changes to indicate which action will occur when you click the mouse button.

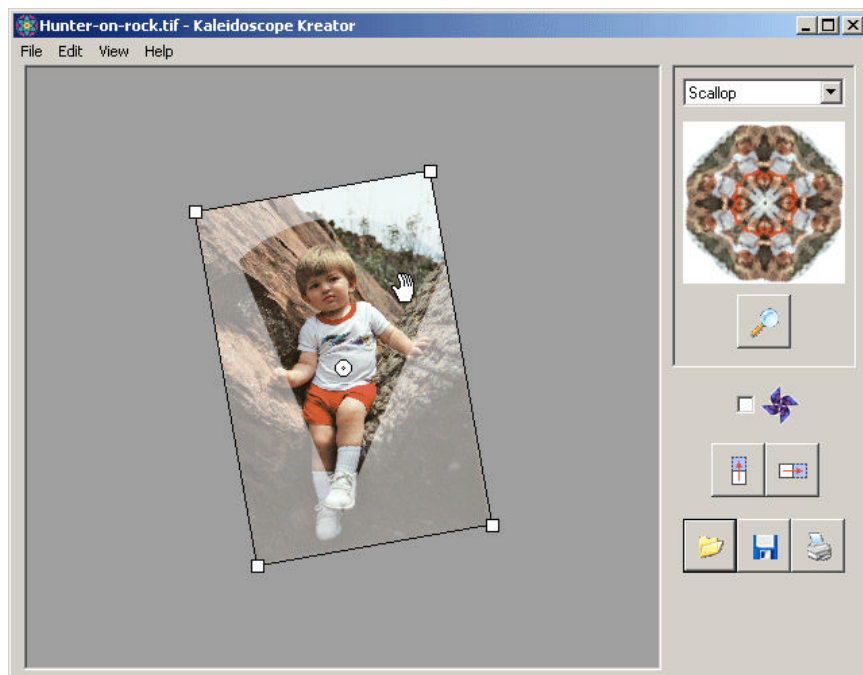
✚ To resize the image, move the mouse over any corner, then click and drag. Dragging any of the four corners has the same effect; the image is resized from the center point.



↻ To rotate the image, click and drag the mouse pointer outside the image boundary.



☞ To move the image around the workspace staging area, move the mouse pointer over the image, then click and drag.



Using the keyboard

The following keystrokes will allow you to fine-tune the positioning of your image within the wedge-shaped template:

Resizing

+ : increases the size of the image by 0.5%

- : decreases the size of the image by 0.5%

Rotating

/ : rotates the image counter-clockwise by 1 degree

* : rotates the image clockwise by 1 degree

Repositioning - The following numbers correspond to the arrow keys on the NumPad of most keyboards. (Make sure that NumLock is ON.)

2 : moves the image down by 5 pixels

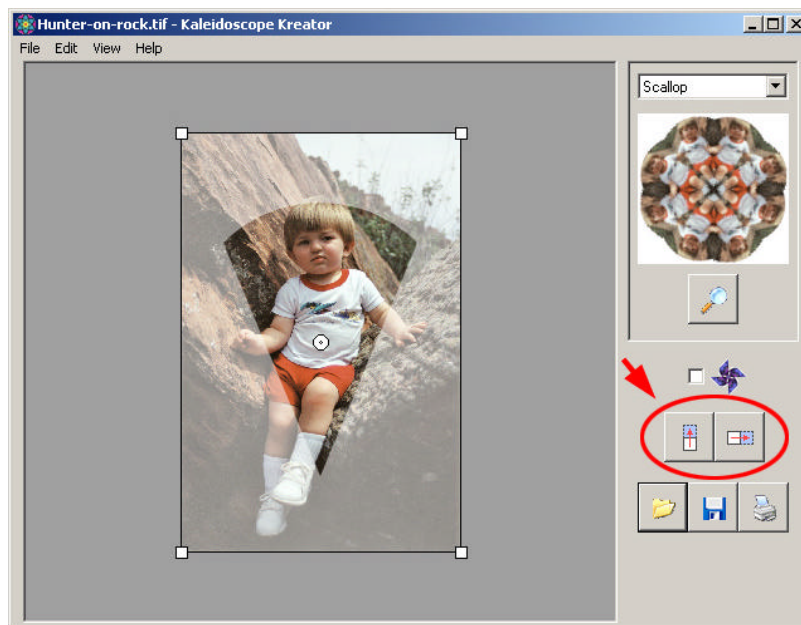
4 : moves the image left by 5 pixels

6 : moves the image right by 5 pixels

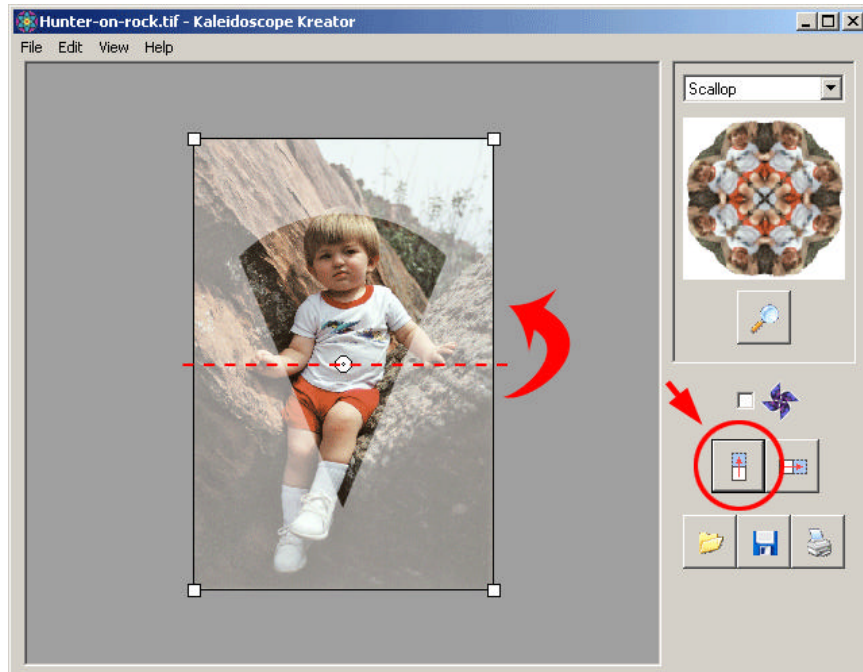
8 : moves the image up by 5 pixels

3.5 – Using the Flip Image buttons

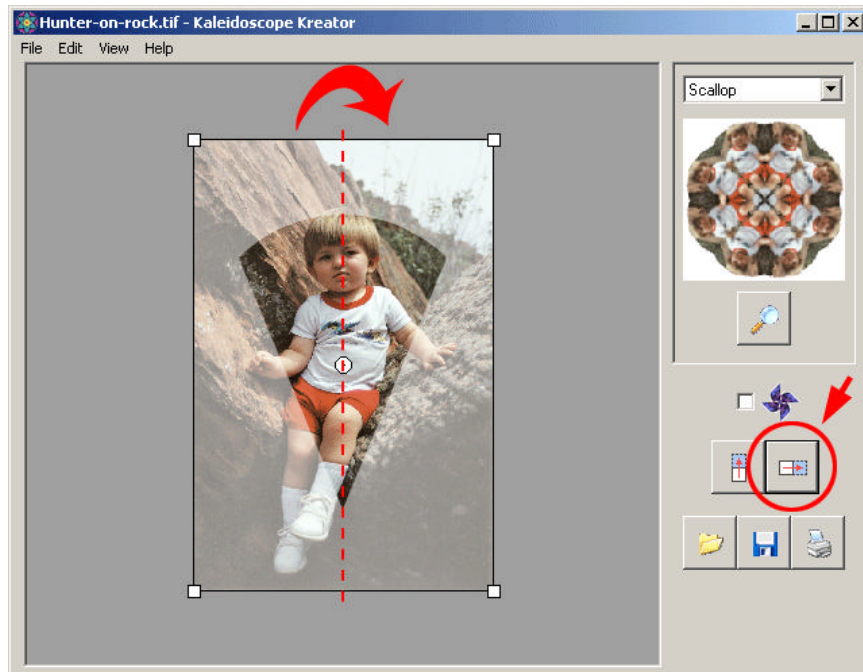
The **Flip Image** buttons are used to "flip" the image in the workspace.



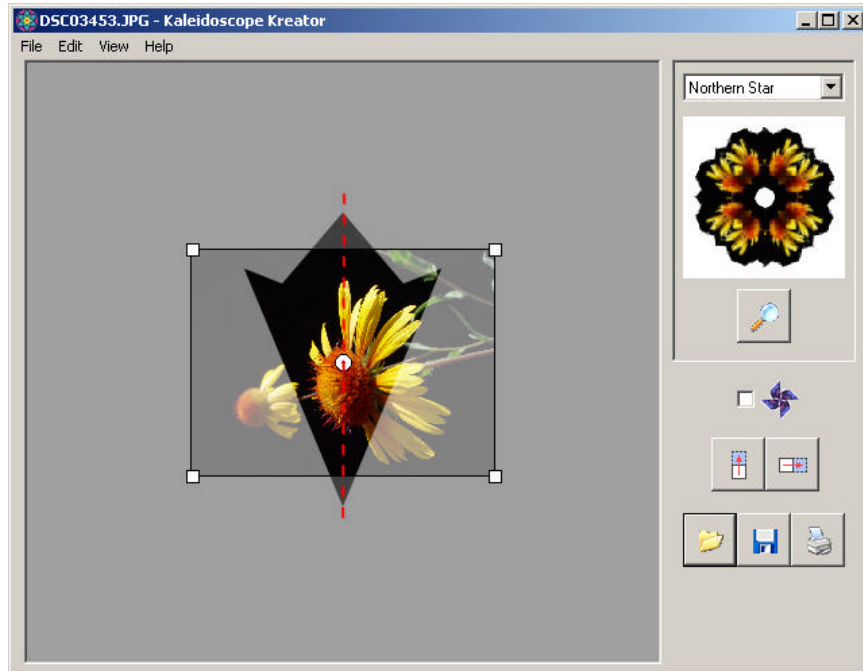
The **Flip Image Vertically** button flips the image upside down:



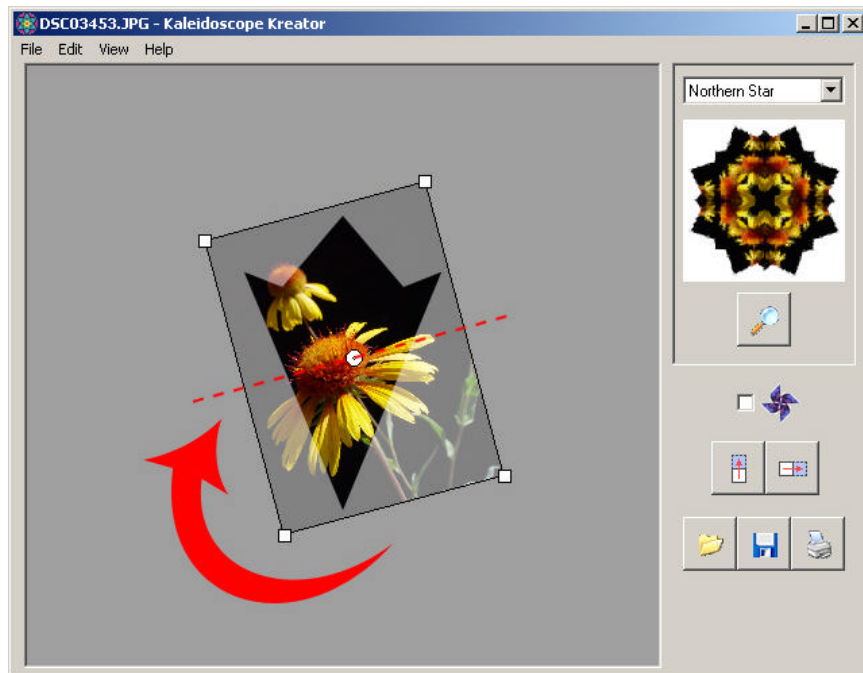
The **Flip Image Horizontally** button flips the image left & right:



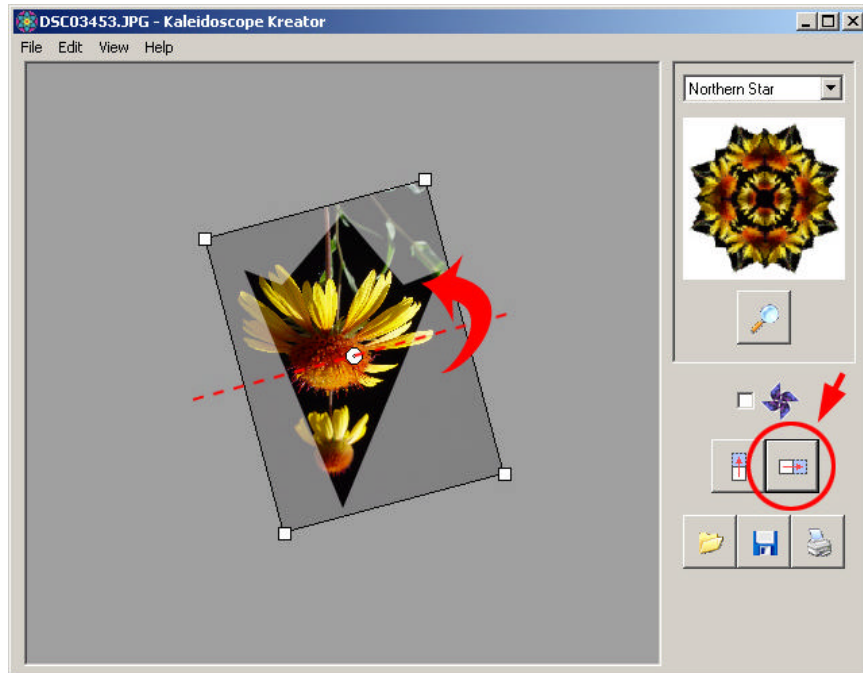
Be aware that the **Flip Image** buttons flip the image with respect to the original orientation of the image (i.e. flip axes rotate and move with the positioning of the photo.) The following example shows how the image appeared after it was opened with dashed-line showing the Horizontal Flip axis:



After being rotated nearly 90 degrees, the image in the workspace staging area appears as below. Notice the location of the Horizontal Flip axis:

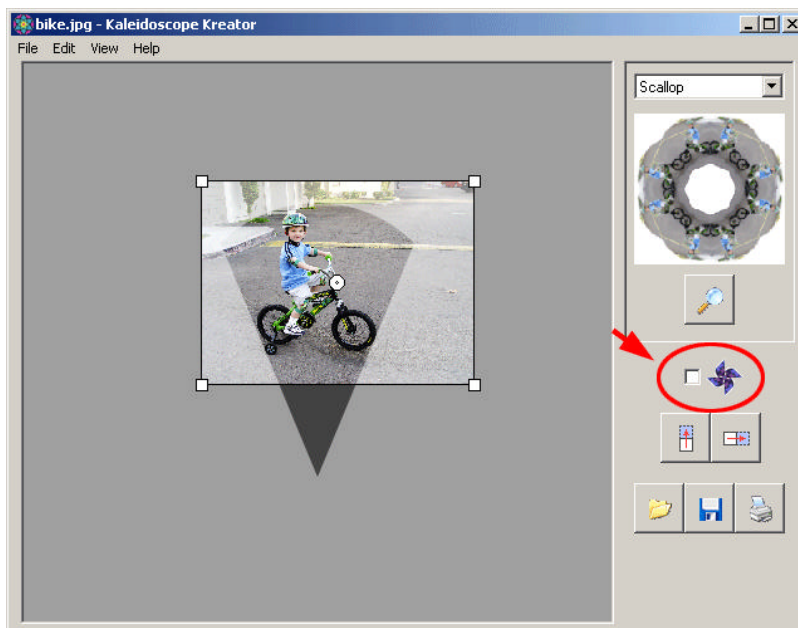


Now pressing the **Flip Image Horizontally** button flips along the Horizontal Flip axis, as shown below:



3.6 – Pinwheel Mode

Pinwheel Mode turns off the mirroring effect that creates kaleidoscopic images. It is turned on by checking the box next to the pinwheel icon. The thumbnail preview updates as Pinwheel Mode is turned on and off.



Pinwheel Mode can be used with any template shape, though some shapes work better than others. (As you might guess, the Pinwheel Shape works best with Pinwheel Mode turned on.)

The following two examples show the effect of Pinwheel Mode. The position of the photo in the template is exactly the same in both instances; only the Pinwheel Mode has been changed.

Kaleidoscope:

Because of the mirroring effect of kaleidoscopes, it looks like the little boy on the bicycle is running into himself.



Pinwheel:

With Pinwheel Mode turned on, the little boy now looks like he is riding around in a circle.



"Texture photos", i.e. photos with no clear subject, can result in some particularly beautiful pinwheels:

Kaleidoscope:



Pinwheel:

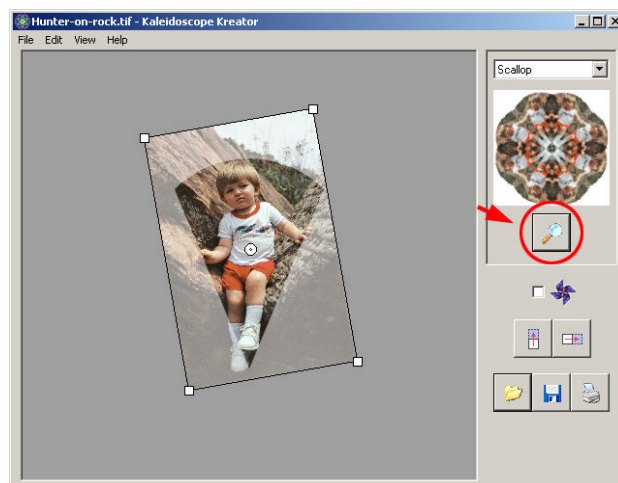


3.7 – Preview Kaleidoscope

Use the Preview to verify that you have positioned the image to your liking. Choose **view > Preview** from the menu or click on the **Preview** button to see what your kaleidoscope will look like. Click the **OK** button to close the Preview window and continue.

Note: The quality of the Preview is lower than the quality of a saved or printed kaleidoscope. This is normal and helps to decrease the time that it takes to render the kaleidoscope preview.

Important: The Preview does not save the kaleidoscope in any way. If you close the Preview window and then move the image in the workspace staging area, the kaleidoscope you previewed is lost. If you want to keep the kaleidoscope you see in the Preview, you must first save the kaleidoscope to a file before you reposition the image in the workspace.



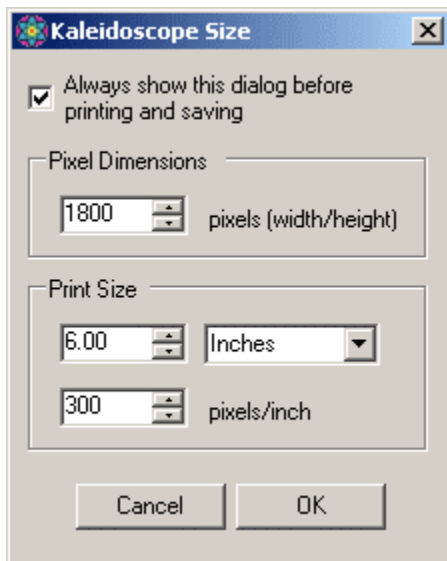


3.8 – Set Kaleidoscope Size

Before you print or save a kaleidoscope, you are prompted to set the size. If you don't set the size, the default size of 6 inches and 300 dpi will be used. To set the kaleidoscope size, choose **Edit > Kaleidoscope Size...** from the menu.

Important Note for Windows® 98 and Windows® Me users:

Due to operating system limitations, Windows® 98 and Windows® Me users are limited to a size of 2300 pixels (or 7.67" at 300dpi.) However, you can achieve a larger print size by lowering the resolution of the image.



If you check “Always show this dialog before printing and saving”, you will see this dialog whenever you choose to print or save a kaleidoscope. Unless you always print or save the same sizes, it is recommended that you keep this box checked so that you don't have any surprises after saving or printing a kaleidoscope. (It is very easy to forget to set the size manually before you print or save a kaleidoscope.)

The Pixel Dimensions are most useful if your kaleidoscope is destined for the web or email. Images displayed on-screen are sized in pixels.

If you plan to print your kaleidoscope or save it for use in a design that is measured in inches or centimeters, you will want to set the Print Size.

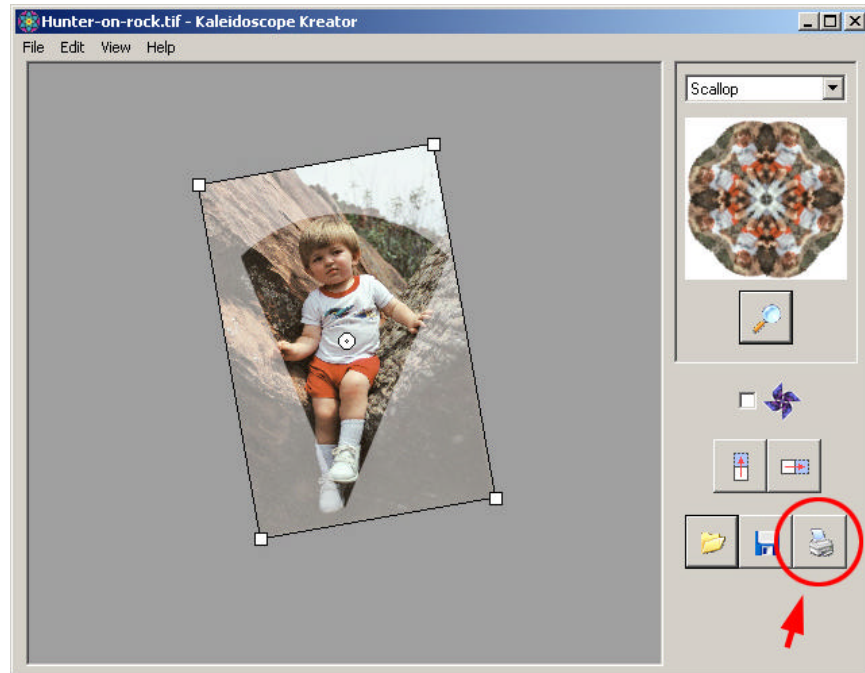
Pixel Dimensions and Print Size are interrelated and changing one will adjust the other.

If you want to change the Resolution and Print Size, change the Resolution first as it will always update the Print Size (keeping the Pixel Dimensions constant.)

For a more detailed discussion on Pixel Dimensions and Print Size, see *Understanding Image Size* in the Appendix.

3.9 – Print Kaleidoscope

You can print your kaleidoscope directly from Kaleidoscope Kreator by either choosing the **File** > **Print...** menu item or clicking on the **Print Kaleidoscope** button.

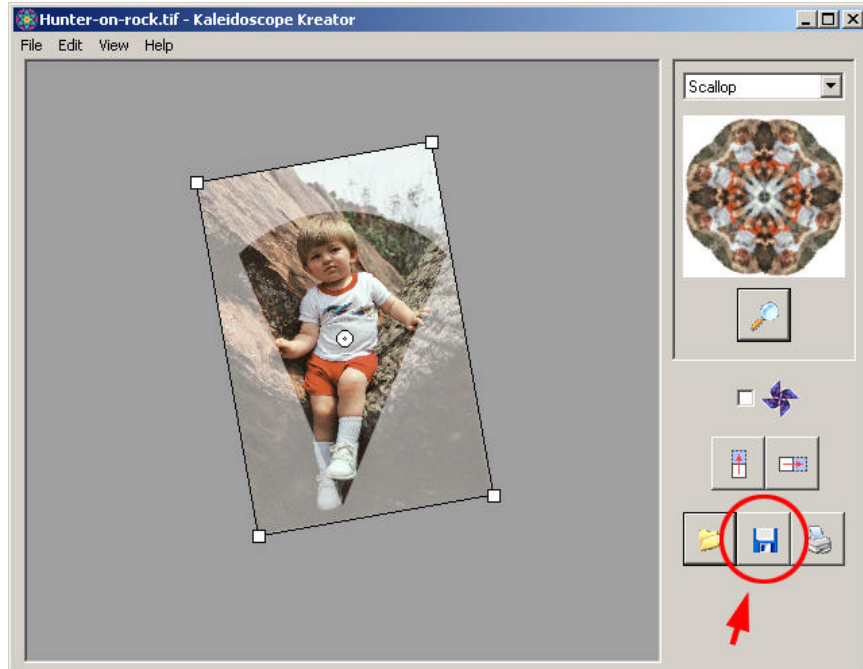


If the “Always show this dialog before printing and saving” option in the Kaleidoscope Size dialog box is checked, then you will first be prompted to set the kaleidoscope size. You will then be presented with the standard Windows® Print dialog box. Once you click **OK** to print, Kaleidoscope Kreator will generate the kaleidoscope at the specified size and send it to the printer.

Note: Kaleidoscope Kreator does not save the kaleidoscope it generates for the printer; instead, it generates a new kaleidoscope each time the print function is selected. Thus, if you want multiple copies of the same kaleidoscope, either set the number of copies to print in the print dialog box or save the kaleidoscope to a file for printing at a later time using another image editing software program. If you want to both print and save the file, it is recommended that you save the kaleidoscope to a file first, then print that file from another program to reduce the amount of time spent rendering kaleidoscopes.

3.10 – Save Kaleidoscope

You can save your kaleidoscope to a file by either choosing the **File** > **Save...** menu item or clicking on the **Save Kaleidoscope...** button.



If the “Always show this dialog before printing and saving” option in the Kaleidoscope Size dialog box is checked, then you will first be prompted to set the kaleidoscope size. You will then be presented with the standard Windows® Save As dialog box. Once you click **OK** to save, Kaleidoscope Kreator will generate the kaleidoscope at the specified size and save it to the specified file.

IMPORTANT: If you want to save two kaleidoscopes to the same file name but different file formats, you will need to retype the name rather than click on the name of the first file that you save and then changing the format. Doing the latter will cause the original file to be overwritten with the new file format. Instead choose the file type first, then retype the name.

Note: If you want to both print and save your kaleidoscope, it is recommended that you save the kaleidoscope to a file first, then print that file from another program to reduce the amount of time spent rendering kaleidoscopes. If at a later time you wish to print a saved kaleidoscope, you must use an image editing program other than Kaleidoscope Kreator.

4 – Appendix

4.1 – System Requirements

Minimum system requirements:

Windows® 98SE*, Me*, 2000 or XP
128 MB of RAM

35 MB of available hard disk space

*Limited support for Windows® 98SE & Me due to operating system limitations. Kaleidoscope sizes are limited to 2300 pixels. (That is just under 8” at 300dpi, but lowering the resolution will allow for larger print sizes. See *Understanding Image Size* in the Appendix for more information.)

Recommended system requirements:

Windows® 2000 or XP

256 MB RAM or more

35 MB of available hard disk space

Windows® is a registered trademark of Microsoft Corporation.

4.2 – Supported Image File Types

BMP - Windows Bitmap (.bmp) format is an historic file format that is still widely used. It was developed by Microsoft® as a device-independent bitmap format, i.e. the image data is stored in such a way that the image can be displayed by Windows® on any type of display device. In general, it is not the preferred format to store images because it is not supported on other platforms such as Mac®.

JPG (or JPEG) – The Joint Photographic Experts Group (.jpg) format is optimized for photos and other “continuous tone” images. That is why it is the format of choice for most digital cameras. Its compression scheme analyzes an image and “discards” those pixels which the human eye most likely won’t notice. However, because it “discards” information, it is a *lossy* file format and if the compression is too strongly applied, you will see the effects of it! (“Lossy” simply means that some image data is “lost” in the compression process.) That said, huge savings in file sizes can be had (over TIF) without much noticeable degradation. It should be noted however that repeatedly saving the same file in JPG format will cause a cumulative loss of data which can very quickly become noticeable to the naked eye. If you need to edit a file, it is best to save the intermediate steps as TIF, then save the final version as JPG (if necessary).

PNG – The Portable Network Graphics (.png) format was developed to replace the GIF format in order to improve the severe lossy compression scheme as well as a counter to the proprietary licensing that GIF format requires. It uses a lossless compression scheme (i.e., no data is “lost” in the compression process) and while it doesn’t reduce file sizes as much as GIF, it completely

preserves the original data. It also supports transparency and perhaps because of this is a popular format for sharing digital scrapbooking elements.

TIF (or TIFF) – The Tagged Image File Format (.tif) is a flexible format that can be both compressed and non-compressed. The compression (if applied) is *lossless*, but is not universally supported. (Kaleidoscope Kreator is included in the list of those that do *not* support compressed TIF files.) Because of this, files saved in TIF format are often not compressed and thus quite large. However, TIF is still the standard choice for archiving images that you want to keep for years to come because it is non-proprietary and contains all of the “original” data, including the color mode and image size information.

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4.3 – Understanding Image Size

Image size is composed of three related parts:

1. Pixel Dimensions
2. Print Size
3. Resolution

1. Pixel Dimensions

Pixel Dimensions refers to the total number of pixels that make up a digital image. ("Pixels" stands for "picture elements", i.e. the elements that make up a picture.) Pixel dimensions are referenced in terms of *width x height*, e.g. 600x400. The greater the number of pixels, the more information (or detail) an image contains.

2. Print Size

Print Size is perhaps the easiest component to understand because it is simply the dimensions (in inches or centimeters) that an image is printed at. When someone refers to a 4"x6" image, they are referring to the print size.

3. Resolution

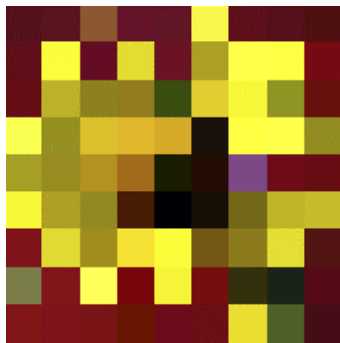
Resolution refers to how much information is contained in a given amount of space. Resolution is referenced in terms of *dots per inch (or dpi)*. The important thing to remember about resolution is that the higher the resolution, the more detail you will see in your printed images.

To better understand resolution, it may be easier to think of the dots as squares - or more specifically as tiles in a mosaic. Imagine that you are remodeling your kitchen and you've decided to put a tiled mosaic on the wall behind your stovetop in a space of about 3'x3' (about the size of the stovetop itself.) You've drawn the outline of a sunflower on the wall to guide the placement of the tile:

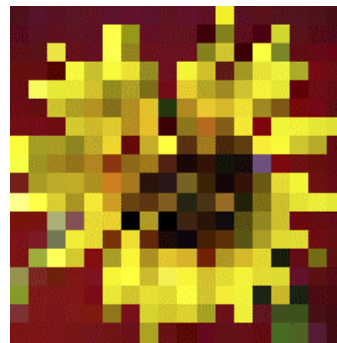


Now it's time to actually choose the tile for your mosaic. Your goal is to create the mosaic with as much detail as possible while minimizing the amount of tile cutting you will need to do. When you get to the store, you discover that tile comes in many different sizes, e.g. 4", 2", 1" and 1/2" (to name just a few.)

Imagine trying to create a mosaic of the sunflower using only the 4" tiles. Would you recognize the design as a sunflower or just a bunch of different colored squares? Now imagine trying to create the mosaic design using the 2" tiles. You may be able to recognize the sunflower in the design, but it will probably take some imagination. Now imagine creating the entire mosaic using 1" tiles and then 1/2" tiles. Think of how many tiles that would be!! The following examples provide a visual example of the differences using each of the different tile sizes. (Move your mouse over each of the images, to see the sunflower sketch superimposed on the mosaic.)



Sunflower mosaic using 4" tiles



Sunflower mosaic using 2" tiles



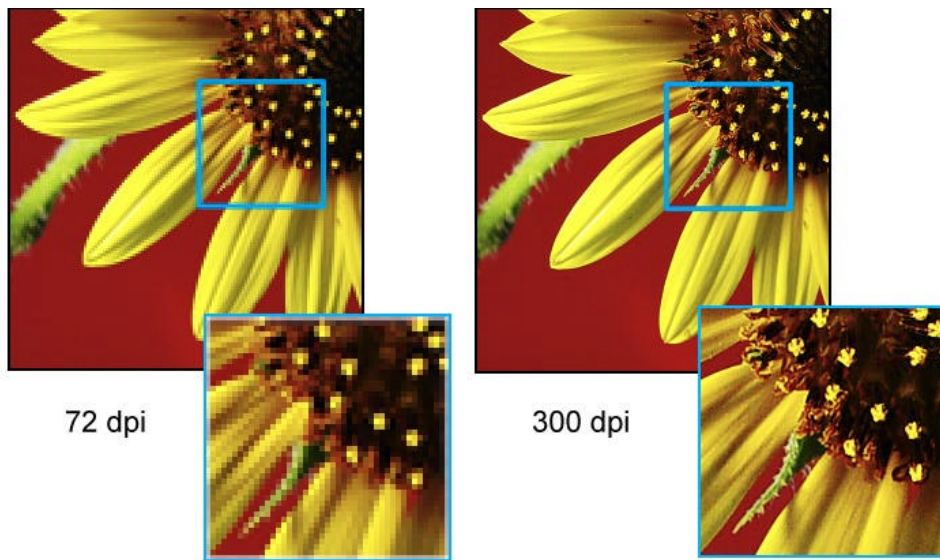
Sunflower mosaic using 1" tiles



Sunflower mosaic using 1/2" tiles

Why have we spent all this time explaining mosaic tiles? Because pixels are like mosaic tiles! The more pixels you fit into a given space (i.e., the higher the resolution), the more detail your printed image contains.

You may have read or heard advice that images destined for the web or e-mail should have a resolution of 72 dpi; likewise images destined to be printed should have a resolution of 300 dpi. While these are not hard and fast rules, there is a reason these numbers exist. A computer monitor cannot display more than 72 dots per inch. (Actually, advances in technology has changed this, but that is another discussion.) So creating an image with a higher resolution does not actually provide more detail for the viewer because the computer monitor cannot display more detail than 72 dpi. Printers on the other hand (including inkjet printers) can print at least 300 dots per inch (and often more.) That is four times more information (i.e. detail) that can be included in an image to be printed than one destined for the web:



Why does all of this matter?

Having a good understanding of the relationship between pixel dimensions, print size and resolution will give you greater control over the quality of your images: $Pixel\ Dimension = Print\ Size * Resolution$. A resolution that is too low may result in your printed images looking pixelated, i.e. you can see the individual pixels. A resolution that is too high (thus resulting in a larger number of total pixels) will increase the processing time on an image because more pixels have to be processed than are really necessary.

Examples

Let's take a look at some examples to visually see how this all fits together. In each of the examples below, the size of the image is shown relative to a "printed" 6"x4" grid.

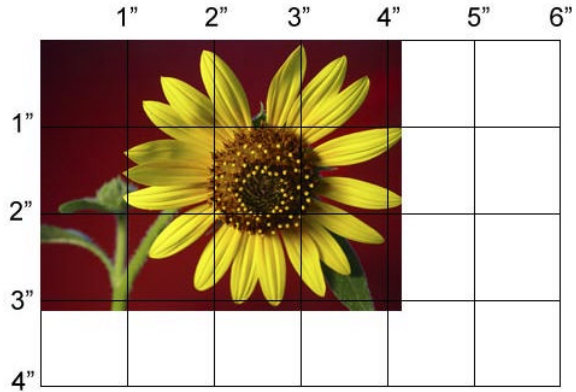
Example 1 - We start with an image of 300x225 pixels at 72dpi. If we increase the resolution while keeping the pixel dimensions the same, the print size will decrease. It is important to note that because the pixel dimensions remained the same and the resolution increased, the perceived quality of the image stays the same (or may look better), though the printed image size will be smaller.

At 72dpi, the print size is 4.17"x3.13":

Print size = Pixels / resolution

Print size = 300 px / 72 dpi = 4.17"

Print size = 225 px / 72 dpi = 3.13"

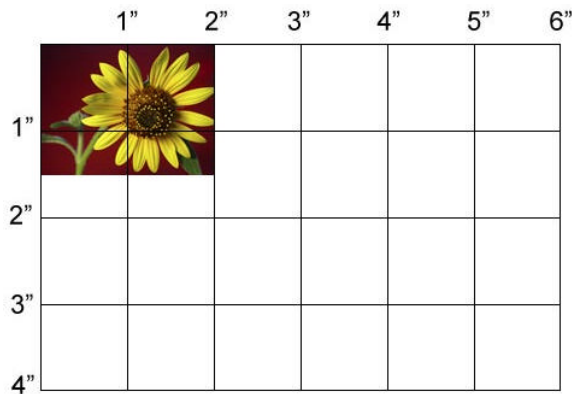


Increasing the resolution without changing the pixel dimensions results in a decrease in the print size.

Print size = Pixels / resolution

Print size = 300 px / 150 dpi = 2"

Print size = 225 px / 150 dpi = 1.5"



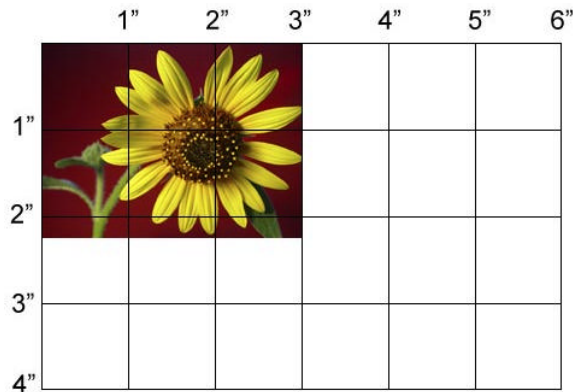
Example 2 - We start with an image of 900x675 pixels that prints at 3"x2.25". If we increase the print size while keeping the pixel dimensions the same, the resolution will decrease. It is important to note that when the pixel dimensions stay the same and the resolution decreases, the quality of the image may degrade because the same number of pixels are spread out over a larger area which has the effect of increasing the size of the pixels. If the change is large enough, you may see some pixelation of your image when printed.

At 3"x2.25", the resolution is 300 dpi:

Resolution = Pixels / print size

Resolution = 900 px / 3" = 300 dpi

Resolution = 675 px / 2.25" = 300 dpi

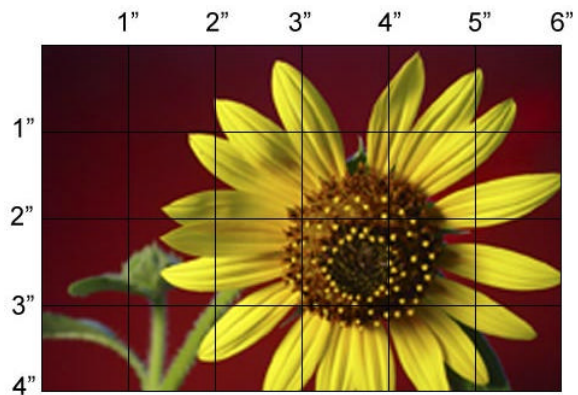


Increasing the print size while keeping the pixel dimensions the same results in a decrease in resolution.

Resolution = Pixels / print size

Resolution = 900 px / 6" = 150 dpi

Resolution = 675 px / 4.5" = 150 dpi



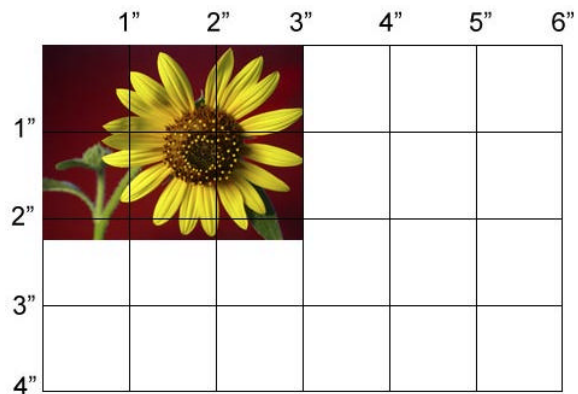
Example 3 - We start with an image that is 3"x2.25" and 300dpi. If we decrease the resolution while keeping the print size the same, the pixel dimensions will decrease. It should be noted that any time the pixel dimensions are changed, there is a decrease in the quality of the image because the graphics application must average the correct color values for the remaining pixels. In this case, the averaging of the color values in addition to the decreased resolution further degrades the image quality. Look closely at the stamens of the flower to see the effect of this.

At 3"x2.25" and 300dpi, the pixel dimensions of the image are 900x675.

Pixels = Print size * resolution

Pixels = 3" * 300 dpi = 900

Pixels = 2.25" * 300 dpi = 675



Decreasing the resolution while keeping the print size the same results in a decrease in pixel dimensions.

Pixels = Print size * resolution

Pixels = 3" * 150 dpi = 450

Pixels = 2.25" * 150 dpi = 338

