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Lighting effects and opacity masks

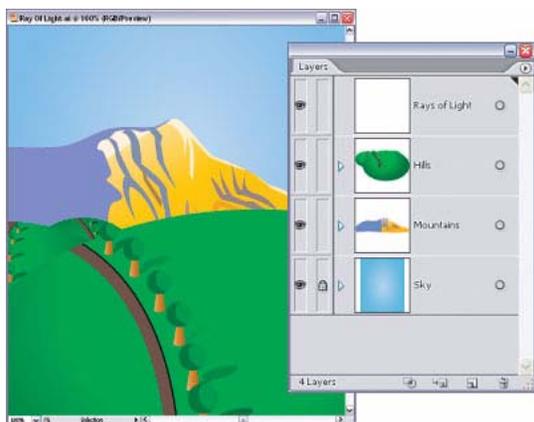
The rays of light effect is one of the most requested tutorials in Illustrator. It's a classic effect that you see in many types of product illustrations from Zephyr-hills water bottles to Folgers coffee. However, we're going to take this tutorial one step further and learn how to enhance the effect with another highly requested feature in Adobe® Illustrator® CS2: Opacity masks.

If you'd like to download the image used in this tutorial to practice this technique, visit the September/October 2005 section of www.layersmagazine.com/magazine/downloads.php.

Create the rays of light

1 Open a document and create a new layer

Create a new RGB document (choose File > New) in Illustrator CS2 or open the file I've created here to follow along. Next, click on the Create New Layer icon at the bottom of the Layers palette to create a new layer to hold the rays of light that we're about to make. Double-click the new layer and rename it "Rays of Light" in the Layer Options dialog box.



Create new layer in your document to hold the rays of light.

2 Create a white-filled triangle

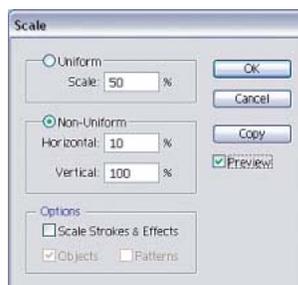
Grab the Polygon tool (click-and-hold on the Rectangle tool in the Toolbox; it's the fourth tool in the flyout) and click once on the Artboard to display the Polygon dialog box. Enter 150 for the Radius and 3 for the Sides to create a triangle. Click OK. If you really want to get crazy, try this procedure instead: Drag out a polygon onto the Artboard, and before releasing the mouse button, hit the Down Arrow key a few times until you're left with a triangle. Either way, once you've created the triangle, make sure the Fill color is set to White and the Stroke is set to None.



Create a triangle in the document with the Fill color set to White and the Stroke set to None.

3 Scale the horizontal width

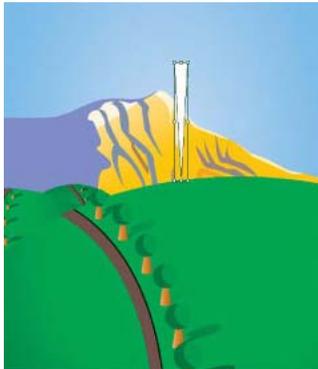
Now, choose Object > Transform > Scale. This method is an easy way to scale and resize your objects in Illustrator. In the Scale dialog box, click on the Non-Uniform option and enter 10% for Horizontal and click OK.



Scale the width of the triangle in the Scale dialog box.

4 Rotate 180 degrees and position the shape

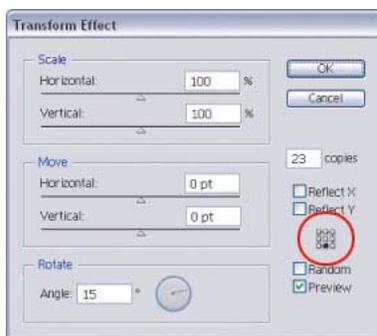
Choose Object > Transform > Rotate. Enter 180° in the Angle field and click OK. Switch to the Selection tool (V) and drag this object so the bottom point just touches the horizon line or whatever area you want the rays to emanate from.



Rotate the triangle 180 degrees and drag it to the horizon line.

5 Create multiple copies of shape and rotate

Now we're going to do something really cool. Instead of duplicating this triangle a bunch of times we're going to use an Effect to create the rays of light. First, choose Effect > Distort & Transform > Transform. In the Transform Effect dialog, enter 15° in the Angle field and 23 in the Copies field. Take particular note of the reference point locator in the example here. The reference point locator is the small grid of squares just above the Random checkbox. This will allow you to scale an object relative to the handles on the object's bounding box. Click on the bottom center square and click OK.



The reference point locator in the Transform Effect dialog box.

6 Edit the effect in the Appearance palette

You should now have an image similar to the image below. The basic effect is now in place; however, take note that this is a live effect and you can modify it in the Appearance palette (choose Window > Appearance). This fact is huge because any effect you apply from the Effect menu isn't permanent and can always be changed even after you close your AI file. Just double-click the name of the effect in the Appearance palette to show the effect dialog again and change any settings as needed.



After the basic effect is in place, you can modify it from the Appearance palette.

Add an opacity mask

1 Mimic a traditional light source

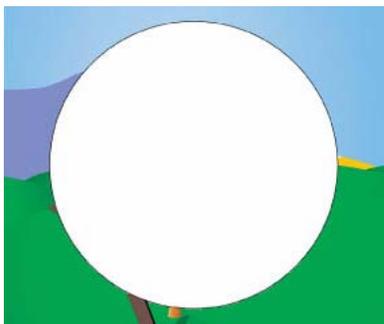
Okay, we're pretty much done with the ray of light effect but we need to take it to the next level to really make it useful. So, to finish the effect, you need to fade the starburst into the background as the light gets further away from the center. This mimics the way a traditional light source would work. The light rays would be strong in the center and fade as they got further away from the light source. Now let's get started.



The rays of light will fade as the light gets further away from the center to mimic a traditional light source.

2 Create a circle the same size as the starburst

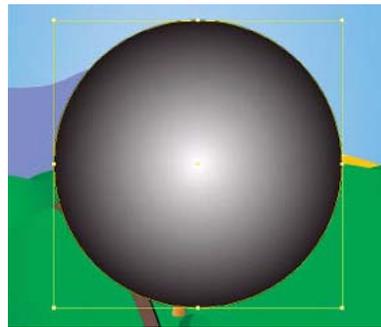
With the Rays of Light layer still active in the Layers palette, select the Ellipse tool (click-and-hold on the Polygon tool in the Toolbox; it's the third tool in the flyout) and click the Artboard area. Enter 450 pt for Width and Height. This will create a circle that's the same size as the starburst shape. Don't worry about the Fill color for this step.



Create a new circle in the document using the Ellipse tool.

3 Fill the circle with a white-to-black radial gradient

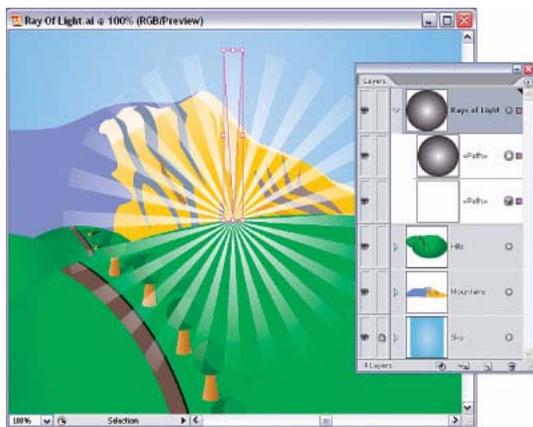
Use the Selection tool to align the new circle precisely over the existing starburst shape. Fill the circle with a white-to-black radial gradient (Tip: You can always use the one in the default Swatches palette. It's called the "White, Black Radial.") When you're done, be sure to set the stroke to None. Click on the right-facing arrow to the left of the Rays of Light thumbnail in the Layers palette to reveal the path sublayers for both the gradient circle and the rays of light (see Layers palette next step).



Align the new circle over the starburst shape and fill it with a white-to-black radial gradient.

4 Target both layers and make an opacity mask

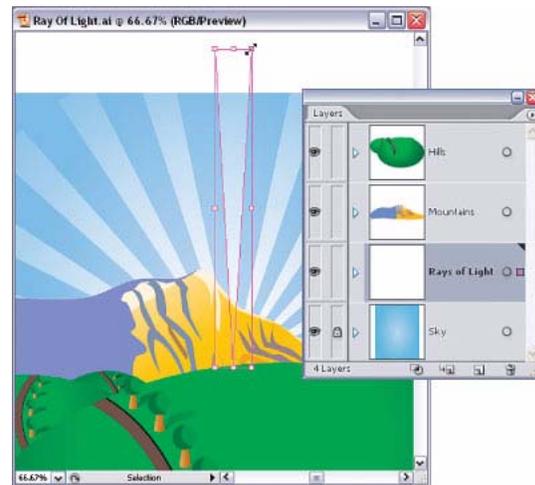
Next, we need to target both the rays of light and the gradient circle, so Shift-click the small circles to the right of both path sublayers to select them. Open the Transparency palette (Shift-Command-F10 [PC: Shift-Control-F10]). Select Make Opacity Mask from the Transparency palette's flyout menu. This action creates a nice effect by blending the rays of light with the background. Remember, anything that's white in the gradient mask will display the entire ray of light object at 100% opacity. Any areas that are black will totally hide it, and any gray areas in between will show as semi opaque.



Make an opacity mask from the Transparency palette.

5 Move the rays behind the scenery and enlarge them

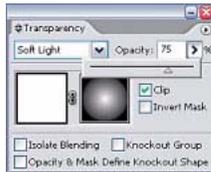
At this point, drag the Rays of Light layer below any background scenery layers in the Layers palette to make it look more realistic. Then, select the Free Transform tool (E), hold down Shift, and drag one of the top corner handles of the triangle shape upward to enlarge it. This will expand the starburst shape so it encompasses the entire illustration. Notice that all of the rays will be enlarged at the same time because they're all part of the same effect.



Position the Rays of Light layer below any background scenery layers and then expand the starburst shape using the Free Transform tool.

6 Change the blend mode and lower the opacity

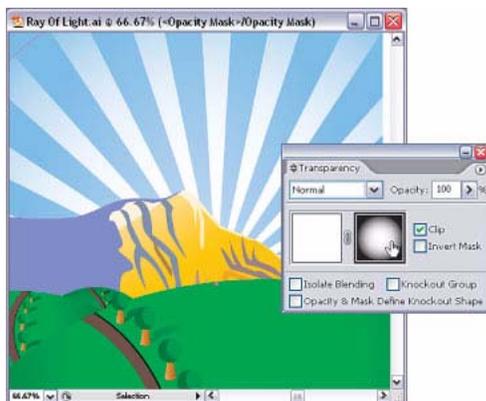
Experiment with changing the blending mode to Soft Light or Overlay in the pop-up menu in the Transparency palette. Try setting the Opacity to 75% as well.



Change the blending mode in the Transparency palette.

7 Adjust the opacity mask

Finally, if you really want to get crazy, adjust the opacity mask that you created in Step 4. To do this, open the Transparency palette again and click once on the small black-and-white opacity mask to the right of the image thumbnail (if you don't see the mask, choose Show Options from the Transparency palette's flyout menu). Then, if you look in the Layers palette you'll see that you can now reshape, resize, or otherwise transform the gradient circle. You can also modify the overall gradient to change the effect.



To adjust the opacity mask, click the small black-and-white opacity mask in the Transparency palette.

Final Image



The final image.

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By Matt Kloskowski for Layers Magazine

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