

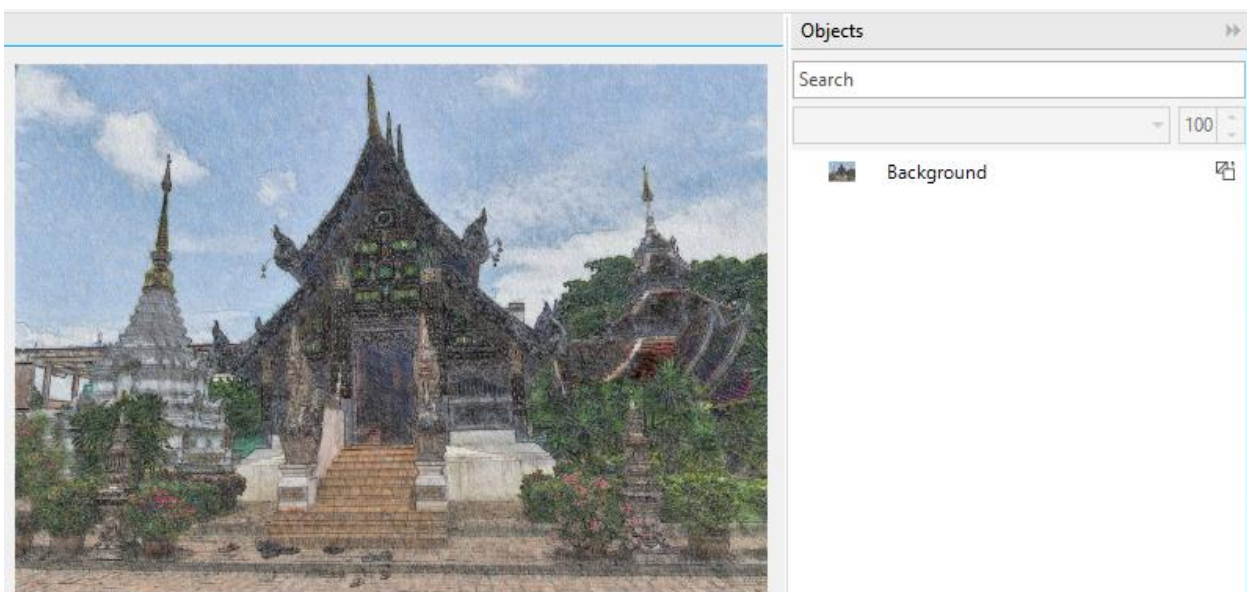
# Adding Effects with Lenses in PHOTO-PAINT

Lenses in PHOTO-PAINT can be used to apply non-destructive effects or adjustments, either to an entire photo, or to an editable area within a photo. This tutorial will demonstrate a few examples of how you can apply effects using lenses.

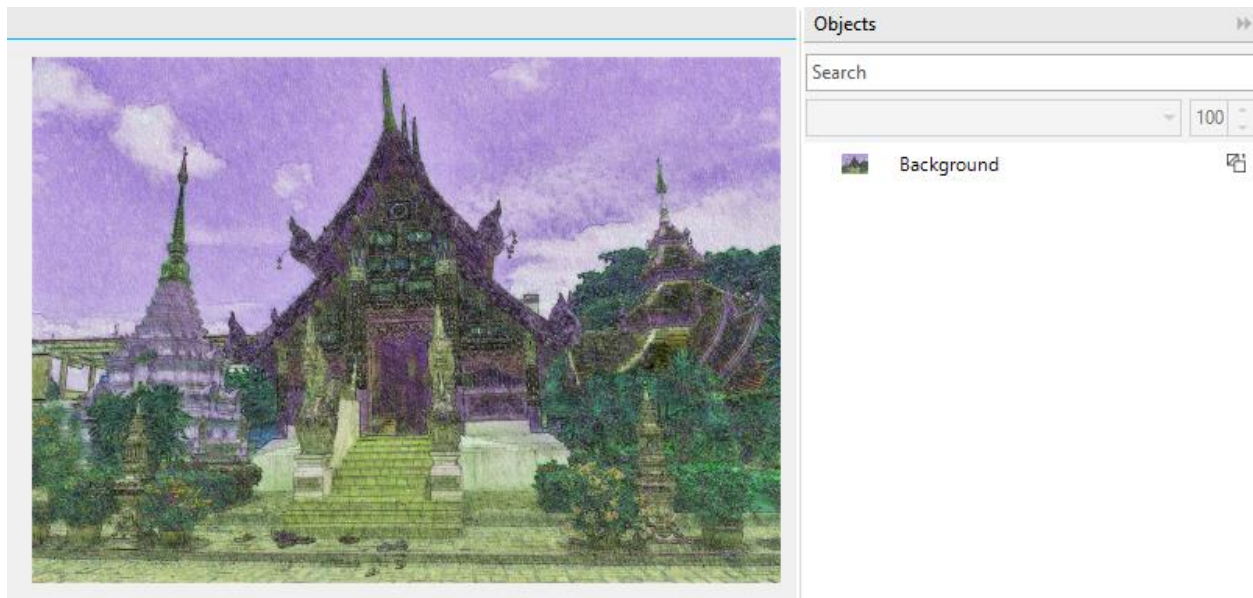
We'll start with this photo, on which we'll try out some effects.



Under the **Effects** menu we'll use the **Art Strokes > Sketch Pad** effect. Once we adjust the settings and apply the effect, the photo itself is changed. As a result, we no longer have the original photo, and we can't go back and change effect settings.

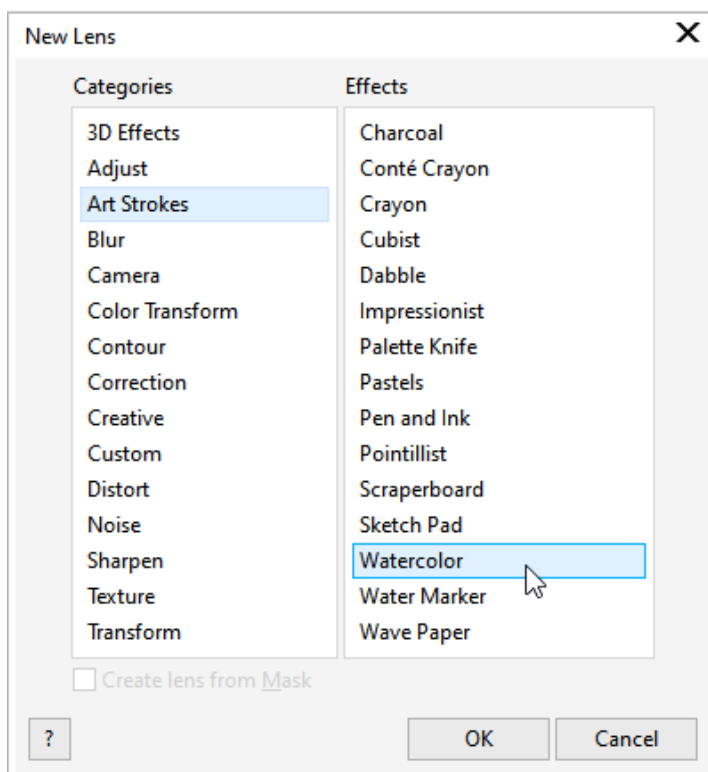


If we then apply an adjustment, such as **Adjust > Hue Saturation Lightness**, the adjustment is applied on top of the **Art Strokes** effect, not to the original photo.

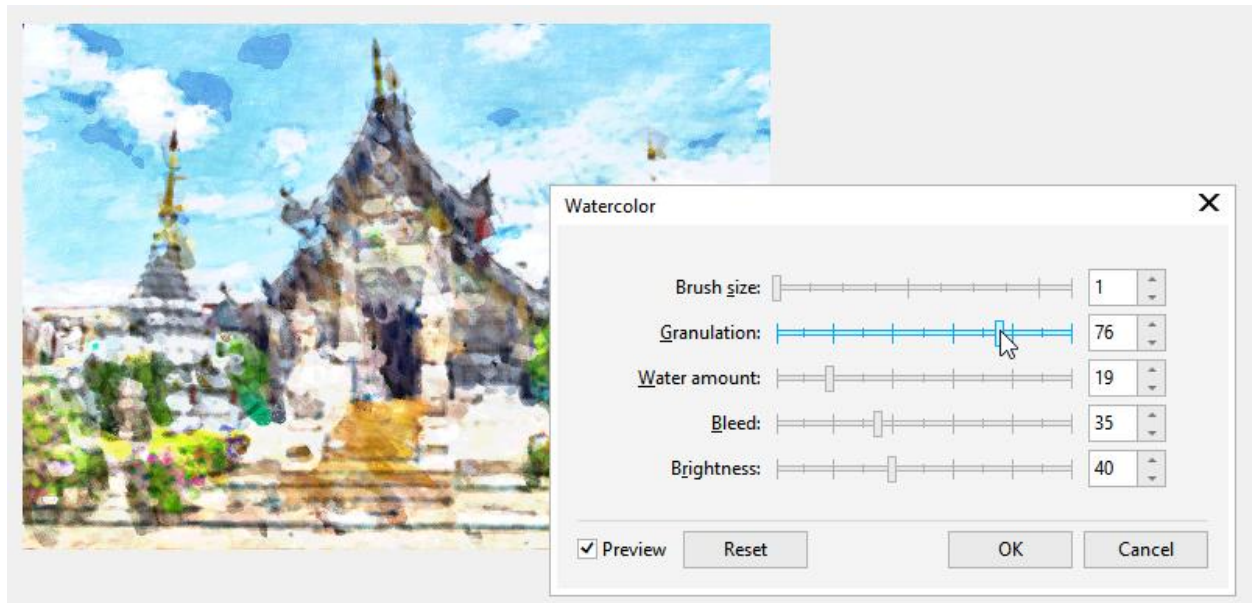


If you want to experiment with different effects or adjustments and still preserve your original image, a better way is to use lenses to apply the effects in a non-destructive manner.

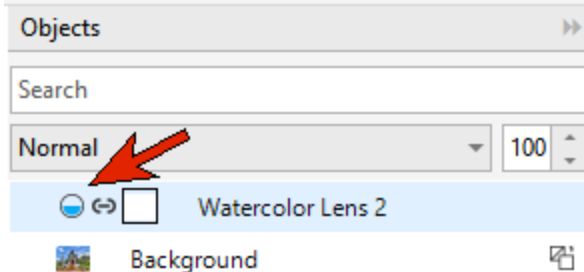
Go to **Object > Create > New Lens**. In the **New Lens** window that opens, the categories and effects are the same ones you would see in the **Adjust** and **Effect** menus. We'll apply the **Art Strokes > Watercolor** effect and click **OK**.



With **Preview** checked, you can see changes in real time. After adjusting the settings to your liking, click **OK**.



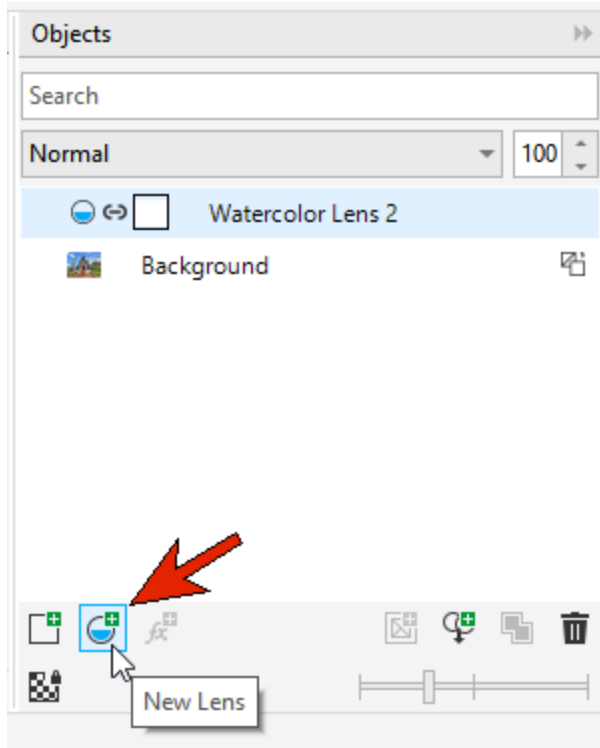
This adds a new object in the **Objects** docker (**Window > Dockers > Objects**). This new object is a lens, indicated by the **Lens** icon.



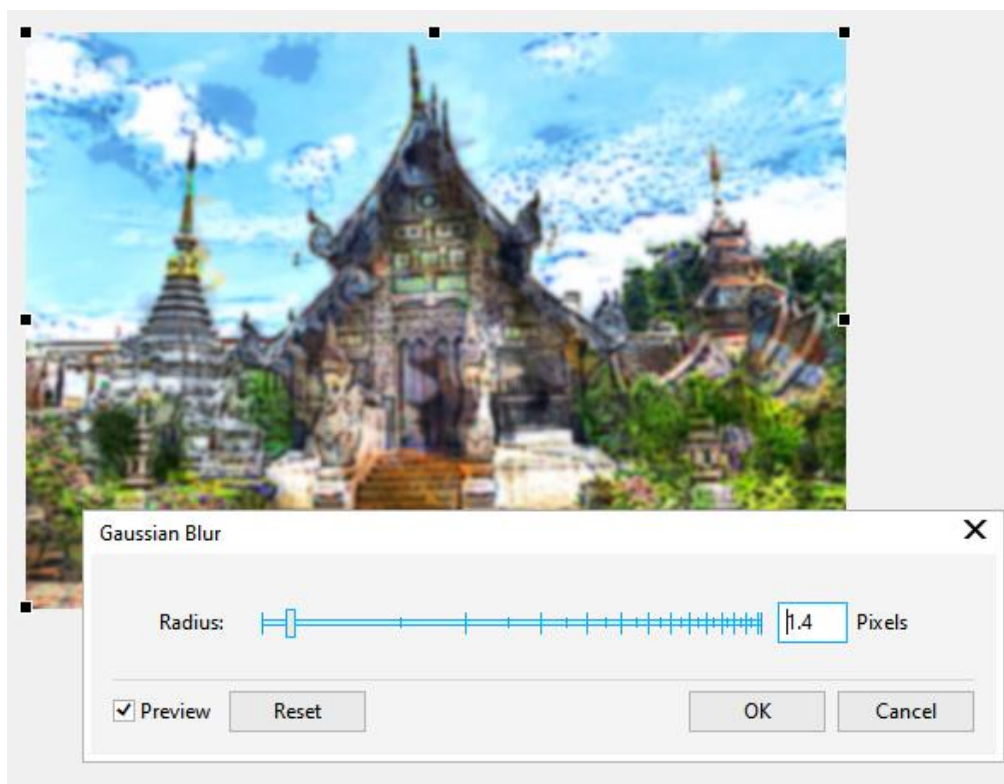
If you click on the **Lens** icon, the effect settings window will open again, and you can adjust the effect settings.

You can also add another lens on top of the first one. To add a new lens, click the **New Lens** icon at the bottom of the **Objects** docker or go to **Object > Create > New Lens**.



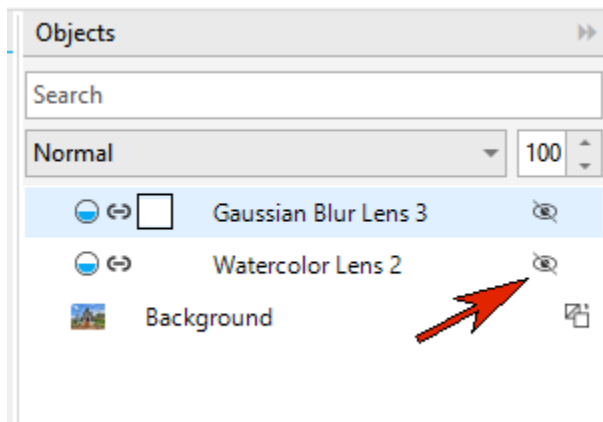


With this second lens, we will add a blur effect using **Blur > Gaussian Blur** and adjust the **Radius** to a low setting.

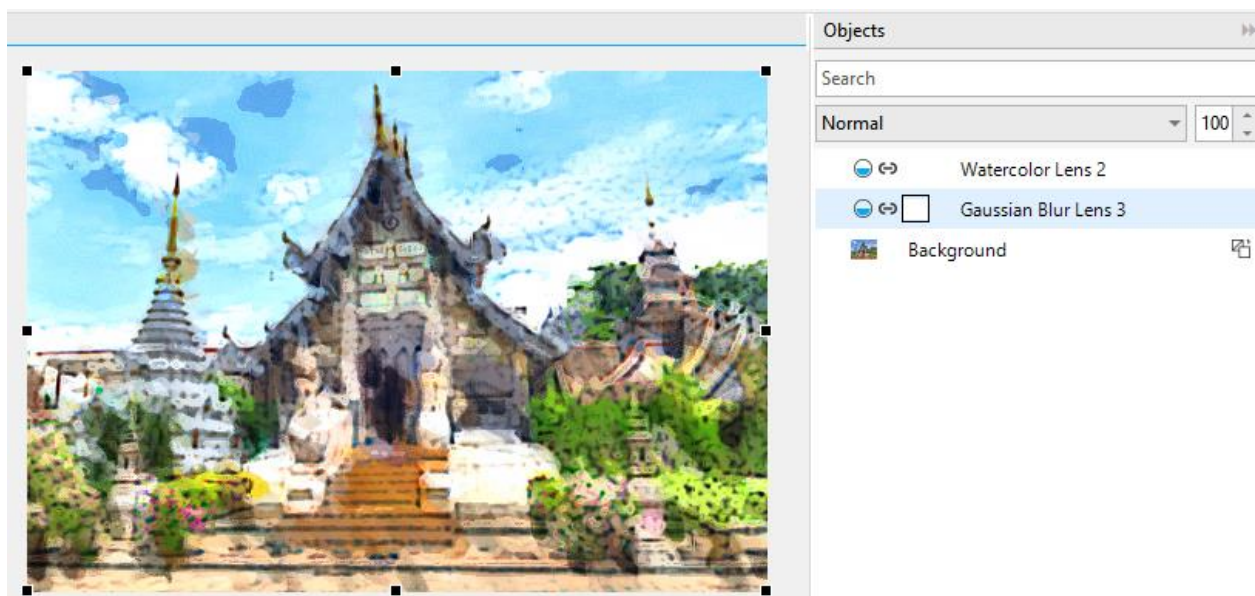


Now you will see both lenses listed in the **Objects** docker, and there are a few options you can explore:

- Use the **Show/Hide** (eye) icon to turn each lens effect on and off or turn off both to see the original photo.



- Change the order of the lenses by dragging up or down, to see how the image looks if the blur effect had been applied first and then the watercolor effect applied on top.



- Delete a lens effect by right-clicking and selecting **Delete**.

## Adding a Lens Effect to an Object or Area in an Image

In our second example, we'll use lenses to apply an effect to only a part of the photo. This means we first need to create an editable area in the form of a mask. From the **Mask** tool group on the left toolbar, we select the **Ellipse Mask** tool and drag to surround the icing of one cupcake.

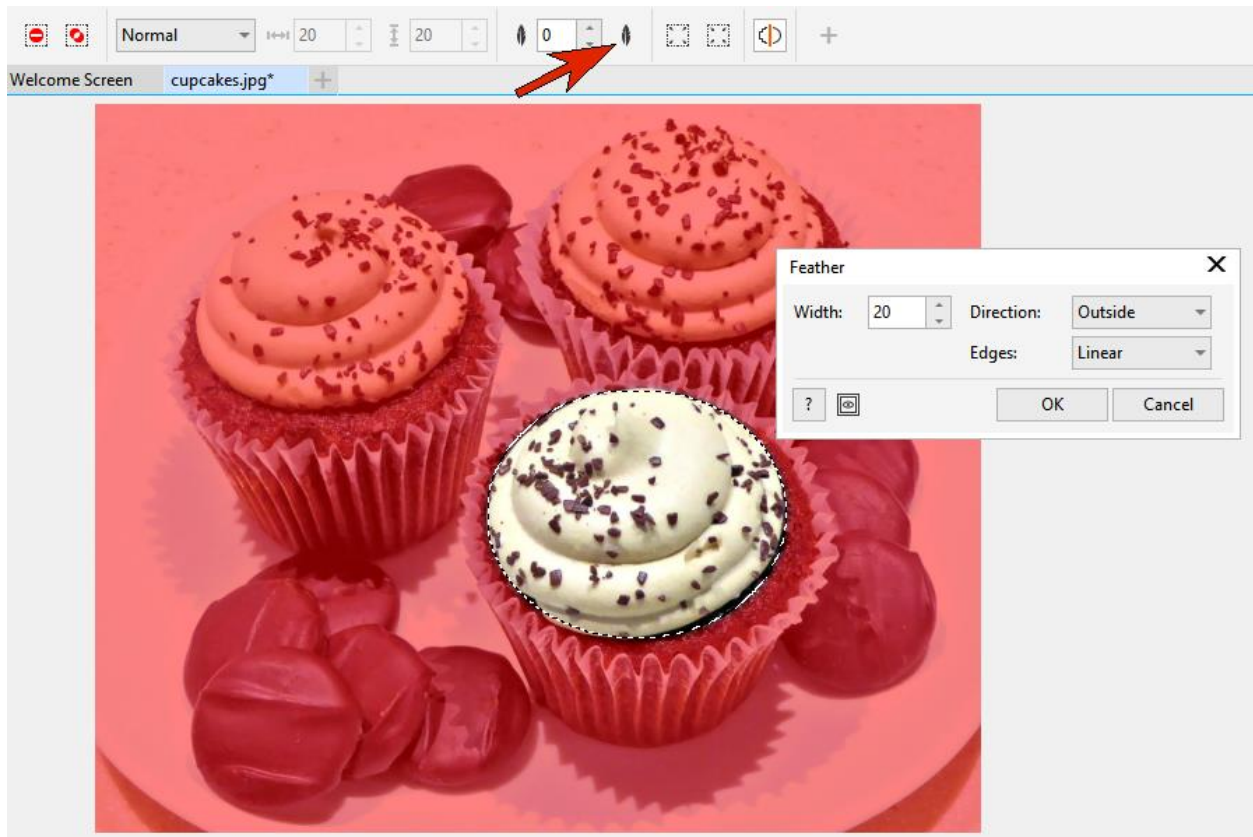


To adjust the mask, we can use the **Mask Transform** tool and drag the nodes to adjust the shape, size and position.



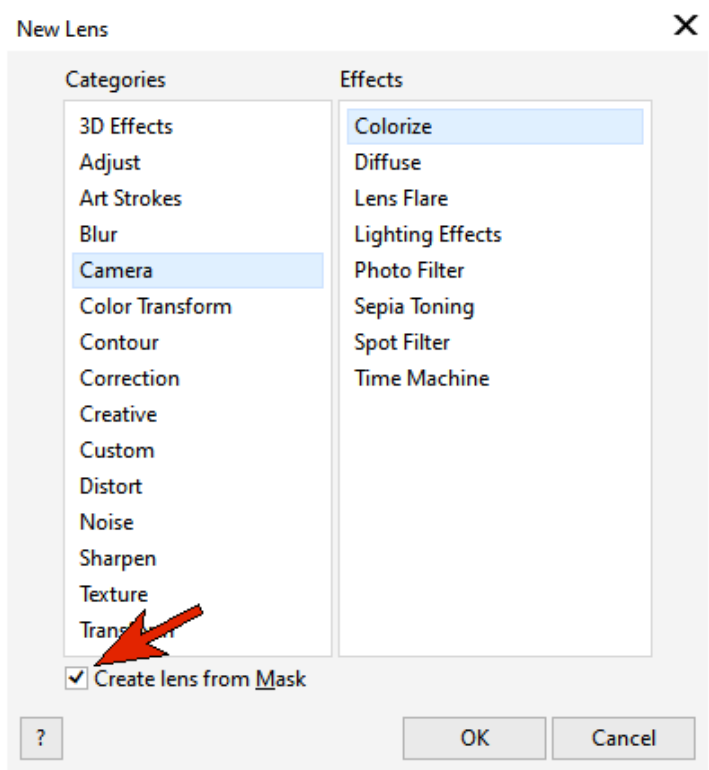


In this example, the icing is not perfectly symmetrical so we can soften the mask border to make the transition more gradual. We'll switch back to the **Ellipse Mask** tool and click the **Feather Mask** icon on the **Property** bar. In the **Feather** window we'll set the **Direction** to **Outside** and adjust the **Width** to **20**. The red overlay shows the gradual transition along the mask border. Click **OK** to apply the feathering.

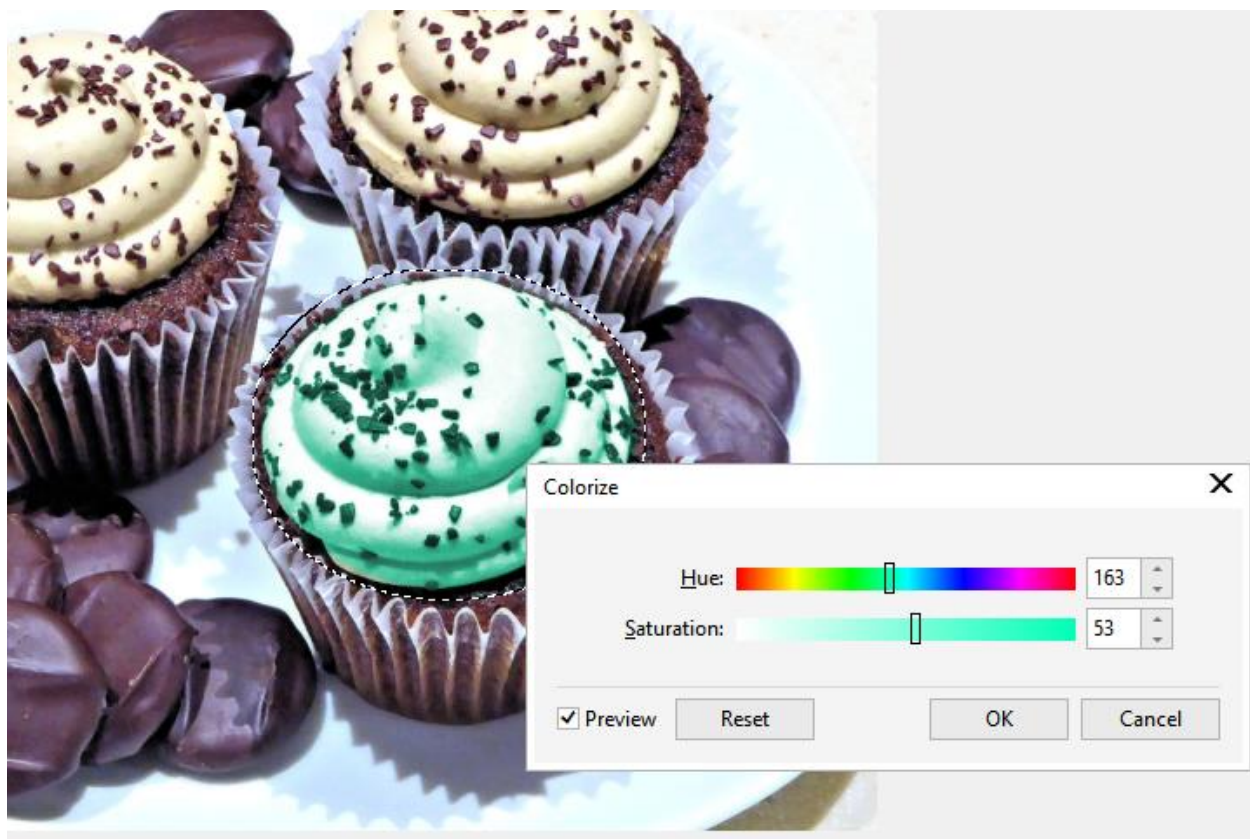


Because there is an active mask, when we go to **Object > Create > New Lens**, the **Create lens from Mask** box is checked, which means the lens will be applied only within the mask border. If this option were unchecked, the lens would be applied to the entire photo.

To add a color tint to the icing, we will use the **Camera > Colorize** effect.



In the **Colorize** window we can adjust the **Hue** and **Saturation** settings and click **OK** when we're happy with the effect.





## Moving and Copying Lenses

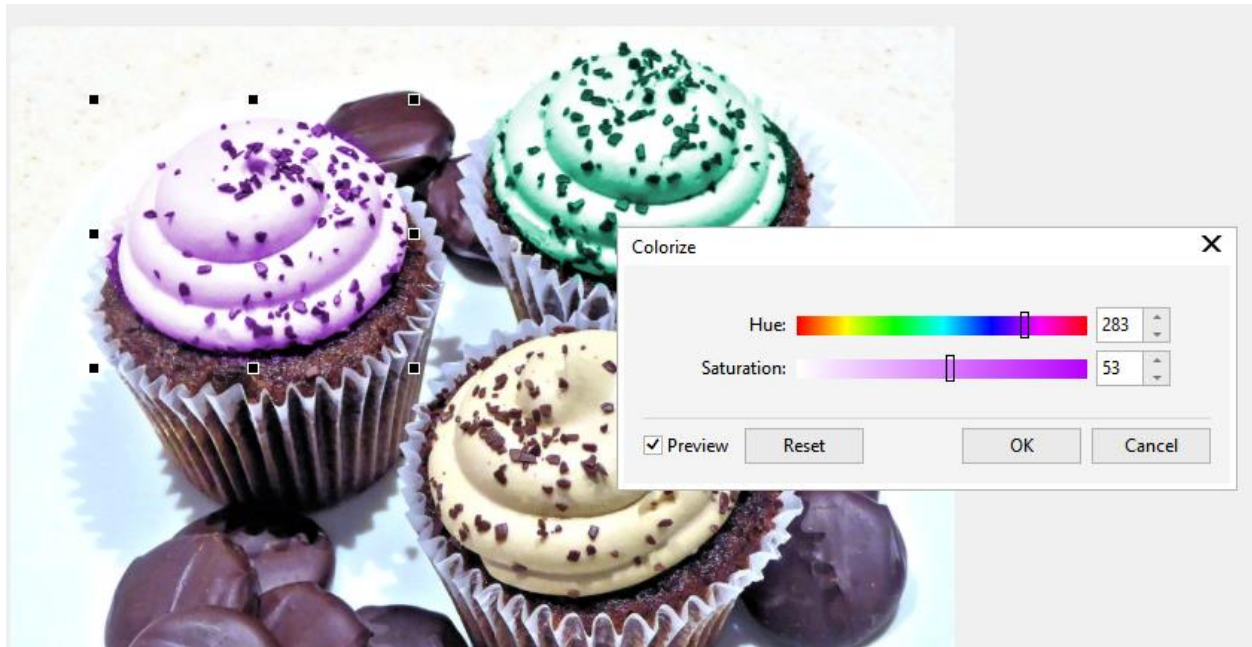
A nice feature of a lens is that it can be moved, and the effect will be applied wherever the lens is. We make sure that the lens is selected in the **Objects** docker, making it the active object, and use the **Pick** tool to move the lens to another cupcake and adjust its size.



We can also copy this lens and apply the copy to another cupcake. You can do this using your preferred copy/paste method:

- In the **Objects** docker, right-click on the lens and select **Copy**, right-click again and select **Paste**;
- Go to **Edit > Copy** and then **Edit > Paste**; or
- Use keyboard commands **Ctrl + C** to copy and **Ctrl + V** to paste.

Once we have copied the lens, we use the **Pick** tool to move it on top of another cupcake icing and adjust it slightly to fit. Clicking on the **Lens** icon in the **Objects** docker opens the **Colorize** window where we can change the effect to a different hue.

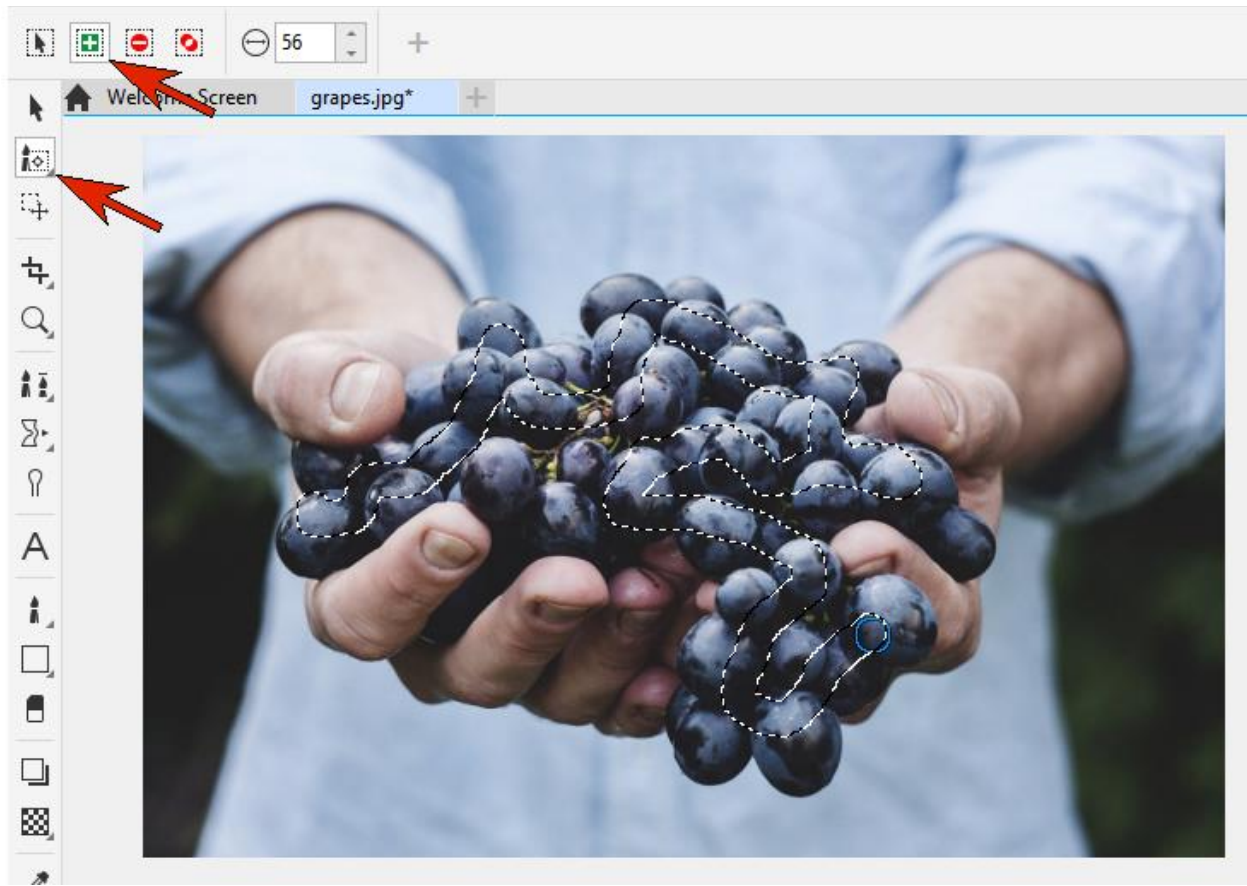


## Applying Different Lens Effects to Different Image Areas

For the final example, we'll apply one set of effects to the grapes and another set of effects to the rest of the photo.



The first step is to mask just the grapes. We'll use the **Smart Selection Mask** tool, which was introduced in PHOTO-PAINT 2020. On the **Property** bar we'll set the mode to **Additive**, which allows us to add to the original selection area. Drag the mouse within the area you want to mask (in this case, the grapes) and when you release the mouse button the mask expands to select all, or most of the grapes. If there are any bits that were missed, click on them to add them to the selection. You can also use **Mask > Mask Outline > Remove Holes** to catch these missing bits.



**TIP:** if you accidentally select more than the area you want to mask, switch to **Subtractive** mode on the **Property** bar, then click on the bits you want to remove. You may need to lower the **Tolerance** setting for a more precise selection.





As before, we want to add some feathering to soften the mask border. Since there is no **Feather Mask** icon on the **Property** bar for the **Smart Selection Mask** tool, go to **Mask > Mask Outline > Feather**. This time we will set the **Direction** to **Inside**, with a **Width** of **15**.



We'll add a new lens and apply the **Art Strokes > Pointillist** effect.



Now we want to apply a second effect to grapes. To do this, we need to create a new lens from the same mask. Make sure the current lens is selected in the **Objects** docker then go to **Mask > Load** and select the active mask (Pointillist Lens Clip Mask).

We'll add a new lens and then apply the **Distort > Wet Paint** effect.



To apply a different effect to the rest of the image, we first need to mask that area. The simplest way is to invert the mask we already created for the grapes.

Click on either lens in the **Objects** docker to make it active, go to **Mask > Load** and select the active mask. Now go to **Mask > Invert Mask** and the entire image, minus the grapes, will be selected.

Now all that's left is to add a new lens and then add an effect, following the same steps as before. This time we are using the **Camera > Sepia Toning** effect.



If you're happy with the effects, your work is done. But don't forget that you can experiment with the effects in any or all of the following ways:

- Use the **Show/Hide** icon in the **Objects** docker to turn lens effects on or off.
- Drag a lens up or down in the **Objects** docker to change the order in which they are applied to the image.
- Click on the **Lens** icon in the **Objects** docker to open the effect settings and make adjustments.
- Use **Mask > Load Mask** to add a new mask and apply a different lens effect.

And since we have used lens to apply the effects, the original image is still intact and if you save the file as a .CPT (PHOTO-PAINT) file you can make further edits in the future. Have fun applying, combining and experimenting with lens effects!