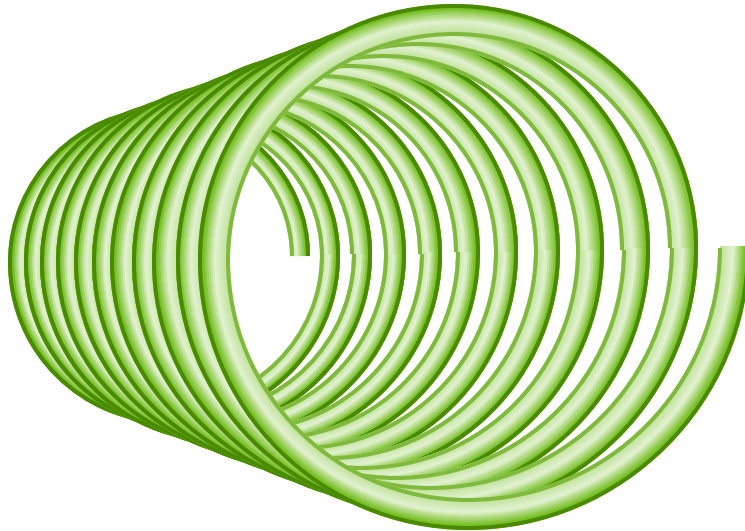


# Creating a shaded spring in Adobe Illustrator

We are going to create this spring below.



(Since we are on a small scale here, it's easier if you set the document's default unit of measure to pixels.) First click on the Spiral Tool and click once on the artboard. We are going to input the spiral values through the dialog box. Once you become expert creating spirals, you can change the values to experiment with different settings. Needless to say, not all settings produce acceptable spirals that can be used to create springs.

Radius: 100px  
Decay: 95%  
Segments: 4  
Style: use the top one

Regardless the type of spiral you want to create, you usually want to keep the number of segments to 4. It is so, because in this case the spiral has 1 turn, and the start and end points line up fairly straight on the horizontal axis.

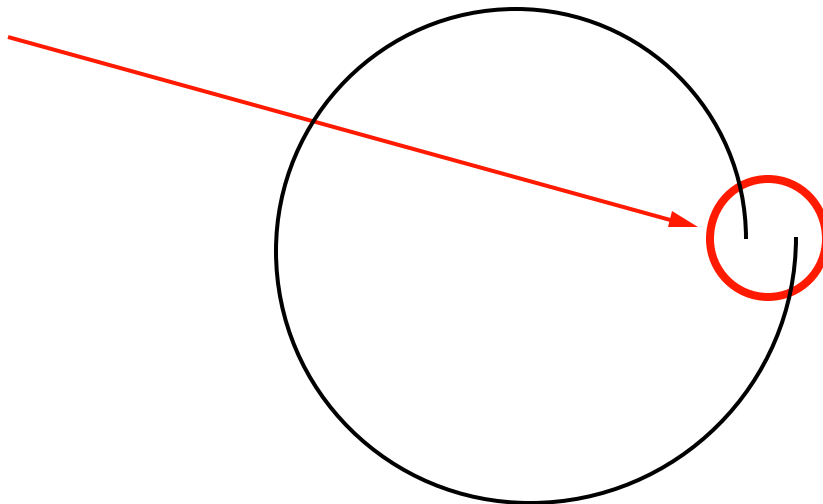


Figure 1

You can set the stroke width to 1, 2, 3, 4 pixels. Make sure the spiral is selected then go to Object > Path > Offset Path..., then enter 4px for the Offset parameter - Figure 2. For best results, use an even number for the offset value, such as 4, 6, 8, etc.

Next use the Scissors Tool to cut off the closing segments of the spiral (the ones hilited in red on Figure 3). For this you can activate the Smart Guides option which will snap the edges of the scissors tool exactly to the anchor points where you need to cut. The resulting spiral (in color) is shown on Figure 4.

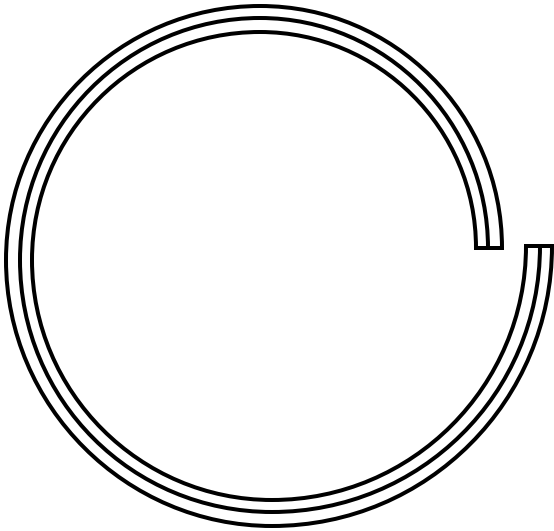


Figure 2

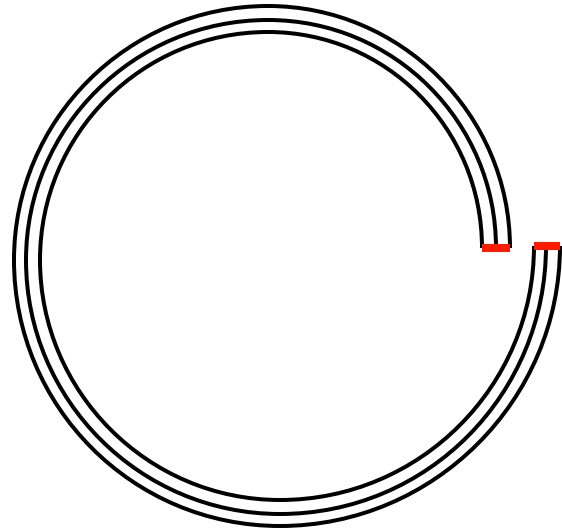


Figure 3

I colored the three spirals as follows - Figure 4:

Outer spiral RGB: 93, 153, 24

Middle spiral RGB: 221, 255, 178

Inner spiral RGB: 132, 217, 34

Make sure that in the Layers palette, the 3 spirals appear in the correct order on top of each other! That is, outer, middle, inner. (The middle spiral has to sit between the outer and inner ones in the Layers palette!) Whether they are arranged top to bottom or bottom to top does not matter as long as they are in this order. Otherwise the blending won't be correct. Select all three spirals and choose Object > Blend > Make. Select the resulting blend object, then double click the Blend Tool, and in the Blend Options dialog set the Spacing to Specified Steps and enter 30 - Figure 5. The greater the stroke width, the less steps you'll need!

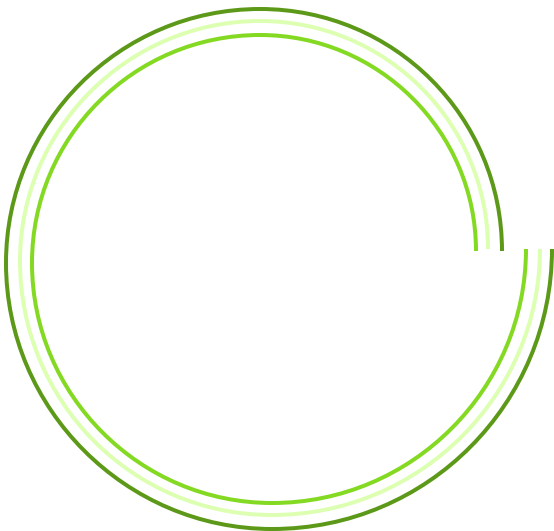


Figure 4

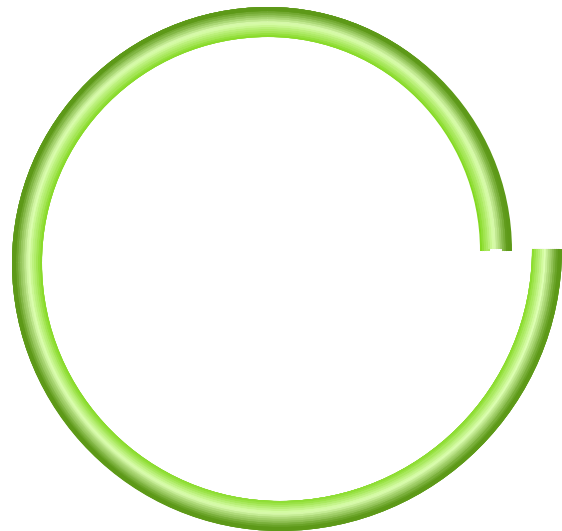


Figure 5

Make sure the blend object is still selected then choose Effect > Distort & Transform > Transform... The parameters you enter in this dialog will vary depending on the size of spiral you originally created and how much you have offset the 2nd spiral at the beginning steps (in Figure 2). Make sure you enabled the Preview option in the dialog so you can see what's going on as you adjust the parameters. Also, make sure the reference point is set to the middle (the little 8 squares that surround the single little square). If you followed along and used the values so far provided in this tutorial then use the following values in the Transform Effect dialog box:

Scale:  
Horizontal = Vertical = 95%

Move:  
Horizontal: -14px  
Vertical: 0px

Copies: 10 (or whatever you want)

And here's our spring...

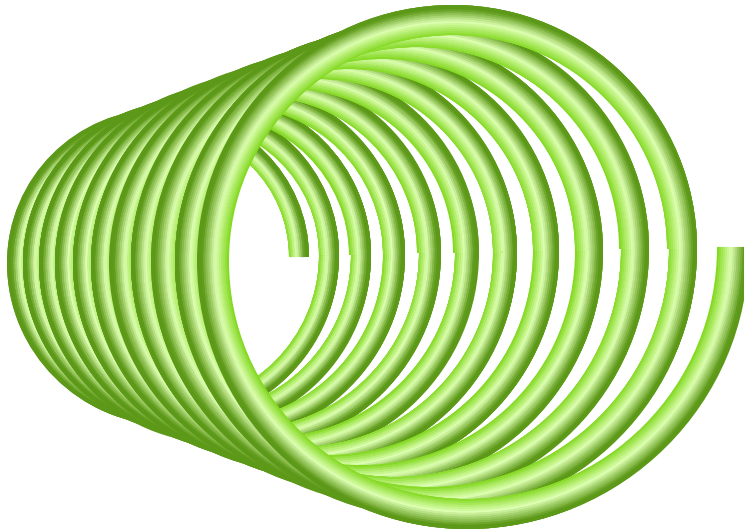


Figure 6

Now go and experiment! Try different parameters along the way. Depending on the original parameters you select for the initial spiral, you will have to play around and experiment with the exact settings at the end in the Transform Effect dialog in order to align up the spiral edges correctly.

And here a few other springs created with different parameters.

