

You can “Pick and Choose” how you read this book

This book is meant to be interactive in nature and to respond to what you find interesting about the images you create. String art images are created from four numbers labelled n , S , P , and J that are controlled by \blacklozenge arrows so that you could, of course, proceed to simply play with these numbers and watch what happens. If you do that, you will inevitably begin to see patterns and you will find that these patterns are interesting and engaging in their own right.

Excel versus web. There are two modalities for image creation: *Excel* and a non-*Excel* web version. Both versions have their own strengths and weaknesses, and if you have access to *Excel*, you should initially work from the *Excel* files as they restrict options in order to focus attention on the topic at hand. For example, the *Polygons* sheet allows you to only vary n , the number of equally spaced vertices around the circle, and the *Stars* sheet adds in the number of vertex jumps, J , so that you can learn about this variable before moving on to S and P . The *Excel* files also provide greater flexibility for those who wish to teach from this book since there are specific features that teachers will find helpful in discussing various attributes of the model. The web version allows users to dynamically see how an image is created as a series of *continuously-drawn* lines using various *Drawing Modes*.

About explainers. This book is NOT built to be read in the traditional linear fashion from front to back. Rather it is built to be picked at, beyond the basics at least, based on what you find particularly interesting. As a result, the book is written in small sections, each interconnected with others, but each focused on a single idea or point. These small sections are called *explainers*. Think of an explainer as very small, short story that can be read in a single sitting.

The Basics. Here are six explainers that cover the basics. They are noted by **PwP** location, topic, and link.

The first four explainers focus attention on the individual parameters of the model.

- 1.1. The n number of vertices in the n -gon. [How Polygons are Drawn](#)
- 1.2a. The number of vertex jumps, J , used to create stars. [Stars that Work and Stars that Don't](#)
- 2.1a. The number of subdivisions, S . [A primer on \$S\$](#)
- 2.1b. Drawing lines between p points in the final image, P . [A primer on \$P\$](#)

The remaining two explainers deal with commonality between numbers and searching for image patterns.

- 2.2a. Commonality issues. [Lines used with VCF and SCF](#)
- 2.7a. Searching for patterns. [Finding Similar Images](#)

If you want to add a 7th explainer to this list, it starts to get harder to justify one reading path versus another. This one was chosen because reducing the size of numbers without changing the image helps you more easily understand how the image was constructed.

- 2.4a. Finding smallest parameter values. [Simplifying Parameter Values](#)

It is worth explicitly pointing out that the above suggestions are not the first 7 explainers in the book. They are sprinkled throughout the book with noticeable gaps present between these basic explainers. In particular, do not feel that you must read all of the *Polygons and Stars* explainers before moving on to *String Art*. That is, do not treat this like a traditional book.

A final suggestion. Open the [Image Archetypes](#) sheet as it provides examples of some of the types of images that you may encounter as you play with the string art model. This can be done even before you read any of the explainers noted above as a purely visual way into this material.