

## Finding the Fun in FUNdamental Math Deux

The goal of this course is to engage participants in the mystery and beauty of mathematics. It is intended for participants who wish to achieve a deeper understanding of fundamentally important mathematical ideas. For example, we will trace the development of the “Pythagorean Theorem” from its use by Egyptian “rope stretchers” who laid out agricultural plots each spring after the annual flooding of the Nile. In fact, there are more than 371 proofs of the Pythagorean Theorem, one by Leonardo Da Vinci, another by a 12-year-old Einstein, and still another by President James Garfield! We will take a closer look at a few of the more accessible “visual” proofs of that theorem.

Another topic that we will dwell upon is that of a “cosmic constant” called the Golden Ratio, aka the “Divine Proportion” which characterizes many features of the natural world (starfish, elephant tusks, hurricanes anyone?) and was adopted by artists and architects over the ages. We will explore both the natural occurrences of the Golden Ratio and its role in the “built environment” and learn how that ratio is derived from the simple Fibonacci Sequence.

Lessons will often begin with a simple but provocative problem or mathematical puzzle and participants will be encouraged to work collaboratively on these and the other classroom activities. Topics will be expected to evolve as participant interests help drive the progress of our explorations.