

The Answer Is . . .

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While I have never been particularly artistic in the usual sense, I have always found incredible beauty in the sciences, and in particular, the language of science, mathematics. As time has passed, I have encountered some interesting "intersections" between these fields.

For example, there is a construction in mathematics called a "Fibonacci Sequence." When I first heard about a Fibonacci sequence, my reaction was "So what?" It is a very simple concept, but seemed to have no practical value. A Fibonacci sequence is a series of numbers beginning with 1 in which each number is the sum of the two previous numbers: 1, 1, 2, 3, 5, 8, 13, 21, 34, etc. Like I said, interesting, but so what? It's not like nature would ever do anything with it, right?

Wrong. Most everyone knows that a sunflower head is formed of two opposite sets of spirals. I had always assumed that they were equal. There are lots of spirals in nature - the outsides of pine cones and pineapples, etc. Well it turns out that the sunflower has 21 spirals going one direction and 34 going the other. Consecutive numbers in a Fibonacci sequence. A pine cone? 5 and 8. A pineapple? 8 and 13. Seems like this Fibonacci sequence pops up in the darndest places! Coincidence? Maybe.

The ancient Greek builders were aware of a certain ratio of height to width in rectangles that was particularly pleasing to the eye. They used it everywhere and it came to be known as the Golden Ratio, or Golden Section. There is a geometric process for constructing a Golden Ratio, it isn't just eyeballed. The ratio between the height and width of this figure is 1:1.618.

Back to the Fibonacci sequence for a sec. For any value larger than 3, the ratio between any two consecutive numbers in the sequence is approximately 1:1.6. More coincidence? Hmmmm.....

More on the [Fibonacci Sequence](#).