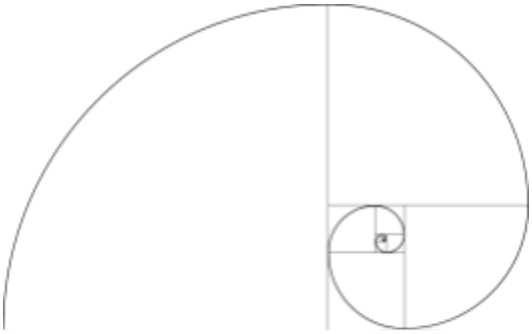
Fibonacci Spiral Art Project



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Goal: Create a piece of artwork that features a Fibonacci spiral.

Supplies: Canvas or Paper, Ruler, Pencil, Fine Point Sharpie, Paint or Coloring Supplies

Steps:

1) Determine a scale for your drawing. Decide what your first square dimensions will be. Set up a table (by hand or in Excel) with the Fibonacci numbers in one column and your square dimensions in the next. Calculate the measurements through at least 20 of the numbers in the Fibonacci Sequence. Be sure to label what your measurement unit is! Which number in the Fibonacci Sequence will give you a square with a side length of a yard (if in inches) or a meter (if in centimeters)?
2) Determine where you will start your spiral on your canvas or paper. You want to fit as many of the squares as you can on your media. Using your ruler and a pencil draw the first square. Continue from there. Remember the diagonals will be used to help create the curve. Be sure to draw them in the correct arrangement!
3) Once your squares are drawn in pencil, go over them with a fine point Sharpie. You want the squares to show in your artwork.
4) Paint your background over the squares. Let dry.
5) Once the background is dry, create the spiral using the diagonals of the squares. Start with your first square and use the diagonal that will go to the second square and then the third. Plan it in your head before you actually use paint or ink!! You may want to pencil it first.
6) Complete your artwork. You can use the spiral as part of your design or just have it on top of your background.
7) Add two columns to your table with the ratios of the Fibonacci Sequence numbers (2^{nd} / 1^{st}, 3^{rd} / 2^{nd}, etc.) and the ratios of your measurements. What do you notice? When does the Fibonacci Sequence ratio get close to the Golden Ratio, Phi ($\phi \approx 1.6180$)?
8) Write a paragraph explaining your Fibonacci Spiral and its measurements. Be sure to answer any of the questions asked here, summarize your procedure and discuss how you liked the project. Turn in artwork, Excel table and paragraph.

Grading Rubric: Name:

Calculation Table (25 points) ● All four columns are accurate and present ● Required labels are in headers	
Paragraph (15 points) ● Full sentences ● All questions are answered. ● Description of calculations and spiral.	
Measurements (25 points) ● Measurements of squares match the in the table and are accurate	
Creativity (15 points)	
Neatness (10 points)	
Accuracy (10 minutes) ● Are there enough squares? ● Did you follow the directions?	
Total (out of 100)	