Greybeards' WebQuest

WELCOME TEACHERS!

We are the Greybeards: Ralph Polley & Dr. Robert Sughrue. We teach at Reagan High School in Houston Texas. We designed this web-based lesson and webquest for 9th grade algebra students but it is accessible to students from 7th through 12th grade.

This is a fun, exploratory, hands on, action oriented, Internet experience in which the student will:

1. examine the sequence known as the fibonacci numbers: 1, 1, 2, 3, 5, 8, 13, 21, 34, … in which each term is the sum of the previous two terms.
2. discover a geometric representation of the arithmetic pattern of the fibonacci numbers.
3. discover how this geometric pattern occurs in the natural world as the spirals we see in such diverse places as sea shells, pine cones, leaf arrangements.
4. learn to use the Internet as an educational resource; that is, learn to be a learner.

We have designed this experience to enable the student to:

- expressing data relationships and make predictions.
- use models for geometric reasoning.
- practice measurement skills.

- display and interpret data in a variety of ways.
- appreciate the applied dimensions of mathematics.

Required Equipment:

This lesson requires that there be one computer available for each four students.

Preparation:

Before using this lesson, you will need to:

1. Print out copies of the data sheet and the graph paper from the resource folder.
2. Make copies of each of these for each student. (You can copy the data sheet on one side of the sheet and the graph paper on the other side if you need to save paper.)
3. Divide your class into groups of four students.

You are now ready to start! Pass out the materials, have the students go to the introduction page, and enjoy!