

New Paltz Central High School

New Paltz Central School District 196 Main Street, New Paltz, New York 12561

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Welcome to Math in Nature

Math in Nature is a one-quarter (1/4 math credit) course designed for all students, those who enjoy math and those who don't enjoy math. We will be investigating how and where math appears in nature and how humans have used math to explore and explain natural phenomena. We will also spend time honing math skills for those who need it and/or learning more advanced mathematical concepts.

Course Description:

The goal of the course is to explore the many connections between mathematics and the natural world in which we live. Students will discover that mathematics is not just about numbers, problem solving and logic; math is about patterns, symmetry, structure, motion, and predictable order as well as chaos. Students will study topics such as the Fibonacci Sequence, the Golden Ratio, and fractals. We will look for patterns in flowers, pineapples, and seashells. We will collect data and look for pattern in things that grow and move and change and then develop and test mathematical models that describe the data. In addition, we will explore the fundamental question: Did humans create math or discover math? In exploring this, we will examine and re-create some early experiments done by ancient mathematicians. We will also explore the development of different number systems and methods for counting and keeping track of time.

This course will be project-based, with students working individually and in small groups on hands-on class work, projects, research projects, and presentations.

Other Important Info:

Grading:

Grades will be based on class participation, class work, projects, and presentations.

After-School Help:

Please come after school anytime if you have questions or need help on anything! You can find me in the math office (room 214A) or in room 137 after school everyday. I am often here until the cows come home, so drop by anytime. You may also reach me through e-mail at kstewart@newpaltz.k12.ny.us

Webpage:

I will post all class work assignments and projects on my school webpage, so check that regularly. **If you miss any class, you'll be expected to find the work you missed on my webpage and turn the work in for credit.**

Please feel free to come after school (in room 137 or 214A) or e-mail anytime if you have questions.

Let's work together to make this a productive year for all of us!