



Math Connections

Course Description: This class is designed for the mathematically inclined persons who enjoy applying mathematics to the real world in interesting ways. The teacher may choose to do activities that use math such as keeping statistics in a game or measuring the amount of new carpet needed for our hall ways. There is a creative element to this class as well, showing math in art, music, and story telling. Advanced thinking in mathematics is a necessity so only students who qualify with A and B in their regular math classes need apply.

Course Objective: To explore, create, and understand using mathematical principles.

Materials Needed: Loose leaf paper, notebook, braded folder, simple calculator, ruler, protractor, compass, pencils, colored pencils, and markers.

There is no required textbook.

Welcome to a year of using math in all sorts of interesting and creative ways.

The goal of this class is for you to have a chance to explore how mathematics can be used in many different connections from sports, to travel, art, music, business, and building. You will enhance your mathematical thinking and become more adept at problem solving and have the opportunity to be creative with math.

Most of our work will be done in the classroom; however, it may be necessary from time to time to take items home to add finishing touches.

You will work in a variety of forms: individually, in partners, and in small groups.

The main thing is that you must be willing to be challenged, to use your prior math knowledge, to cooperate, and to produce!

This will be a fun and engaging class if you are cooperative and willing to investigate the way math connects to our lives.

Each class period, we will be writing in our notebook, so please make sure you bring it with you.

Throughout the year, we will be working on a variety of projects, as well as, supporting these projects with math activities and problem solving in class.

Every year the students help to devise their own solutions and communicate their results by doing a variety of projects, among them are:

Sports Heroes Then and Now: Using data and statistics to persuade the audience which sports hero was superior with both an oral and a visual representation.

My Dream Vacation: Using the criteria of two weeks of vacation and only driving, students plan a vacation using maps to plot routes, travel sites to determine costs, and make a brochure to show their results.

Mathematical Game Boards: Working in small groups students first study game theory and probability to devise a mathematical board game. Students then play each others' games and assess for playability and correct mathematics.

Tessellation Creation: Learning the art of tessellation is exemplified and then applied to students own artistic creations.

Survey time: Students create and devise their own surveys which should explore an interesting and relevant to topic. Measures of central tendency are explored as well as the use of appropriate graphs including but not limited to box and whisker, histograms, pie graphs.

Stock Market Simulation: Students are given a set amount of play money to compete against other students in a stock market game. In this simulation, students create a portfolio; and buy, sell, and trade stocks.

Mathematical Concepts: Students work in groups to create a concept map of concepts such as geometry, calculus, trigonometry, algebra, and basic mathematics. Students will be asked to provide real-world examples of how these concepts apply to us everyday and also compare the concepts to each other.

Create Your Own Sudoku Puzzle: Students use problem solving strategies to create their own 9 x 9 Sudoku puzzles. They will be responsible for creating an answer key and writing an explanation of the strategy used to create this puzzle. Other students will be required to complete other student's puzzles in order to ensure they are correct.

Creating a Business: This class will create a business with four sections: ranch, feed store, veterinarian, and government. This is just an example as the class will brainstorm the type of business they would like to create. Students will be required to create a work cooperatively and must prepare profit and loss statements. Students may present their business through a variety of methods such as a PowerPoint presentation, a collage or poster, or newsletter to name a few.

My Life and Times: A timeline of your life with links to world events which can be displayed in a variety of ways.

Math from Beginning to Now: Students will choose a person or an event associated with math and presents the information to the class with a choice of presentation.

Please be advised that not all, but a majority, of these projects will be completed.

Each quarter you are assigned a variety of problems that you can complete in class.

Grading Guidelines

F --- There are many missing assignments. Tests show little understanding. There is little effort made to improve. Listening skills in class are poor or non-existent. Preparation for class is poor. Class time is consistently wasted.

D-- There are some missing assignments or work is not complete. Tests show weak understanding of what has been taught. There is minimal effort to improve. Preparation for class is on and off.

C--- There is only one or no missing assignments. Tests show basic understanding, but not above standard. There is good effort made to complete assignments and do quality work. There are a few weak areas to be worked on. Attention in class is satisfactory and preparation is generally good.

B--- There is only one or no missing regular assignments. Tests show good understanding of materials with indications of going beyond standard. Effort is evident in completion of work and the quality of work is very good. There are few, if any weak areas. Attention and preparation for class is commendable.

A --- There is only one or no missing regular assignments. Tests show excellent understanding of materials with indications of going beyond. There is exceptional effort made in work, especially in the problems of the week. Attention is excellent and class readiness is consistent. There are indications of a willingness to do more and try new things.

Nevada State Standards

To find the state standards covered you can access the following website:

<http://www.doe.nv.gov/standards.html>

Classroom Rules

- Make choices that allow you to learn
- Make choices that allow others to learn
- Make choices that allow me to teach

Grading Scale:

90-100	A80-
89	B70-
79	C60-
69	D59
& Below	F

Grades will be posted on Power School.

Please sign that you acknowledge the basics of this class.
If you have any questions, please email me or contact me through school.
durrizag@elko.k12.nv.us
Phone: 775-777-1688

Student Name

Signature of Student

Block

Signature of Parent

Date of Signature

Math Connections
School Year 2010-2011
Mrs. Urrizaga
Spring Creek Middle School