

MATH DEPARTMENT

SYLLABUS 2018/2019



Math

Dear Parents and Guardians,

Greetings from Micheline Becker and Antonio Mansilla; we will be your child's Math teachers this year. We want to introduce ourselves and our department as a partner in your child's Math education. Included you will find information on our classroom policy, technology policy, grading policy, classwork/homework policy, information on progress reports, teacher e-mails and the standards for the grade level of our students.

Please read and review the school rules, policies and information that can be found on the Turning Point webpage.

To track our expectations for your student, please check their DAL (Daily Activity Log) daily, sign it and return it.

Students' grades can be found on Infinite Campus at any time throughout the school year; grades are uploaded weekly. Make sure to contact the office for access to Infinite Campus. Progress reports will be uploaded periodically, and we will also reach out to you by phone, email and Remind at times to keep you informed.

Our goal is to monitor the maturation process of your child over the course of the school year and address both the emotional and academic needs of our students. Please feel free to e-mail, phone or write us a note whenever you wish to express your concerns.

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Math Department Management Policy

Daily Classroom Procedures

Before the bell rings:

- ❖ Be seated in your assigned seat.
- ❖ If in 1st period, start eating breakfast
- ❖ Grab your folder from the cart
- ❖ Begin working on warm-up.

As the bell rings:

- ❖ Talking ceases, finish your breakfast and clean the desk (1st period).
- ❖ Continue working on warm-up (maximum 10 minutes).

During the class period

- ❖ Raise hand and ask in a polite way if you would like the teacher's attention.
- ❖ Be productive.
- ❖ Remain in your seat unless given permission to do otherwise.

End of class

- ❖ Please remain seated until you are dismissed by the teacher.
- ❖ Put your folder back in the cart.

We will be working with math related computer programs, at least one day per week (usually Fridays). These will include Envision, MathXL and MathSpace, which will be monitored and graded at the end of the week. Failure to complete the online assignments will require the student to complete the missing work prior to the end of the semester. In keeping with TP policy, only levels 3 and 4 can listen to music on laptops while working independently. Levels 1 and 2 will have opportunities to earn music on MP3s or Desktops when working productively.

Restroom Use

We ask that you wait until direct instruction is finished before leaving the room to use the bathroom. When leaving the room to use the bathroom, please raise your hand to ask permission and give your point sheet to the staff designated to escort you to the bathroom. Only 1 person should leave the classroom at a time, so if someone else is out of the classroom, please wait until they have returned to ask for permission. Restroom privileges are restricted unless there are special circumstances.

QA Use

To use the QA (Quiet Area), please raise your hand for permission and give your point sheet to a staff member in the classroom. QA time is limited to 10 minutes and should be taken in the designated classroom area. Eloping and failure to return to class will result in having point sheet marked with response costs and could become a truancy.

Group Work

During some lessons there will be opportunities to work in pairs/group. Sometimes we will allow students to select their partners, but most of the time we will be assigning students to pairs/groups. We ask that everyone respect one another when working together. Please do not express disappointment or disapproval of other students within the class. During activities all students are expected to make productive contributions.

Grade Scale

A 90 – 100 %

B 80 – 89 %

C 70 – 79%

D 60 – 69 %

F 59 % or below

This is the grading scale established by the Washoe Schools District and will be used in our class.

Grading Policy

Each grading period there will be formal tests, quizzes (announced), warm-up activities, classwork, homework (if classwork is not completed) and a Final. There will also be other types of informal assessments to periodically check for understanding. District wide assessments will also be administered throughout the year.

Your student's Math grade will be broken down as follows:

Class work 60%

Tests/Quizzes/Assessments 20%

Final 20%.

Infinite Campus, the state computerized grading system, will average the following categories: classwork (recorded weekly), quizzes and tests, and a final to obtain a grade point average. If you do not know how to access IC please call the main office and they can provide you with your student's account information.

Homework

Completing math classwork is essential to success in math. If it isn't completed in class, it will be homework; this is not a punishment but a valuable tool to help your student succeed in math.

Extra Credit

There will always be opportunities for EXTRA CREDIT. This will be completed independently during lunch, Math Class free time or at home.

Absences

Excessive absences should be avoided as it will impact their grades. In the event of an absence, the student is required to make up all missed work. After an absence, it is the student's responsibility to ask for copies of missed assignments. Also, please make sure the office has appropriate paperwork in order to excuse the absence. The District make-up policy will be followed.

Make-up Work

Make-up work is defined as scheduled tests, scheduled quizzes, classwork and homework assigned on the day the student was absent, and/or a description of the topic (s) covered in the class while the student was absent and possible resources where the student can obtain information on topic(s).

It is the responsibility of the student to request make-up work after returning from the absence and return the completed work with the designated deadline.

Students are provided the length of the absence plus one day to complete any make-up work assigned. For example, if the student was absent for four days he/she will have at least five days to complete and submit the marked work.

Students who do not request or return completed make-up will not earn credit on missed assignments.

Make-up work need not be identical or equivalent to that missed due to the absence but will ensure that the student has the opportunity to meet the academic standards. Previously assigned work that was due on the day the student was absent is NOT considered makeup work and is due the day the student return to school.

The teacher must provide make-up work to the student within 2 days of the student request.

Behavior Expectations

- ❖ Do things that will not prevent us from teaching, nor you or others from learning.
- ❖ Respect yourself, others and your school.
- ❖ Be responsible.
- ❖ Listen.
- ❖ Follow TP Manual expectations.

Electronic device Policy

Cell phones, IPADs, IPODs, or other electronic devices should remain in the lockers at all times. If a cell phone is brought into the classroom, the student will be required to return it to their locker, and a technology violation will be marked on their point sheet. The inappropriate use of the classroom's computer or use without permission will also be marked also as a tech violation, and the student may lose computer privileges.

We will mostly use these digital resources in our Math classes

Math

MathSpace (<http://www.mathspace.co>) is an online resource designed to facilitate improvement of student's skills in math. It utilizes aligned curriculum. Students will be provided and access code for the instructor's class.

Envision/MathXL/Clever?HRW Go Math: are online programs approved by the District that provides educational opportunities in the areas of Algebra, Geometry and Middle Math.

Newsela is an online resource designed to facilitate improvement of student's skills in reading and writing. It utilizes current events and primary historical documents to improve literacy in Math. Students will be provided and access code for the instructor's class.

<http://www.coolmath-games.com/>

<http://www.coolmath4kids.com/math-games>

Chess

<https://www.sparkchess.com/>

<http://database.chessbase.com/?lang=en>

<http://www.instantchess.com/>

<https://www.shredderchess.net/>

<https://en.lichess.org/>

The Washoe Schools District mathematics courses may be found at

<http://www.washoeschools.net/Page/1081> (Middle School) and

<http://www.washoeschools.net/Page/1088> (High School)

MIDDLE SCHOOL

Objectives:

Content is organized into four critical areas, or units. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

The critical areas are as follows:

(1) Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percentages as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems. They extend their mastery of the properties of operations to develop an understanding of integer exponents, and to work with numbers written in scientific notation.

(2) Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x -coordinate changes by an amount A , the output or y -coordinate changes by the amount mA . Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation.

(3) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random

sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

(4) Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

ALGEBRA

The fundamental purpose of this course is to formalize and extend the mathematics that students learned in the middle grades. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

(1) By the end of eighth grade, students have learned to solve linear equations in one variable and have applied graphical and algebraic methods to analyze and solve systems of linear equations in two variables. Now, students analyze and explain the process of solving an equation. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities, and using them to solve problems. They master the solution of linear equations and apply related solution techniques and the laws of exponents to the creation and solution of simple exponential equations.

(2) In earlier grades, students define, evaluate, and compare functions, and use them to model relationships between quantities. In this unit, students will learn function notation and develop the concepts of domain and range. They explore many examples of functions, including sequences; they interpret functions given graphically, numerically, symbolically, and verbally, translate between representations, and understand the limitations of various representations. Students build on and informally extend their understanding of integer exponents to consider exponential functions. They compare and contrast linear and exponential functions, distinguishing between additive and multiplicative change. Students explore systems of equations and inequalities, and they find and interpret their solutions. They interpret arithmetic sequences as linear functions and geometric sequences as exponential functions.

(3) This unit builds upon prior students' prior experiences with data, providing students with more formal means of assessing how a model fits data. Students use regression techniques to describe approximately linear relationships between quantities. They use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. With linear models, they look at residuals to analyze the goodness of fit.

(4) Critical Area 4: In this unit, students build on their knowledge from unit 2, where they extended the laws of exponents to rational exponents. Students apply this new understanding of number and strengthen their ability to see structure in and create quadratic and exponential expressions. They create and solve equations, inequalities, and systems of equations involving quadratic expressions.

(5) In this unit, students consider quadratic functions, comparing the key characteristics of quadratic functions to those of linear and exponential functions. They select from among these functions to model phenomena. Students learn to anticipate the graph of a quadratic function by interpreting various forms of quadratic expressions. In particular, they identify the real solutions of a quadratic equation as the zeros of a related quadratic function. Students expand their experience with functions to include more specialized functions—absolute value, step, and those that are piecewise-defined.

GEOMETRY

The fundamental purpose of the course in Geometry is to formalize and extend students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments.

The critical areas, organized into six units are as follows:

(1) In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They use triangle congruence as a familiar foundation for the development of formal proof. Students prove theorems—using a variety of formats—and solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

(2) Students apply their earlier experience with dilations and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean Theorem. Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles, building on students' work with quadratic equations done in the first course. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles.

(3) Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line.

(4) Building on their work with the Pythagorean theorem in 8th grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines, which relates back to work done in the first course. Students continue their study of quadratics by connecting the geometric and algebraic definitions of the parabola.

(5) In this unit students prove basic theorems about circles, such as a tangent line is perpendicular to a radius, inscribed angle theorem, and theorems about chords, secants, and tangents dealing with

segment lengths and angle measures. They study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations, which relates back to work done in the first course, to determine intersections between lines and circles or parabolas and between two circles.

(6) Building on probability concepts that began in the middle grades, students use the languages of set theory to expand their ability to compute and interpret theoretical and experimental probabilities for compound events, attending to mutually exclusive events, independent events, and conditional probability. Students should make use of geometric probability models wherever possible. They use probability to make informed decisions.

MEDIA

We may also watch the following movies in conjunction with the content in our classes.

Students will be excused from the film showing to work on other assignments in the computer lab, if the parent/guardian does not wish them to watch the films.

Math related

[A Beautiful Mind](#)

[I.Q](#)

[Good Will Hunting](#)

[The Keeper: The Legend of Omar Khayyam](#)

[Little Man Tate](#)

[The Imitation Game](#)

Chess related

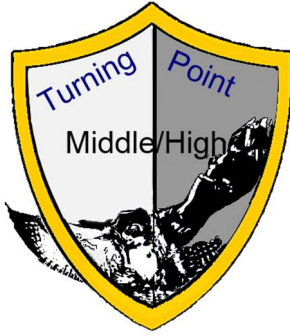
[Searching for Bobby Fischer](#)

[Queen to Play](#)

[The Chess Player](#)

[Harry Potter and the Sorcerer's Stone](#)

[Knights of the South Bronx](#)



Math Department Turning Point

No, I prefer my student not watch the MEDIA films suggested.

Student Name: _____

Parent Guardian: _____

"I have read, understand and agree with the information provided above for the Math Syllabus"

_____ Date_____

Student Signature

_____ Date_____

Parent/Guardian Signature