The Facing History School
Algebra 3

Teachers: Keysi, Danielle, Jeffrey, Caitlin

Unit Breakdown:

Unit 1: Review

Essential Question(s):
Can equations that appear to be different be equivalent?
How is thinking algebraically different from thinking arithmetically?
How do I use algebraic expressions to analyze or solve problems?
What is meant by equality?
Why do we want to compare rather than get an exact answer?

Unit Learning Targets:
➢ I can evaluate, write, simplify and evaluate arithmetic expressions
➢ I can evaluate arithmetic expression using order of operation.
➢ I can evaluate algebraic expressions
➢ I can solve one-step equations in one variable.
➢ I can solve two-step equations in one variable.
➢ I can solve multi-step equations in one variable.
➢ I can solve one-step inequality in one variable
➢ I can solve two-step inequalities.
➢ I can solve compound inequalities in one variable.

Major Assignments:
Seminar/Problem Solving Days (Every other Wednesday)
Weekly Quizzes (every Friday)
Unit Exam 09/29/2017

Common Core Standards:

N.Q.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

N.Q.2: Define appropriate quantities for the purpose of descriptive modeling.

A.SSE.1: Interpret expressions that represent a quantity in terms of its context.

A.REI.1: Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

Unit 2: Linear Functions

Essential Question(s):

What are some types of relationships that can be modeled by graphs?
How do I express a pattern to show a relationship?
How can you represent and describe functions?
What does the slope of a line indicate about the line?
What information does the equation of a line give you?

Unit Learning Targets:

➢ I can identify functions from relations.
➢ I can analyze functions.
➢ I can identify linear functions.
➢ I can graph linear functions written in slope-intercept form.
➢ I can identify the slope and y-intercept given a table in order to graph a line.
➢ I can graph a line that is not in $y = mx + b$.
➢ I can write the equation of a line given the slope and the y-intercept.
➢ I can calculate the slope of a line given two points.
➢ I can find the equation of a line given a point and the slope.
➢ I can write the equation of a line given one point and the y-intercept.
➢ I can write the equations of the line given two points.
➢ I can compare slopes of parallel and perpendicular lines.
➢ I can write the equation of a parallel line given an equations and a point.
➢ I can write the equation of a perpendicular line given an equation and one point.

Major Assignments:

Seminar/Problem Solving Days
Weekly Quizzes
Unit Project 11/22/2017
Unit Exam 11/17/2017

Common Core Standards:

A.SSE.3 – Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
A.CED.1 – Create equations and inequalities in one variable and use them to solve problems.
A.CED.2 – Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
A.CED.3 – Represent constraints by equations or inequalities and by systems of equations or inequalities and interpret solutions as viable or nonviable options in a modeling context.
A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V=IR to highlight resistance
F.IF.1 – Understand that a function assigns to each element of the domain exactly one element of the range.
F.IF.2 – Evaluate functions for inputs in their domain and interpret statements.
F.IF.4 – For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of quantities and sketch graphs showing key features given a verbal description of the relationship.

F.IF.5 – Relate the domain of a function to its graph and where applicable to the quantitative relationship it describes. For example, if the function h(n) give the number of person hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain.
F.IF.8 – Write a function defined by an expression in different but equivalent form.
F.IF.9 – Compare properties of two functions each represented in a different way.

Unit 3: Systems of Linear Equations

Essential Question(s):
Explain why the solution of a linear systems is represented by the point where the graphs of the two equations intersect?
How is the point of intersection related to the solution of the linear system?
What does the answer of a system of equations mean?
What can we do with a system of equations that we cannot do with a single equation?
How might one determine the most efficient method for solving a system of equations?

Unit Learning Targets:
➢ I can solve systems of linear equations by graphing
➢ I can solve systems of equations using substitution
➢ I can solve systems of equations by using elimination with addition or subtraction
➢ I can solve systems of equations by using elimination with Multiplication
➢ I can solve real world problems involving systems of linear equations

Major Assignments:
Weekly Quizzes (Every Friday)
Seminars/Problem Solving Days (Every other Wednesday)
Unit Project 12/22/2017
Unit Test 12/15/2017

Common Core Standards:
A.CED.3 Represent constraints by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
A.REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
A.REI.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

Grading Policy and Rubric:

Students will be graded using the following criteria:

Do Now and Exit Slip	=	2 points each
Quizzes	=	100 points each
Projects	=	100 points each
Seminars	=	10 points – Counts towards participation
Exams (ex. end of the unit test)	=	100 points each
Homework	=	10 points each

Grading Scale:

A+	97-100	B+	87-89	C+	77-79
A	93-96	B	83-86	C	73-76
A-	90-92	B-	80-82	C-	65-73
				F	0-64

Classroom Rules

❖ Arrive early or on time.
❖ Do not talk when someone else is talking.
❖ Come prepared with required classroom materials.
❖ Stay on task
❖ **NO CELL PHONES**
❖ Be in uniform

If you break a classroom rule, here is the order of what will happen:

1.) _Verbal Warning_
2.) _One-on-one conversation_ (either quietly in the classroom or out in the hallway)
3.) _Call home and/or sent to Courtney or admin office._

Cell Phones

Schoolwide Policy: Cell phones are allowed in the school building but must be locked in your lockers.

If you have your cell phone out during class, we will ask for it and return it at the end of the school day.

Headphones

Headphones **should not be visible** on your body. Headphones are _**not allowed**_ in your ears, draped around your ears, and all the other possible ways to wear headphones.

Uniform

You must be in uniform before entering the room. You are expected to follow the school uniform policy in this class. If your shirt or pants are out of uniform (including hoodies), you will be sent to the admin offices to receive an appropriate uniform.

Late to class

If you come to class late, have a pass. It is your responsibility to ask the adult for a pass. If you do not have a pass, you will be marked as an unexcused tardy. If you are late, you must sign the late log. After 3 lates, teacher will call home.

If you leave the classroom during class time, you must get a pass.

Absent to Class

Planned Absence = you know you are going to be absent (e.g. doctor's appointment)
  Make sure you let us know so we can give you the missing work.

Unplanned Absence = you are absent but did not anticipate or expect it (e.g. illness)
  Let us know so we can create a plan to help you make up the work you missed.

NOTE: You are responsible for completing the missing work. If you do not complete the work, teacher will enter a M (for Missing), until you turn in your work.

Bathroom/Water Fountain Policy

School-wide Policy: No students can use the bathroom during the first 10 minutes of class or last 10 minutes of class. You should never walk out of the classroom without asking.

Office Hours

<u>Keysi-</u> **Tuesdays and Thursdays During Lunch**

<u>Jeffrey -</u> **Monday and Wednesday During Lunch**. Addition hours in the mornings before 1st period by appointment.

<u>Danielle -</u> **Tuesdays and Thursdays During Lunch.** Addition hours in the mornings before 1st period by appointment.

<u>Caitlin -</u> **Monday and Wednesday During Lunch.** Addition hours in the mornings before 1st period by appointment.

Teacher Contact Information

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