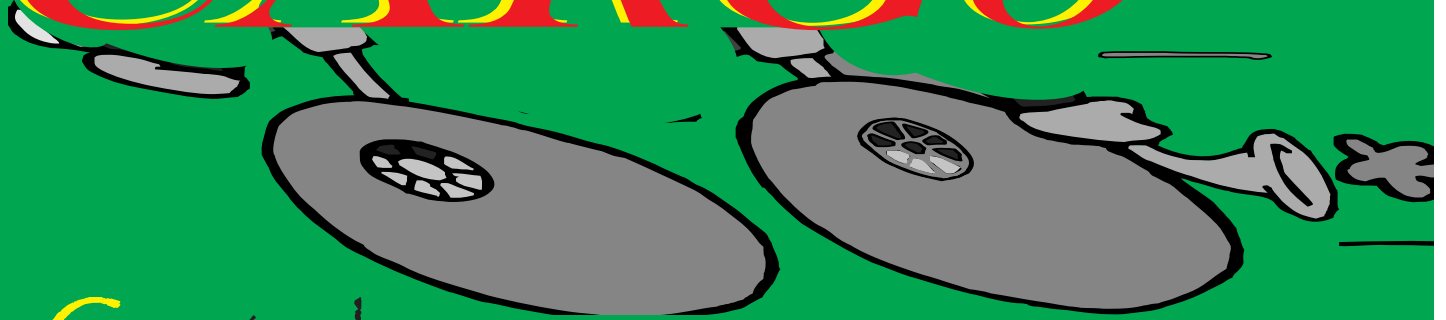


Sandy Garrett
State Superintendent of Public Instruction
Oklahoma State Department of Education

CARGO



Curriculum

Access

Modified



Resource

Guide

**A Modified Approach to Teaching
Priority Academic Student Skills
(PASS)**

Math

Grades 6-End-of-Instruction

oklahoma state department of education



special
education
services

"changing times in special education"

It is the policy of the Oklahoma State Department of Education (OSDE) not to discriminate on the basis of race, color, religion, gender, national origin, age, or disability in its programs or employment practices as required by Title VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973.

Civil rights compliance inquiries related to the OSDE may be directed to the Affirmative Action Officer, Room 111, 2500 North Lincoln Boulevard, Oklahoma City, Oklahoma 73105-4599, telephone number (405) 522-4930; or, the United States Department of Education's Assistant Secretary for Civil Rights. Inquiries or concerns regarding compliance with Title IX by local school districts should be presented to the local school district Title IX coordinator.

This publication, printed by the University of Oklahoma Printing Services, is issued by the Oklahoma State Department of Education as authorized by 70 O.S. § 3-104. Ten thousand copies have been prepared using Discretionary federal funds at a cost of 57 cents per copy. Copies have been deposited with the Publications Clearinghouse of the Oklahoma Department of Libraries. JANUARY 2007.

A Message from

State Superintendent

Sandy Garrett



**Curriculum Access Resource Guide – Modified
CARG-M**

It is with great pleasure as Oklahoma’s State Superintendent of Public Instruction, that I present to you the new Curriculum Access Resource Guide that is aligned to *Priority Academic Student Skills (PASS)* standards for students with disabilities. The Oklahoma State Department of Education, Special Education Services, is always striving to provide curriculum that is challenging and appropriate for our students on Individualized Education Programs (IEPs).

The CARG-M is intended to provide access to the general curriculum for students with disabilities, who can make significant progress but may not reach grade-level achievement standards within the same time frame as other students, even after receiving the best designed instructional interventions from highly trained teachers.

Priority Academic Student Skills

Adapted for

Grade 6

Math

The student applies a wide range of strategies to describe, interpret, evaluate, and analyze a variety of math problems and context.

Standard 1: Algebraic Reasoning - The student will use algebraic methods to describe patterns and simplify algebraic expressions in a variety of contexts.

Modified Academic Indicators (MAIs):

- 6.1.1 Extend and create patterns from tables, graphs, rules and number properties and generalize patterns algebraically.
- 6.1.2 Use substitution to simplify and evaluate algebraic expressions with one step (limit to whole numbers, add, subtract, multiply, and divide).

Classroom Activities:

The student:

- 6.1.1a Explores the characteristics of 2s, 3s and odd numbers by completing, highlighting, etc., a hundreds chart.
- 6.1.1b Completes, extends and/or explains a number pattern (number line, number chart, etc.).
- 6.1.2a Completes $x + 3$, given $x = 5$.
- 6.1.2b Uses sets of manipulatives (counters, blocks, etc.) to represent expression.
- 6.1.2c Uses a secret code to decipher a riddle (numbers can be represented by letters).
- 6.1.2d Completes equations such as $4x$, given $x = 3$.

- 6.1.2e Completes a number line with various missing numbers.
- 6.1.2f Uses a number line to count up or down to a stated number.

Standard 2: Number Sense - The student will use numbers and number relationships to solve problems.

Modified Academic Indicators (MAIs):

- 6.2.1 Add and subtract common fractions to solve problems using a variety of methods.
- 6.2.2 Identify and/or order decimals, common fractions and percents using a variety of methods.
- 6.2.3 Estimate decimals, fractions, and percents to the nearest whole numbers, and assess whether estimates are reasonable.
- 6.2.4 Simplify numerical expressions with exponents (limit to the power of 3).
- 6.2.5 Solve expressions using order of operations. (Limit to add, subtract, multiply and divide with only two steps.)

Classroom Activities:

The student:

- 6.2.1a Plays sorting game to identify fractions with the same denominator.
- 6.2.1b Uses manipulatives to identify, develop, match and/or solve common fractions.
- 6.2.2a Places numbers in order (whole numbers, percentage, decimal, fractions, etc.), using Stacking Equivalency Cubes to order.
- 6.2.2b Converts simple fractions to decimals using a conversion chart.
- 6.2.3 Matches single step questions to the correct choice; $\frac{7}{8}$ is about 1, 0.4 is about half, 1.9 is about 2.
- 6.2.4 Uses manipulatives such as calculator, flash cards, and exponents chart to answer repetitive set problems (e.g., $2 \times 2 \times 2 = 2^3$, $4 \times 4 \times 4 = 4^3$).

- 6.2.5a Uses the order of operations acronym “PEMDAS,” but only Multiplies, Divides, Adds, and Subtracts (e.g., $5 + 2 \times 3 = 5 + 6 = 11$).
- 6.2.5b Uses highlighters to show each individual operation (e.g., highlights 2×3 in yellow and the $5 +$ in pink).

Standard 3: Geometry - The student will use geometric properties and relationships to recognize, describe and analyze shapes and representations in a variety of contexts.

Modified Academic Indicators (MAIs):

- 6.3.1 Angles
 - a. Compare, estimate and determine the measurement of angles.
 - b. Find the complement and supplement of an angle.
- 6.3.2 Differentiate between congruent and similar figures.

Classroom Activities:

The student:

- 6.3.1a Uses transparency material and matches paper copy angles by placing the same angles together.
- 6.3.1a Uses a protractor to identify right, acute, and obtuse angles.
- 6.3.1a Uses protractor to measure angles.
- 6.3.1a Uses software programs that reinforce concepts.
- 6.3.1b Uses geoboard, yarn, flexible straws, Angle Legs, etc., to create angles, including complementary and supplementary angles.
- 6.3.2a Uses overhead to rotate, flip or turn shapes to demonstrate spatial concepts.
- 6.3.2b Folds paper and cuts shapes to demonstrate symmetrical patterns.
- 6.3.2c Explores reflection [flip] with mirrors, explores rotation [turn] and translation [slide] by designing the layout of different shapes of floor tile.

Standard 4: Measurement - The student will use measurements within the metric and U.S. customary system to solve problems in a variety of contexts.

Modified Academic Indicators (MAIs):

- 6.4.1 Compare and convert units within the same measurement system; express conversions using appropriate unit labels; and compute measurements of combined units.
- 6.4.2 Find reasonable estimates for measurements using measurements in standard units.

Classroom Activities:

The student:

- 6.4.1a Uses tape measure with both total inches and feet to measure students' heights, arm span, etc.
- 6.4.1b Converts hours to minutes, feet to inches (e.g., 3'6" = ? inches, 150 minutes = ? hours and ? minutes).
- 6.4.2 Estimates the unit of measurement given ordinary objects (e.g., bucket of water, weight of brick, length of classroom, temperature of snow).

Standard 5: Data Analysis - The student will use data analysis and statistics to interpret data in a variety of contexts.

Modified Academic Indicators (MAIs):

- 6.5.1 Collect, organize, and interpret data to solve problems.
- 6.5.2 Identify and/or interpret graphs of statistical data (e.g., choose the most appropriate representation to keep from distorting information).
- 6.5.3 Find the median and mode for a set of data containing up to 10 elements.

Classroom Activities:

The student:

- 6.5.1 Uses data from student experiments, tallies, Venn Diagrams, tables, circle and bar graphs, and spreadsheets to interpret and make a presentation.

- 6.5.2a Gathers information and constructs an appropriate graph to illustrate data collected.
- 6.5.2b Asks interpretive questions based upon previously developed graphs.
- 6.5.2c Compares and reports information from two graphs that illustrate the same information.
- 6.5.3a Orders a given set of numbers from least to greatest to find the median.
- 6.5.3b Uses a number line to identify the median (middle number) and mode (most frequent number) of a given set of numbers.
- 6.5.3c Uses tally marks to identify mode. (Counts the number repeated in set.)

Priority Academic Student Skills

Adapted for Grade 7

Math

The student applies a wide range of strategies to describe, interpret, evaluate, and analyze a variety of math problems and context.

Standard 1: Algebraic Reasoning - The student will use number properties to simplify and solve simple linear equations.

Modified Academic Indicators (MAIs):

- 7.1.1 Identify the commutative, associative, distributive, inverse and identity properties.
- 7.1.2 Use a variety of methods to model and solve one-step linear equations.

Classroom Activities:

The student:

- 7.1.1a Matches cards with same properties (e.g., the distributive property illustrates that $4[2 + 3] = [4 \times 2] + [4 \times 3]$).
- 7.1.1b Uses simple concrete task of “do and undo” to illustrate the inverse property (e.g., places candy in plastic egg, places egg in bag, closes bag, and realizes that the reverse of the steps will get the candy back out of the bag.)
- 7.1.1c Completes, extends and/or explains a number pattern (number line, number chart, etc.).
- 7.1.2a Discovers $x + 3 = 8$, given $x = 5$.
- 7.1.2b Uses sets of manipulatives (counters, blocks, etc.) to represent equations.

Standard 2: Number Sense - The student will use numbers and number relationships to acquire basic facts and determine the reasonableness of results.

Modified Academic Indicators (MAIs):

7.2.1 Integers

- a. Compare and order positive and negative integers and describe their use in real-life situations.
- b. Use the basic operations on integers. (Limit to addition.)

7.2.2 Ratio, Proportion and Percents

- a. Demonstrate the concept of ratio and proportion with models.
- b. Estimate and solve problems using ratio, proportions, and percents (limit to basic whole numbers).
- c. Solve percent application problems (limit to 50%).

7.2.3 Exponents

- a. Analyze and develop generalizations of exponential patterns, including zero as an exponent, using manipulatives and calculators (limit to the power of 5).
- b. Build and recognize models of multiples to investigate squares and square roots (limit to perfect squares up to 25).
- c. Estimate the square root of a number (e.g., between two consecutive integers).

Classroom Activities:

The student:

- 7.2.1a Uses calculators to explore positive and negative number patterns.
- 7.2.1a Completes a number line with various positive and negative missing numbers.
- 7.2.1a Uses a number line to count up or down to a stated positive or negative number.
- 7.2.1a Uses “real life” applications to explore positive and negative numbers (e.g., temperature, football yardage, elevators).
- 7.2.1b Uses manipulatives (e.g., red and black chips, red and black cards, number lines) to practice adding integers.

- 7.2.2b Determines missing sides of similar figures, heart rate per minute, cost per pound.
- 7.2.2c Explores discounts on student rates at movies, department stores, or restaurants.
- 7.2.3a Reads *The King's Chessboard* (by David Birch). Uses rice or foam peanuts for counting.
- 7.2.3a Uses manipulatives or calculators to model getting paid a penny the first day, 2 cents the second day, etc.
- 7.2.3b Uses manipulatives such as calculator, flash cards, and square root chart to answer problems with perfect square roots.
- 7.2.3b Highlights all perfect squares between 1 – 25 on a hundreds chart, using calculator or square roots chart.
- 7.2.3b Completes pairs of multiplication facts to demonstrate squares (2x2, 3x3, 4x4, etc.).
- 7.2.3b Uses inch cubes to construct perfect squares model.

Standard 3: Geometry - The student will apply the properties and relationships of plane geometry in a variety of contexts.

Modified Academic Indicators (MAIs):

- 7.3.1 Classifying Geometric Figures
 - a. Classify triangles according to their sides and angles given a marked picture.
 - b. Classify quadrilaterals according to their sides and angles given a marked picture.
- 7.3.2 Identify and compare vertical angles.
- 7.3.3 Rectangular Coordinate System: Locate points on a plane in all four quadrants.

Classroom Activities:

The student:

- 7.3.1a-b Uses manipulatives such as foam or plastic triangles and quadrilaterals to identify angles and sides.

- 7.3.1a-b Identifies and matches triangles according to their angles.
- 7.3.1a-b Identifies and matches quadrilaterals according to their sides and angles.
- 7.3.1a-b Uses transparency material and paper copy to match triangles and quadrilateral by placing the same shapes together.
- 7.3.2a Uses graph paper, software, or protractor to identify vertical angles.
- 7.3.2b Participates in an activity where students use masking tape to make a pair of intersecting lines on the floor. Students will step from one angle to its corresponding vertical angle. Students can see that vertical angles are equal.
- 7.3.2c Uses tape to create their own set of vertical angles.
- 7.3.2d Draws intersecting lines on paper and folds along the line of symmetry (or use mirror) to show that vertical angles are equal and lines match up.
- 7.3.2e Identifies vertical angles in a graphic.
- 7.3.2f Uses overhead to rotate, flip or turn shapes to demonstrate spatial concepts.
- 7.3.3a Locates or plots coordinates on a graph (e.g., graph paper, floor model using tape).
- 7.3.3b Plays appropriate board games to practice graphing or plotting.
- 7.3.3c Uses software programs that practice concepts.

Standard 4: Measurement - The student will use measurement to solve problems in a variety of contexts.

Modified Academic Indicators (MAIs):

7.4.1 Area and Perimeter

- a. Develop area and perimeter concepts
- b. Apply formulas to solve problems involving perimeter (**add** all the sides) and area (multiply length and width) of polygons. (Limit area to rectangles and squares.)
- c. Identify parts of a circle.

7.4.2 Customary Units of Measurement: Select and use appropriate tools for measurements

in practical applications and make reasonable estimates of measurements in a particular situation using the appropriate unit.

Classroom Activities:

The student:

- 7.4.1a Uses standard and nonstandard units to measure area and perimeter (e.g., cubes, yarn, straws).
- 7.4.1a Uses 1-inch tiles to “measure” the area of the desk, a placemat, etc.
- 7.4.1a Uses grids to estimate the area of irregular shapes.
- 7.4.1a Covers the irregular shape with cubes and counts to determine area (e.g., using inch cubes and inch graph paper).
- 7.4.1b Uses geoboards to model area and perimeter.
- 7.4.1b Applies formulas to calculate perimeter and area of classroom, hall, desk, placemat, etc.
- 7.4.1c Reads *Sir Cumference and the Knights of the Round Table* book series by Cindy Neuschwander and Wayne Geehan.
- 7.4.1c Matches symbols with the definition. (r=radius, d=diameter, c=circumference, etc.)
- 7.4.1c Uses a string to cover the perimeter (circumference) of the circle, then uses a ruler to measure the length of the string.
- 7.4.2 Uses a matching sheet to connect the correct measurement tool to the correct application.
- 7.4.2 Measures some classroom objects (length of desk, weight of book, temperature of classroom, height of desk, volume of bottled water, etc.)
- 7.4.2 Uses a recipe that calls for various measurements such as: $\frac{1}{4}$ pound of butter, 1 cup of sugar, 6 oz. of milk, 2 tablespoons of cocoa, bake at 350 degrees in a 9 inch pan.
- 7.4.2 Uses measurements to see equivalencies (e.g., how many cups in a quart).

Standard 5: Data Analysis and Probability - The student will use probability to formulate and justify predictions from a set of data.

Modified Academic Indicators (MAIs):

7.5.1 Use data from a sample to predict possible outcomes and compute simple probabilities as fractions.

7.5.2 Determine the probability of an event involving “not.”

Classroom Activities

The student:

7.5.1a Predicts (guesses) the outcome of flipping a coin 10 times (discusses and writes down predictions). Student then actually flips a coin ten times, and records results to prediction in fraction form. Next, student may try the same steps with 1 red block, 1 yellow block, and 1 blue block in a bucket.

7.5.1b Plays and records results from probability games making use of dice, probability bags, coins, number cubes, or spinners to determine the chances of an effect occurring.

7.5.2a Use data from lists, tree diagrams, frequency distribution tables, area models.

7.5.2b On a spinner with 1 blue, 2 red, and 2 yellow sections, what is the probability of not getting red?

Priority Academic Student Skills

Adapted for

Grade 8

Math

The student applies a wide range of strategies to describe, interpret, evaluate, and analyze a variety of math problems and context.

Standard 1: Algebraic Reasoning - The student will graph and solve linear equations and inequalities in problem-solving situations.

Modified Academic Indicators (MAIs):

8.1.1 Equations

- a. Model, write, and solve 1-step linear equations with one variable using a variety of methods.
- b. Model and solve 2-step linear equations with one variable using a variety of methods.
- c. Use a t-chart or table to graph the points on a coordinate plane and create a straight line.
- d. Use real-life examples to introduce the slope of a linear equation on a graph and in slope-intercept form.

8.1.2 Inequalities

- a. Graphs inequalities with one variable ($x < 8$) on a number line.
- b. Graphs the solution to linear inequalities with one variable on a number line (limit to one-step).

Classroom Activities:

The student:

- 8.1.1a Explores the characteristics of properties of linear equations.
- 8.1.1a Matches cards with same properties.
- 8.1.1a Uses fill-in-the-blank equations such as: $7 = x + 5$, so $x = 2$.
- 8.1.1a Uses manipulatives such as Algeblocks to model 1-step linear equation (e.g., $x + 3 = 8$, so $x = 5$).
- 8.1.1c Represents a point on a large floor grid, and understands that other students can combine points to make a line.
- 8.1.1c Plays a physical game using coordinates such as: right hand at (2, 3), left hand at (-1, 0).
- 8.1.1c Uses a T-table to plot variables on a coordinate plane.
- 8.1.2a Uses a number line to plot inequalities such as: $x < 8$.



- 8.1.2a Participates in a student number line activity where all students who represent numbers less than 8 sit down, including students who represent negative numbers.
- 8.1.2b Answers questions using a number line, such as: How many blocks can you add to 3 to equal a number less than 8?

Standard 2: Number Sense - The student will use numbers and number relationships to solve problems.

Modified Academic Indicators (MAIs):

- 8.2.1 Rational Numbers and Proportional Reasoning
 - a. Compare and order rational numbers (positive and negative integers and decimals) in real-life situations.

- b. Apply ratios and proportions to solve problems

8.2.2 Exponents

- a. Use the rules of exponents, including integer exponents (exclude raising a power to a power).
- b. Represent large numbers and numbers less than one in scientific notation.

Classroom Activities:

The student:

- 8.2.1a Uses “real life” to plot positive and negative numbers (e.g., temperature, football yardage, elevators, bank account).
- 8.2.1a Plays the card game *Golf*.
- 8.2.1a Plays the game of *War* with red cards being negative and black positive.
- 8.2.1b Uses similar geometric shapes scale models to demonstrate the concept of ratio and proportion.
- 8.2.1b Uses simple preference choices for developing ratios or proportions (e.g., ice cream flavors, colors, pets).
- 8.2.1b Uses a scale to demonstrate proportion (e.g., 2 cubes = 4 gum packs so 6 cubes would = x gum packs).
- 8.2.1b Determines missing sides of similar figures, heart rate per minute, cost per pound.
- 8.2.2a Develops the patterns in the rules of exponents such as: $7^2 \cdot 7^3 = 7^5$, so $7 \times 7 \cdot 7 \times 7 \times 7 = 7^5$.
- 8.2.2a Uses the die cut machine to make several of the same number to manipulate and form equations to represent exponents.

Standard 3: Geometry - The student will use geometric properties to solve problems in a variety of contexts.

Modified Academic Indicators (MAIs):

- 8.3.1 Identify solid figures such as rectangular solids, cones, cylinders, spheres and pyramids.
- 8.3.2 Introduce the Pythagorean Theorem to find the length of the hypotenuse of a right triangle given two legs.

Classroom Activities:

The student:

- 8.3.1a Uses clay to construct models.
- 8.3.1b Finds real world examples of solid geometric figures (e.g., snow cones, globe, box).

Standard 4: Measurement - The student will use measurement to solve problems in a variety of contexts.

Modified Academic Indicators (MAIs):

- 8.4.1 Estimate and find the surface area and volume in real world settings (limit to rectangular solids).
- 8.4.2 Apply knowledge of ratio and proportion to solve relationships between similar geometric figures.
- 8.4.3 Formulas
 - a. Apply appropriate formulas (with calculator) for given situations.
 - b. Find the area of a “region of a region” for simple composite figures.

Classroom Activities:

The student:

- 8.4.1a Unwraps a box to explore surface area.
- 8.4.1b Uses 1-inch cubes to estimate the volume of boxes.

- 8.4.1c Uses clay to fill a 3-dimensional figure to estimate volume.
- 8.4.1d Determines how many cubes are needed to cover the “floor” of a solid and how many layers are needed to reach the top.

- 8.4.2a Builds a model of a 3-dimensional object to scale.
- 8.4.2b Draws “blueprints” of a house, classroom, etc.
- 8.4.2c Builds a “shoebox” of the classroom with graph paper in the bottom (tile) that represents one square foot.
- 8.4.3a Matches the variables in an equation and solve the equation.
- 8.4.3a Measures objects in the classroom, then uses formulas to compute area, perimeter, or volume.

Standard 5: Data Analysis and Statistics - The student will use data analysis and statistics to interpret data in a variety of contexts.

Modified Academic Indicators (MAIs):

- 8.5.1 Select and apply appropriate formats (e.g., line plots, bar graphs, stem-and-leaf plots, scatter plots, histograms, circle graphs) to display collected data.
- 8.5.2 Measures of Central Tendency
 - a. Find the measures of central tendency (mean, median and mode) of a set of data.
 - b. Understand how additional data in a set may affect the measures of central tendency.
- 8.5.3 Explore how samples are chosen (random, limited, biased) to draw and support conclusions about generalizing a sample to a population.

Classroom Activities

The student:

- 8.5.2a Defines mean, median, and mode.

8.5.2a Uses calculators to solve various problems finding mean, median, and mode that include decimals.

Priority Academic Student Skills

Adapted for End of Instruction

Algebra

The student applies a wide range of strategies to describe, interpret, evaluate, and analyze a variety of math problems and context.

Standard 1: Number Sense and Algebraic Operations - The student will use expressions and equations to model number relationships.

Modified Academic Indicators (MAIs):

- A.1.1 Translate word phrases and sentences into expressions and equations and vice versa (limit to expressions or equations with only one unknown).
- A.1.2 Expressions
- Simplify and evaluate linear and absolute value expressions (limit to one step).
 - Simplify polynomials by adding, subtracting or multiplying.

Classroom Activities:

The student:

A.1.1a Models expressions and equations with other students in the class (e.g., the number of students in the room plus 5 is 18).

A.1.1b Completes worksheets with examples such as: *Expression*: Sam practiced five more hours of basketball yesterday than today. Sam's practice time is written as $5 + t$. *Equation*: Mary is three years older than her sister. Mary is 8 years old. Her sister's age is written as $8 = 3 + s$.

- A.1.1c Participates in a game where students match the sentences to the expressions and vice versa.
- A.1.1d Uses Hands-on Equations and Algeblocks to represent expressions and equations.
- A.1.2a Evaluates $|3x|$ when $x = -4$. Evaluates $x - 8$ when $x = 11$.
- A.1.2a Uses manipulatives to represent x and simplify.
- A.1.2b Combines like terms.
- A.1.2b Uses different colored highlighters to identify like terms in each polynomial.
- A.1.2b Plays matching games to recognize like terms.
- A.1.2b Uses a table, chart, or folded paper to keep like terms together.
- A.1.2b Uses a zero to represent a missing term when adding or subtracting polynomials.
- A.1.2b Utilizes the mnemonic FOIL to identify first, outside, inside, and last terms in each binomial.
- A.1.2b Uses colored shapes in two containers (instead of numbers and variables in parentheses) to learn the process of FOIL.
- A.1.2b Separates terms on flashcards and pulls first terms together, then outside terms together, etc.
- A.1.2b Practices writing only first terms, then only outside terms, then only inside terms, then last terms from a polynomial.

Standard 2: Relations and Functions - The student will use relations and functions to model number relationships.

Modified Academic Indicators (MAIs):

A.2.1 Relations and Functions

- a. Distinguish between linear and nonlinear data (given a graph of the data).
- b. Distinguish between relations and functions (given a graph).
- c. Identify dependent and independent variables, domain and range.
- d. Evaluate a simple function using tables, equations and/or graphs.

A.2.2 Recognize the parent graph of the functions $y = k$, $y = x$, $y = |x|$, and predict the effects of transformations on the parent graph (e.g., $y = |x| + 2$, change slope, change intercepts, change slope and intercept.)

A.2.3 Calculate the slope of a line using a graph or an equation in slope-intercept form (without simplifying).

A.2.4 Develop the equation of a line given the following:

- a. slope and y-intercept
- b. slope and one point on the line
- c. x-intercept and y-intercept
- d. a set of data points

A.2.5 Slope Interpretation

- a. Use the slope to identify lines that are parallel.
- b. Identify the slope and intercepts within the context of everyday life.

A.2.6 Linear Equations and Inequalities

- a. Solve linear equations by graphing or using properties of equality (limit to 2-step equations).
- b. Match appropriate equations or inequalities (with 1 or 2 variables) to a graph and vice versa.

A.2.7 Solve a system of linear equations by graphing.

A.2.8 Problem Solving

- a. Use given (simple) formulas from measurable attributes of geometric models (perimeter or circumference of 2 dimensional shapes, area of rectangular shapes and volume of rectangular solids).
- b. Solve 1-step problems using concepts such as rules of exponents and probability, and problems using measures of central tendency (mean, median, mode) and percent within an algebraic context.

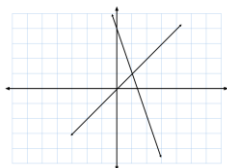
A.2.9 Nonlinear Functions

- a. Identify if a graph is linear, quadratic or neither.
- b. Solve quadratic equations given graphs.

Classroom Activities:

The student:

- A.2.1a Uses various graphs for student to identify linear and nonlinear data
- A.2.3a. Builds a model to demonstrate the steepness of the slope with a board, slide, ramp, etc.
- A.2.3b Uses multiple graphs to count the rise and run.
- A.2.3c. Identifies the slope in the equation $y = mx + b$ and relates to a graph (the number in front of the x stands for slope).
- A.2.3d. Identifies and highlights the number or space in front of x in an equation in slope-intercept form.
- A.2.4a Identifies the slope and the y intercept in equations such as: $y=4x+1$.
- A.2.4c Completes a graph using a 2 step linear equation given x , y intercepts, such as: x -intercept is -3 and y -intercept is 1 .
- A.2.5a Highlights the number in front of the x in two equations, understanding that if they are the same, the lines are parallel.
- A.2.5b Uses information about a situation to determine the slope and y -intercept (e.g., Joey gets a large bucket with 2 quarts of paint in it (y -intercept) and pours more paint in the bucket at a rate of 1 quart per second, which is the slope).
- A.2.6a Explores the characteristics of properties of 2-step linear equations.
- A.2.6a. Matches cards with same properties.
- A.2.6a Uses fill in the blank equations ($y = 3x + 5$, when $x = 2$).
- A.2.6a Completes a graph using a 2-step linear equation (e.g., $y = 2x + 3$, $x = 5$).
- A.2.6a Uses a T-table to plot variables on a coordinate plane (e.g., using $y= x+2$, if $x=3$ then $y = 5$).
- A.2.6b Uses a graph to identify a 2-step inequality such as: $y < 2x + 3$.
- A.2.7 Identifies the point of intersection on graphs with completed linear equations (e.g., on the graph below, the point of intersection is $[1,1]$).



A.2.8a Identifies the formula to match the type of measurement (e.g., Perimeter = $l+l+w+w$).

A.2.8a Uses 1-inch cubes to demonstrate the volume of boxes.

A.2.8b Develops the patterns in the rules of exponents such as: $7^2 \cdot 7^3 = 7^5$, so $7 \times 7 \cdot 7 \times 7 \times 7 = 7^5$.

A.2.8b Defines mean, median, mode, and percent.

A.2.8b Uses flash cards to match the definitions with the statistical term.

A.2.8b Uses calculators to solve various simple problems finding mean, median, mode and percents that include decimals.

A.2.8b Experiments with data sets by including additional values, such as: “A student’s average after 5 quizzes is 93; how will a zero on the sixth quiz affect his average?”

A.2.8b Uses the die cut machine to make several of the same number to manipulate and form equations that represent exponents.

A.2.8b Plays and records results from probability games making use of dice, probability bags, coins, number cubes, or spinners to determine the chances of an effect occurring.

A.2.8b Experiments with problems such as: On a spinner with 1 blue, 2 red and 2 yellow sections, what is the probability of getting a red or a yellow? What is the probability of not getting red?

A.2.9a Match a completed graph with the correct function.

Standard 3: Data Analysis and Statistics - The student will use data analysis and statistics to formulate and justify predictions from a set of data.

Modified Academic Indicators (MAIs):

A.3.1 Data Analysis

- a. Translate from one representation of data to another and understand that the data can be represented using a variety of tables, graphs, or symbols.
- b. Make valid inferences and predictions based on data from graphs, tables, and charts.

A.3.2 Display data on a scatter plot; identify whether a model/equation is a line of best fit for the data.

Classroom Activities

The student:

- A.3.1a Matches the type of information with the best graph or data display.
- A.3.1a Plays memory games to match information cards with display cards.
- A.3.1a Experiments with an Excel spreadsheet to view different types of information displays.
- A.3.1a Conducts a research or probability project and displays results in an appropriate format.
- A.3.1b Uses data to make predictions and draw conclusions (e.g., using a graph of snow cone sales for each month throughout the year; predict when would be the best month for snow cone sales next year).
- A.3.2a Measures heights and wingspans; graphs the results in a scatterplot; determines a line of best fit ($y = x$).
- A.3.2b Uses data given in a scatterplot (e.g., amount of television watched and test scores) to determine line of best fit.