CARLISLE AREA SCHOOL DISTRICT

Carlisle, PA 17013

INTEGRATED MATH II

GRADES 10 - 12

Date of Board Approval: April 17, 2014

CARLISLE AREA SCHOOL DISTRICT
PLANNED INSTRUCTION COVER PAGE

TITLE OF COURSE: Integrated Math II	**SUBJECT:** Integrated	**GRADE LEVEL:** 9-12
COURSE LENGTH: 1 year	**DURATION:** 50 minutes	**FREQUENCY:** 5 days
PREREQUISITES: Integrated Math I	**CREDIT:** 1	**LEVEL:** NA

Course Description/Objectives:

The concepts and skills in this Integrated Math II course enable students to generalize, model, and analyze mathematical situations. Students will use algebraic and geometric skills to solve a wide range of problem situations which are modeled by algebraic and geometric expressions or equations. The Pennsylvania Core assessment anchors are covered in this course.

Text: Glencoe Mathematics, Math Matters 2, An Integrated Program, Mc Graw Hill

Curriculum Writing Committee: David Bigelow, Penny Rouvalis, Kelly Brent

COURSE TIMELINE

Unit 1: Sample and Display Data   15 days
- Surveys and Methods of Sampling (1-1)
- Measures of Central Tendency (1-2)
- Displaying Data (1-3,1-4,1-5)
- Quartiles and Percentiles (1-6)
- How graphs and Statistics Can Be Misleading (1-7)
- Using Matrices to Organize Data (1-8)

Unit 2: Foundations of Algebra
- Real Numbers and Order of Operations (2-1, 2-2)   20 days
- Writing Verbal Models (2-3)
- Evaluating and Simplifying Variable Expressions (2-4, 2-5, 2-6)
- Properties of Exponents(2-7)
- Zero and Negative Exponents (2-8)
- Problem Solving by Finding a Pattern (2-9)

Unit 3: Equations   30 days
- Formulas and Equations (3-1)
- Solving Equations (3-2, 3-3, 3-4)
- Proportions (3-5)
- Solve and Graph Inequalities (3-6, 3-7)
- Equations with Squares and Square Roots (3-8)

Unit 4: Probability   17 days
- Experiments and Simulations(4-1, 4-2)
- Sample Spaces and Theoretical Probability (4-3)
- Compound, Independent and Dependent Events (4-4, 4-5)
- Permutations and Combinations

Unit 5: Logic and Geometry   20 days
- Elements of Geometry (5-1)
- Angels and Parallel and Perpendicular Lines (5-2, 5-3)
- Properties and Congruence of Triangles (5-4, 5-5)

- Quadrilaterals (5-6)
- Polygons (5-7)
- Properties of Circles and Circle Graphs

Unit 6: Graphing and Functions

30 days

- Distance and Slope in the Coordinate Plane (6-1, 6-2)
- Write and Graph Linear Equations (6-3)
- Write and Graph Linear Inequalities (6-4)
- Non-Linear Functions (6-5)
- Patterns and Problem Solving (6-7)
- Direct and Inverse Variation (6-8, 6-9)

Unit 7: Systems

20 days

- Solve by Graphing (8-1, 8-2)
- Solve by Substitution (8-3)
- Solve by Elimination (8-4)
- Solve and Graph Systems of Inequalities (8-7)

Unit 8: Polynomials

15 days

- Add and Subtract Polynomials (9-1)
- Multiply and Divide Monomials (9-2, 9-3)
- Multiply Polynomials (9-4, 9-5)
- Factor Using the GCF and Differences of Two Squares (9-7, 9-8)
- Problem Solving (9-6)

TOTAL: 167 days

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II   **TIME FRAME:** 15 days

UNIT #1: Sample and Display Data   **GRADE:** 9 – 12

STANDARDS:

PA Core Standards:

CC.2.4.HS.B.1	• Summarize, represent, and interpret data on a single count or measurement variable.
CC.2.4.HS.B.2	• Summarize, represent, and interpret data on two categorical and quantitative variables.
CC.2.4.HS.B.3	• Analyze linear models to make interpretations based on the data.
CC.2.4.HS.B.4	• Recognize and evaluate random processes underlying statistical experiments.
CC.2.4.HS.B.5	• Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.

Keystone Algebra I Eligible Content:

A1.2.1.2.1	• Create, interpret, and/or use the equation, graph, or table of a linear function.
A1.2.1.2.2	• Translate from one representation of a linear function to another (i.e., graph, table, and equation).
A1.2.2.2.1	• Draw, identify, find, and/or write an equation for a line of best fit for a scatter plot.
A1.2.3.1.1	• Calculate and/or interpret the range, quartiles, and inter-quartile range of data.
A1.2.3.2.1	• Estimate or calculate to make predictions based on a circle, line, bar graph, measure of central tendency, or other representation.
A1.2.3.2.2	• Analyze data, make predictions, and/or answer questions based on display data (box-and-whisker plots, stem-and-leaf plots, scatter-plots, measures of central tendency, or other representations).
A1.2.3.2.3	• Make predictions using the equations or graphs of best-fit lines of scatter plots.

Mathematical Practices:

1	• Make sense of problems and persevere in solving them.
2	• Reason abstractly and quantitatively.
3	• Construct viable arguments and critique the reasoning of others.
4	• Model with mathematics.
5	• Use appropriate tools strategically.
6	• Attend to precision.
7	• Look for and make use of structure.
8	• Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 15 days

UNIT #1: Sample and Display Data

GRADE: 9 – 12

UNDERSTANDINGS

The ways in which data are collected and displayed influence interpretation.

Measures of central tendency are used to make predictions.

Matrices are a helpful tool in organizing and displaying data.

COMMON ASSESSMENTS/CULMINATING ACTIVITY

Chapter Test

KNOW	DO
- Identify sampling methods. - Define mean, median, mode, and range. - Identify parts of histograms, bar graphs, pie graphs, stem-and-leaf plots, and box-and-whisker plots. - Identify the coefficient of correlation. - Identify quartiles and calculate percentiles. - Identify misleading aspects of graphs. - Organize and display data and in matrices.	- Recognize biased surveys. - Calculate mean, median, mode, and range of a data set. - Construct histograms, bar graphs, pie graphs, stem-and-leaf plots, and box-and-whisker plots. - Determine a line of best fit using a graphing utility. - Interpret coefficients of correlation. - Recognize how a graph can be misleading. - Perform basic operations with matrices.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

UNIT #2: Foundations of Algebra

TIME FRAME: 20 days

GRADE: 9 – 12

STANDARDS:

PA Core Standards:

CC.2.1.HS.F.1	• Apply and extend the properties of exponents to solve problems with rational exponents.
CC.2.1.HS.F.2	• Apply properties of rational and irrational numbers to solve real world or mathematical problems.
CC.2.2.HS.D.1	• Interpret the structure of expressions to represent a quantity in terms of its context.
CC.2.2.HS.D.3	• Extend the knowledge of arithmetic operations and apply to polynomials.

Keystone Algebra I Eligible Content:

A1.1.1.3.1	• Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems. <u>Note:</u> Exponents should be integers from -10 to 10.
A1.1.1.4.1	• Use estimation to solve problems.
A1.1.1.5.1	• Add, subtract, and/or multiply polynomial expressions (express answers in simplest form). <u>Note:</u> Nothing larger than a binomial multiplied by a trinomial.
A1.1.1.5.3	• Simplify/reduce a rational algebraic expression.
A1.2.1.1.1	• Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.

Mathematical Practices:

1	• Make sense of problems and persevere in solving them.
2	• Reason abstractly and quantitatively.
3	• Construct viable arguments and critique the reasoning of others.
4	• Model with mathematics.
5	• Use appropriate tools strategically.
6	• Attend to precision.
7	• Look for and make use of structure.
8	• Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 20 days

UNIT #2: Foundations of Algebra

GRADE: 9 – 12

UNDERSTANDINGS
There are established rules and procedures for performing mathematical operations to ensure that the values obtained are consistent. Variables are used to represent unknown quantities. Understanding the properties of exponents is necessary in order to evaluate exponential expressions.

COMMON ASSESSMENTS/CULMINATING ACTIVITY

KNOW	DO
- Recognize where sets of numbers can be graphed on a number line. - Use the order of operations to evaluate expressions. - Simplify and evaluate variable expressions with addition, subtraction, multiplication, and division - Recognize multiplication, division, negative and zero properties of exponents - Recognize the proper form of a number in scientific notation. - Recognize algebraic and geometric patterns.	- Evaluate expressions with absolute value. - Evaluate expressions using the order of operations. - Substitute given numbers into expressions for given variables. - Simplify and evaluate exponential expressions using the properties of exponents. - Convert between decimal form and scientific notation. - Recognize and extend specific algebraic and geometric patterns to find terms that follow.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 30 days

UNIT #3: Equations and Inequalities

GRADE: 9 – 12

STANDARDS:

PA Core Standards:

CC.2.2.HS.D.7	• Create and graph equations or inequalities to describe numbers or relationships.
CC.2.2.HS.D.8	• Apply inverse operations to solve equations or formulas for a given variable.
CC.2.2.HS.D.9	• Use reasoning to solve equations and justify the solution method.
CC.2.2.HS.D.10	• Represent, solve, and interpret equations/inequalities algebraically and graphically.

Keystone Algebra I Eligible Content:

A1.1.1.3.1	• Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems. <u>Note:</u> Exponents should be integers from -10 to 10.
A1.1.2.1.1	• Write, solve, and/or apply a linear equation (including problem situations).
A1.1.2.1.2	• Use and/or identify an algebraic property to justify any step in an equation-solving process. <u>Note:</u> Linear equations only.
A1.1.2.1.3	• Interpret solutions to problems in the context of the problem situation. <u>Note:</u> Linear equations only.
A1.1.3.1.1	• Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).
A1.1.3.1.2	• Identify or graph the solution set to a linear inequality on a number line.
A1.1.3.1.3	• Interpret solutions to problems in the context of the problem situation. <u>Note:</u> Linear equations only.

Mathematical Practices:

1	• Make sense of problems and persevere in solving them.
2	• Reason abstractly and quantitatively.
3	• Construct viable arguments and critique the reasoning of others.
4	• Model with mathematics.
5	• Use appropriate tools strategically.
6	• Attend to precision.
7	• Look for and make use of structure.
8	• Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II   **TIME FRAME:** 30 days

UNIT #3: Equations and Inequalities   **GRADE:** 9 – 12

UNDERSTANDINGS

Equations and inequalities are essential to model and solve real-world problems.

Inverse operations are used to isolate the variable in an equation or inequality and solve the equation or inequality.

Real-life situations can be modeled using inequalities.

There are many similarities between solving linear equations and linear inequalities.

COMMON ASSESSMENTS/CULMINATING ACTIVITY

Chapter Test

KNOW	DO
- State the inverse operation for a given operation. - Define ratio and proportion. - Recognize the similarities and differences between solving equations and inequalities. - Define squares and square roots and understand that they are inverse operations.	- Determine if a number is a solution of an equation or inequality. - Solve one-step, two-step and multi-step equations and inequalities using inverse operations. - Solve a formula for a given variable. - Solve proportions using cross-multiplication. - Justify each step when solving an equation or inequality. - Interpret and write linear inequalities that model real-life situations.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 17 days

UNIT #4: Probability

GRADE: 9 – 12

STANDARDS:

PA Core Standards:

CC.2.1.HS.F.3
- Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.

CC.2.4.HS.B.6
- Use the concepts of independence and conditional probability to interpret data.

CC.2.4.HS.B.7
- Apply the rules of probability to compute probabilities of compound events in a uniform probability model.

Keystone Algebra I Eligible Content:

A1.2.3.3.1
- Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent.

Mathematical Practices:

1
- Make sense of problems and persevere in solving them.
2
- Reason abstractly and quantitatively.
3
- Construct viable arguments and critique the reasoning of others.
4
- Model with mathematics.
5
- Use appropriate tools strategically.
6
- Attend to precision.
7
- Look for and make use of structure.
8
- Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II   **TIME FRAME:** 17 days

UNIT #4: Probability   **GRADE:** 9 – 12

UNDERSTANDINGS

The probability of an event is the likelihood that it will occur.

Experiments can help you to calculate probability that an event will occur.

Theoretical and experimental probabilities do not always give us the same results.

COMMON ASSESSMENTS/CULMINATING ACTIVITY

KNOW	DO
- Recognize different types of probability (independent, dependent, mutually exclusive, compound, theoretical, experimental). - Understand the difference between permutations and combinations.	- Calculate probability for various types of events. - Calculate permutations and combinations.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 20 days

UNIT #5: Logic and Geometry

GRADE: 9 – 12

STANDARDS:

PA Core Standards:

CC.2.3.HS.A.3	• Verify and apply geometric theorems as they relate to geometric figures.
CC.2.3.HS.A.8	• Apply geometric theorems to verify properties of circles.
CC.2.3.HS.A.14	• Apply geometric concepts to model and solve real-world problems.

Keystone Algebra I Eligible Content:

G.1.2.1.1	• Identify and/or use properties of triangles.
G.1.2.1.2	• Identify and/or use properties of quadrilaterals.
G.1.2.1.4	• Identify and/or use properties of regular polygons.

Mathematical Practices:

1	• Make sense of problems and persevere in solving them.
2	• Reason abstractly and quantitatively.
3	• Construct viable arguments and critique the reasoning of others.
4	• Model with mathematics.
5	• Use appropriate tools strategically.
6	• Attend to precision.
7	• Look for and make use of structure.
8	• Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 20 days

UNIT #5: Logic and Geometry

GRADE: 9 – 12

UNDERSTANDINGS
There are many applications to triangles and other polygons in Geometry that extend to the real world. Vocabulary is an essential component of understanding Geometry and shapes in general.
COMMON ASSESSMENTS/CULMINATING ACTIVITY Chapter Test

KNOW	DO
- Identify fundamental geometric concepts. - Identify parallel and perpendicular lines. - Identify angle relationships. - Classify triangles according to their sides and angles. - Classify different types of quadrilaterals. - Classify polygons according to their sides. - Understand relationships among parts of a circle.	- Use basic geometric postulates. - Use parallel and perpendicular lines to solve problems. - Use angle relationships. - Use postulates to identify congruent triangles. - Use properties of parallelograms. - Find the sum of the angle measures of polygons. - Use properties of circles. - Solve a problem using a circle graph.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 30 days

UNIT #6: Graphing Functions

GRADE: 9 – 12

STANDARDS:

PA Core Standards:

CC.2.1.HS.F.5	• Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
CC.2.2.HS.C.1	• Use the concept and notation of functions to interpret and apply them in terms of their context.
CC.2.2.HS.C.2	• Graph and analyze functions and use their properties to make connections between the different representations.
CC.2.2.HS.C.3	• Write functions or sequences that model relationships between two quantities.
CC.2.2.HS.C.5	• Construct and compare linear, quadratic, and exponential models to solve problems.
CC.2.2.HS.C.6	• Interpret functions in terms of the situations they model.

Keystone Algebra I Eligible Content:

A1.2.1.1.2	• Determine whether a relation is a function, given a set of points or a graph.
A1.2.1.1.3	• Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).
A1.2.2.1.1	• Identify, describe, and/or use constant rates of change.
A1.2.2.1.2	• Apply the concept of linear rate of change (slope) to solve problems.
A1.2.2.1.3	• Write or identify a linear equation when given:
	o the graph of the line,
	o two points on the line, or
	o the slope and a point on the line
	<u>Note</u>: Linear equation may be in point-slope, standard, and/or slope-intercept form.
A1.2.2.1.4	• Determine the slope and/or y-intercept represented by a linear equation or graph.

Mathematical Practices:

1	• Make sense of problems and persevere in solving them.
2	• Reason abstractly and quantitatively.
3	• Construct viable arguments and critique the reasoning of others.
4	• Model with mathematics.
5	• Use appropriate tools strategically.
6	• Attend to precision.
7	• Look for and make use of structure.
8	• Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 30 days

UNIT #6: Graphing Functions

GRADE: 9 – 12

UNDERSTANDINGS

A graph is a visual representation of the infinite number of solutions to an equation in two variables.

Relationships between variables may be expressed in algebraic form as an equation or in geometric form as a graph.

A function is a relation where for each input, there is exactly one output.

COMMON ASSESSMENTS/CULMINATING ACTIVITY

Chapter Test

KNOW	DO
• Understand the distance and midpoint formulas.	• Use the distance and midpoint formulas.
• Recognize the parts of a coordinate plane.	• Plot and identify ordered pairs on a coordinate plane.
• Recognize slope as rise over run.	• Calculate the slope of a line (by graph or by two points).
• Recognize the formula for slope.	• Classify lines by their slope.
• Recognize that the slope is a rate of change.	• Calculate x- and y-intercepts given equation or graph.
• Recognize x- and y-intercepts on a graph and in an equation.	• Interpret the meaning of slope and intercepts in a real-world situation.
• Recognize slope-intercept form.	• Rewrite equations in slope-intercept form.
• Distinguish between a relation and a function.	• Graph lines using a table, finding intercepts, and by slope-intercept form.
• Recognize quadratic functions.	• Evaluate a function.
• Understand direct and inverse variation.	• Graph simple quadratic functions.
	• Solve problems involving direct and inverse variation.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 20 days

UNIT #7: Systems of Equations and Inequalities

GRADE: 9 – 12

STANDARDS:

PA Core Standards:

CC.2.2.HS.D.9	• Use reasoning to solve equations and justify the solution method.
CC.2.2.HS.D.10	• Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.

Keystone Algebra I Eligible Content:

A1.1.2.2.1	• Write and/or solve a system of linear equations (including problem situations) using graphing, substitution, and/or elimination. Note: Limit systems to two linear equations.
A1.1.2.2.2	• Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear equations.
A1.1.3.2.1	• Write and/or solve a system of linear inequalities using graphing. Note: Limit systems to two linear inequalities.
A1.1.3.2.2	• Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear inequalities.

Mathematical Practices:

1	• Make sense of problems and persevere in solving them.
2	• Reason abstractly and quantitatively.
3	• Construct viable arguments and critique the reasoning of others.
4	• Model with mathematics.
5	• Use appropriate tools strategically.
6	• Attend to precision.
7	• Look for and make use of structure.
8	• Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 20 days

UNIT #7: Systems of Equations and Inequalities

GRADE: 9 – 12

UNDERSTANDINGS

Studying systems that model real-life problems help in analyzing situations and making decisions.

Systems can be solved by various methods, depending on the format of the equations.

Knowing the advantages and disadvantages of each method can help solve a system more efficiently.

COMMON ASSESSMENTS/CULMINATING ACTIVITY

Chapter Test

KNOW	DO
- Recognize parallel and perpendicular lines by their slopes and their graphs. - Recognize when a system does not have exactly one solution, both graphically and algebraically. - Recognize that the solution of a system of equations is an ordered pair that makes both equations true. - Recognize if an ordered pair is a solution to a system of inequalities, both graphically and algebraically.	- Use slope to determine if two lines are parallel or perpendicular. - Solve linear systems of equations by graphing, substitution, and elimination. - Write and solve a linear system of equations that models a real-life situation. - Justify the method used in solving a system of equations. - Graph a system of linear inequalities and interpret the solution both graphically and algebraically.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II   **TIME FRAME:** 15 days

UNIT #8: Polynomials   **GRADE:** 9 – 12

STANDARDS:

PA Core Standards:

CC.2.2.HS.D.2	• Write expressions in equivalent forms to solve problems.
CC.2.2.HS.D.3	• Extend the knowledge of arithmetic operations and apply to polynomials.
CC.2.2.HS.D.5	• Use polynomial identities to solve problems.

Keystone Algebra I Eligible Content:

A1.1.1.2.1	• Find the greatest common factor (GCF) and/or the least common multiple (LCM) for sets of monomials.
A1.1.1.5.1	• Add, subtract, and/or multiply polynomial expressions (express answers in simplest form). Note: Nothing larger than a binomial multiplied by a trinomial.
A1.1.1.5.2	• Factor algebraic expressions, including difference of squares and trinomials. Note: Trinomials are limited to the form $ax^2 + bx + c$ where a is equal to 1 after factoring out all monomial factors.

Mathematical Practices:

1	• Make sense of problems and persevere in solving them.
2	• Reason abstractly and quantitatively.
3	• Construct viable arguments and critique the reasoning of others.
4	• Model with mathematics.
5	• Use appropriate tools strategically.
6	• Attend to precision.
7	• Look for and make use of structure.
8	• Look for and express regularity in repeated reasoning.

KNOW, UNDERSTAND, DO

COURSE: Integrated Math II

TIME FRAME: 15 days

UNIT #8: Polynomials

GRADE: 9 – 12

UNDERSTANDINGS
Operations can be performed on polynomials, and each operation has similarities and differences to operations on real numbers.
Factoring a polynomial is re-writing it as a product of two or more lesser-degree polynomials.

COMMON ASSESSMENTS/CULMINATING ACTIVITY
Chapter Test

KNOW	DO
- Recognize a polynomial versus an algebraic expression. - Categorize polynomials by degree and by number of terms. - Recognize the degree and leading coefficient of a polynomial. - Recognize if there is a GCF to be factored out first. - Recognize special factoring patterns (difference of two squares, perfect square trinomial).	- Add, subtract, multiply, and divide polynomials. - Find GCFs and LCMs of whole numbers and monomials. - Factor trinomials ($a=1$). - Factor polynomials that have a GCF (numerical and/or variable). - Factor polynomials that have a special factoring pattern.

Adaptations/Modifications for Students with I.E.P.s

Adaptations or modifications to this planned course will allow exceptional students to earn credits toward graduation or develop skills necessary to make a transition from the school environment to community life and employment. The I.E.P. team has determined that modifications to this planned course will meet the student's I.E.P. needs.

Adaptations/Modifications may include but are not limited to:

INSTRUCTION CONTENT

- Modification of instructional content and/or instructional approaches
- Modification or deletion of some of the essential elements

SETTING

- Preferential seating

METHODS

- Additional clarification of content
- Occasional need for one to one instruction
- Minor adjustments or pacing according to the student's rate of mastery
- Written work is difficult, use verbal/oral approaches
- Modifications of assignments/testing
- Reasonable extensions of time for task/project completion
- Assignment sheet/notebook
- Modified/adjusted mastery rates
- Modified/adjusted grading criteria
- Retesting opportunities

MATERIALS

- Supplemental texts and materials
- Large print materials for visually impaired students
- Outlines and/or study sheets
- Carbonless notebook paper
- Manipulative learning materials
- Alternatives to writing (tape recorder/calculator)