

At Missouri School for the Blind we believe student success is our first and foremost responsibility. We further believe, that every student learns in an individual way and at an individual rate; therefore, Missouri School for the Blind differentiates instruction to meet the needs of each learner. For students whose IEP driven educational program centers on the application of the Show-Me-Standards within the context of essential skills, alternate methods of program planning and alternate assessments are needed. These expanded standards maintain the essence of the Missouri Show-Me-Standards, thereby ensuring that all students have access to, and make progress in, the general curriculum. The alternative GLE's are designed to meet a wide range of students needs; however, each course may be further differentiated through the IEP process to meet individual student needs.

Missouri School for the Blind

Vocational Education Department

Middle and High School

Mathematics



For more information visit our website at: msb.dese.mo.gov
Or contact:

Joy Waddell, Asst. Superintendent
Missouri School for the Blind
3815 Magnolia
St. Louis, Missouri 63110

Phone: 314-776-4320 ext. 1140
Fax: 314-776-1875
joyce.waddell@msb.dese.mo.gov



MA I Developmental Math I

By the end of MA I, students will be able to:

Numbers and Operations

- Rote count to 100.
- Orally state the number before, after and between 0-100.
- Recognizing “how many” in a set of objects to 100.
- Identify $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{3}{4}$, $\frac{2}{3}$ of a set of objects.
- Divide a whole object into $\frac{1}{2}$'s, $\frac{1}{4}$'s and $\frac{1}{3}$'s.
- Connect number words (orally) and quantities they represent up to 100.
- Skip count by 2's, 5's, 10's, 25's to 100.
- Represent a given situation involving addition.
- Recognize numerals (Print/Braille) up to 31.
- Develop fluency with basic number relationships of addition and subtraction for sums up to 20.

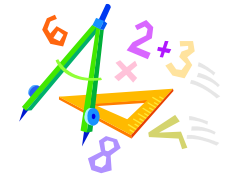
Algebraic Relationships

- Recognize and repeat sequences of sounds or shapes.
- Create and continue patterns.
- Sort objects by size.
- Represent a mathematical situation as an expression or number sentence.
- Model situations that involve whole numbers, using pictures, objects or symbols.

Geometric and Spatial Relationships

- Sort 2- and 3- dimensional shapes using physical models (circle, rectangle, triangle).

- Describe, name and interpret relative positions in space (above, below, front, behind).
- Describe, name and interpret relative positions in space (left, right).
- Recognize geometric shapes in the student's environment (stop sign, number cube, ball).



Measurement

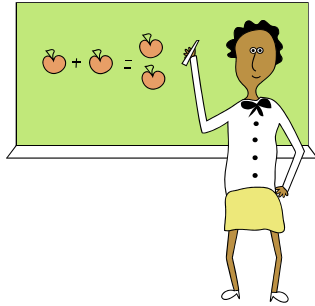
- Compare and order objects according to their size or weight.
- Describe passage of time using terms such as today, yesterday, tomorrow.
- State calendar equivalent (i.e.: 1 week = 7 days, 1 month = 30-31 days except February, 1 year = 12 months, etc.).
- Demonstrate an understanding of money usage by itemizing uses of money, such as vending machine, washing machine and public phone (etc.).
- Demonstrate an understanding that most items cost money.
- Demonstrate an understanding of the concept of work for remuneration.
- Demonstrate the ability to purchase a specific item upon request.
- Demonstrate the ability to pay for an item using the purchase price and “one-dollar-more” for the change.
- Identify and know the value of a penny, nickel, dime, quarter, half dollar, and silver dollar.
- Demonstrate an understanding of the concept paper currency comes in denominations.
- Identify numbers of coins in a dollar (pennies, nickels, dimes, quarters, half dollars, and silver dollar).



- Measure with multiple copies of a unit of the same size (e.g. paper clips laid end to end).

Data and Probability

- Pose questions and gather data about themselves and their surroundings.
- Sort items according to their attributes.
- Represent data using physical objects.



MA 2 Developmental Math II

By the end of MA 2, students will be able to:

Numbers and Operations

- Read, write and compare whole numbers less than 100.
- Orally state the number before, after and between to 1000.
- Recognize $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ of a shape.
- Connect number words (orally) and quantities they represent.
- Skip count by 2's, 5's, 10's and 25's to 100.
- Represent a given situation involving addition or subtraction.
- Demonstrate an understanding of place values: one's, ten's and hundred's.

- Describe the effects of adding and subtracting whole numbers as well as the relationship between the two operations.
- Recognize numbers (Print/Braille) through 100.
- Develop fluency with basic number relationships of addition and subtraction for sums up to 20.
- Apply and describe the strategy used to compute 2-digit addition or subtraction problems.

Algebraic Relationships

- Extend patterns of sound, shape, motion or simple numeric patterns.
- Describe how simple repeating patterns are generated.
- Classify objects by size or numbers.
- Classify objects by size, number or other attributes.
- Represent a mathematical situation as an expression or number sentence.
- Model situations that involve whole numbers, using pictures, objects or symbols.

Geometric and Spatial Relationships

- Sort 2- and 3- dimensional shapes using physical models (circle, rectangle, triangle, sphere).
- Describe, name and interpret relative positions in space (left, right).
- Recognize geometric shapes and structures in the student's environment and specify the shape's location (stop sign, number cube, ball).



MA 6 Consumer Math IV

By the end of MA 6, students will be able to:

Numbers and Operations

- Read, write and compare decimals to the hundredths place and whole numbers to 4 digits.
- Represent and recognize multiplication using various models, including sets and arrays.
- Represent and recognize division using various models.
- Develop fluency with basic number relationships (12×12) of multiplication and division.
- Apply and describe the strategy used compute a given multiplication problem up to a 2-digit by 2-digit; division problem up to a 3-digit by 1-digit.
- Estimate and justify the results of multiplication and division of whole numbers.

Algebraic Relationships

- Make and describe generalizations and geometric patterns.
- Analyze patterns using words, tables or graphs.
- Represent a mathematical situation as an expression or number sentence.
- Model problem situations, using representations such as graphs, tables or number sentences.

Measurement

- Determine change from \$10.00.
- Add and subtract money values to \$100.00.
- Demonstrate a working understanding of banking vocabulary.
- Write or authorize a check.
- Keep a check ledger for multiple months.
- Read a bank statement.
- Reconcile a monthly checking account.
- Demonstrate a working knowledge of budgeting vocabulary.
- Create a realistic monthly budget, including fixed and variable expenses.
- Demonstrate an understanding of long verses short term budgeting.
- Create a multi-month budget with consideration for a future expenses (i.e. budgeting for a wedding, a trip, or home remodeling).

Data and Probability

- Evaluate data-collection methods.
- Represent data using pictures and bar graphs.
- Given a set of data, propose and justify conclusions that are based on the data.



MA 5 Consumer Math III

By the end of MA 5, students will be able to:

Numbers and Operations

- Read, write and compare decimals to the hundredths place and whole numbers to 4 digits.
- Develop fluency with basic number relationships (12×12) of multiplication and division.
- Apply and describe the strategy used to compute a given multiplication problem up to a 2-digit by 2-digit; division problem up to a 3-digit by 1-digit.
- Estimate and justify the results of multiplication and division of whole numbers.

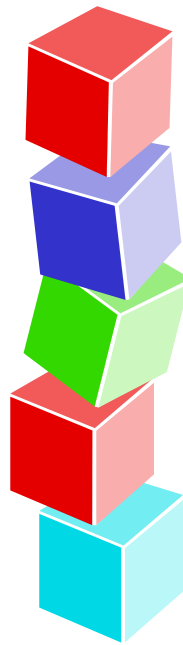


Algebraic Relationships

- Describe geometric and numeric pattern.
- Represent patterns using words, tables or graphs.
- Represent a mathematical situation as an expression or number sentence.
- Model problem situations, using representations such as graphs, tables or number sentences.

Geometric and Spatial Relationships

- Describe movement using common language and geometric vocabulary (forward, back, left, right, north, south, east, west)

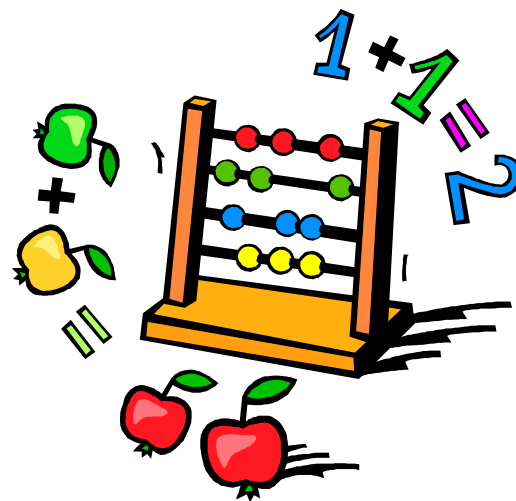


Measurement

- Show a working understanding of banking vocabulary.
- Demonstrate the ability to write or authorize a check.
- Prepare a deposit or withdrawal slip.
- Prepare and compute a mock-one-month checkbook ledger.
- Create an itemized monthly budget.
- Determine change from \$5.00 and add and subtract money values to \$5.00.

Data and Probability

- Collect data using observations, surveys and experiments.
- Represent data using pictures and bar graphs.
- Given a set of data, propose and justify conclusions that are based on the data.



Measurement

- Compare and order objects according to their size or weight.
- Tell time to the nearest hour.
- Tell time to the nearest half hour.
- Count money to fifty cents, including quarters and half dollars.
- Demonstrate an understanding of work for remuneration.
- Demonstrate the ability to keep money in a safe place until needed.
- Demonstrate taking money out only at the appropriate time.
- Demonstrate the ability to use the folder currency method to identify different denominations of paper currency.
- Demonstrate taking, keeping and returning a receipt, for a purchase, and returning it to an appropriate adult caregiver.
- Demonstrate the ability to purchase a number of personal items from a predetermined list.
- Use repetition of a single unit to measure something larger than the unit, (e.g., measuring the length of the room with a single meter stick).

Data and Probability

- Pose questions and gather data about themselves and their surroundings.
- Sort and classify items according to their attributes.
- Represent data using physical objects.

MA 3 Consumer Math I

By the end of MA 3, students will be able to:

Numbers and Operations

- Read, write and compare whole numbers up to 3 digits.
- Identify and compare commonly used fractions: halves, thirds and fourths.
- Classify numbers by their characteristics, including odd and even.
- Demonstrate an understanding of place values ones and tens.
- Represent a given situation involving multiplication.
- Describe the effects of adding and subtracting whole numbers as well as the relationship between the two operations.
- Recognize numbers through 1000.
- Develop an understanding of and fluency with basic number relationships of multiplication and division (12×12).
- Apply and describe the strategy used to compute 2-digit addition or subtraction problems.
- Estimate and justify the results of addition and subtraction of whole numbers.
- Compare stores to determine best pricing for groceries.

Algebraic Relationships

- Describe and extend simple numeric patterns and change from one representation to another.
- Describe how simple growing patterns are generated.
- Classify objects by size, number or other attributes.
- Represent a mathematical situation as an expression or number sentence.

- Investigate commutative principle with whole numbers.
- Model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols.
- Model problem situations, including multiplication with objects or drawings.

Geometric and Spatial Relationships

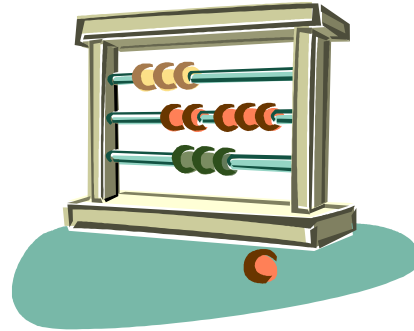
- Describe attributes and parts of 2- and 3-dimensional shapes using physical models (circle, rectangle, triangle, sphere).
- Predict results of putting together or taking apart 2- and 3- dimensional shapes.
- Find and name locations with simple relationships on a map (coordinate system).
- Describe location using common language and geometric vocabulary (forward, back, left, right, north, south, east, west).
- Use manipulative to model slides and turns.
- Recognize geometric shapes from different perspectives.

Measurement

- Recognize the function of customary units of measurement (capacity, weight, and linear).
- Select the appropriate tool for the attribute being measured.
- Tell time to the nearest five minutes.
- Count money with like and unlike collections of coins to fifty cents, including quarters and half dollars.
- Demonstrate an understanding of work for remuneration.
- Demonstrate the knowledge that a paycheck is money.
- Endorse a check for deposit.
- Demonstrate the ability to estimate the total cost of 2 – 3 items, including tax.
- Use tools to measure (size, temperature, time, weight) to the nearest inch, centimeter, degree, hour and pound.

Data and Probability

- Pose questions and gather data about themselves and their surroundings.
- Sort and classify items according to their attributes and organize data about the items.
- Represent data using pictures and bar graphs.
- Discuss events related to students' experiences as likely or unlikely.



MA 4 Consumer Math II

By the end of MA 4, students will be able to:

Numbers and Operations

- Classify and describe numbers by their characteristics, including odd, even and multiples.
- Represent and recognize multiplication.
- Describe the effects of adding and subtracting whole numbers as well as the relationship between the two operations.
- Describe a mental strategy used to compute a given division problem, where the quotient is a multiple of 10 and the divisor is a 1-digit number (e.g., 350/7).
- Develop fluency with basic number relationships of multiplication and division thru 12×12 .
- Apply and describe the strategy used to compute 3-digit addition or subtraction problem.
- Estimate and justify the results of addition and subtraction of whole numbers.

Algebraic Relationships

- Extend geometric (shapes) and numeric patterns to find the next term.
- Describe how simple growing patterns are generated.
- Represent a mathematical situation as an expression or number sentences.
- Investigate commutative property of multiplication to whole numbers.
- Model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols.
- Model problem situations, including multiplication with objects or drawings.

Geometric and Spatial Relationships

- Compare 2- and 3- dimensional shapes by describing their attributes, (circle, rectangle, triangle, rectangular).
- Predict results of putting together or taking apart 2- and 3- dimensional shapes.
- Describe movement using common language and geometric vocabulary (forward, back, left, right, north, south, east, west).
- Use manipulative to model flips.
- Recognize and create shapes that have symmetry.

Measurement

- Select an appropriate unit and tool for the attribute being measured.
- Identify, justify and use the appropriate unit of measure (linear, time, weight, and capacity).
- Tell time to the nearest five minutes.
- Solve problems involving elapsed time (hours).
- Count coins with like and unlike collection of coins to a dollar.
- Demonstrate the ability to estimate the total cost of 2 – 5 items, including tax.
- Demonstrate an understanding of the concept of a paycheck.

- Use tools to measure (size, temperature, time, weight) to the nearest inch, centimeter, degree, hour and pound.
- Demonstrate an understanding of paycheck related vocabulary (i.e: deductions, taxes, take-home pay, employer, voluntary, gross pay insurance, savings, required, net pay, overtime, salary, exemptions, withholdings, FICA, W-2, W-4 etc.).
- Compute regular wages, overtime, and net pay for a variety of situations.
- Analyze a paycheck stub.

Data and Probability

- Design investigations to address a given question.
- Sort and classify items according to their attributes and organize data about the items.
- Represent data using pictures and bar graphs.
- Discuss events related to students' experiences as likely or unlikely.

