ALABAMA EXTENDED STANDARDS

MATHEMATICS

GRADES K–12

Joseph B. Morton, State Superintendent of Education • Alabama Department of Education

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Organization of the
ALABAMA EXTENDED STANDARDS

Course of Study	Extended Standard	Complexity	
General Education Standard 3.2 Solve addition and subtraction problems, including word problems, involving two- and three-digit numbers with and without regrouping.	**M. ES 3.2** **Add and subtract single digit numbers.**	(4)	• Add and subtract 2 digit numbers without regrouping
		(3)	• Add and subtract single digit numbers
		(2)	• Combine and count or separate and count two groups of objects each containing 9 or less
		(1)	• Add and remove objects from a set containing 9 or less as they are counted

Course of Study
The Course of Study lists the general education standard(s) for each grade level. The Alabama Extended Standards are linked to general education grade level content. The general education standard is provided as a reference.

Extended Standard
The Alabama Extended Standards are the academic content for students with significant cognitive disabilities. These standards define what students with significant cognitive disabilities are expected to know and be able to do.

Complexity
The extended standards are divided into four levels of complexity, with four being the most complex and one being the least complex.

When developing goals and planning instruction, strive for the highest level of complexity that the student can achieve. Complexity 3 is the same as the extended standard. Always begin by considering complexity 3. If the student is unable to work at complexity 3, consider complexity 2, then 1. Complexity 4 should be considered for any student who has achieved complexity 3 or above.

Alabama Extended Standards
Mathematics Grades K-12

Course of Study	Extended Standard	Complexity	
General Education Standard K.1 Demonstrate concepts of number sense by using one-to-one correspondence, counting in sequence by ones from 1 to 20, counting backward from 10, recognizing numerals 0-9, and comparing sets of objects up to 10 by using vocabulary terms including *more than, less than, most,* or *least*.	**M. ES K.1** **Count in sequence from 1-3.**	(4)	• Identify numbers 1-3
		(3)	• Count in sequence from 1-3
		(2)	• Imitate counting numbers 1-3
		(1)	• Manipulate tactile numbers 1-3
General Education Standard K.7 Identify rectangles, squares, circles, and triangles.	**M. ES K.2** **Differentiate among shapes, including circles and squares.**	(4)	• Identify objects in the environment shaped like circles and squares
		(3)	• Differentiate among shapes, including circles and squares
		(2)	• Sort circles and squares
		(1)	• Respond as teacher identifies circles and squares
General Education Standard K.9 Use vocabulary associated with the measurement of time, including words related to clocks and calendars.	**M. ES K.3** **Name the days of the week.**	(4)	• Identify the current day
		(3)	• Name the days of the week
		(2)	• Imitate naming days of the week
		(1)	• Attend to naming days of the week
General Education Standard 1.1 Demonstrate concepts of	**M. ES 1.1** **Count and**	(4)	• Count by 2's to 10.
		(3)	• Count and identify numbers from 1-10

Course of Study	Extended Standard	Complexity	
number sense by counting forward and backward by ones, twos, fives, and tens up to 100; counting forward and backward from an initial number other than 1; and using multiple representations for a given number.	**identify numbers from 1-10.**	(2)	• Imitate counting numbers 1-10
		(1)	• Interact with different size groups of objects up to 10
General Education Standard 1.2 Demonstrate conceptual understanding of addition and subtraction by telling number stories; joining, separating, and comparing sets of objects; and applying signs (+ and −) to the actions of joining and separating sets.	**M. ES 1.2** **Demonstrate addition by joining sets with 5 or less objects each.**	(4)	• Compare sets of objects 1-5
		(3)	• Demonstrate addition by joining sets with 5 or less objects each
		(2)	• Count two groups of objects that equal 5 or less
		(1)	• Participate in counting 5 objects or less
General Education Standard 1.8 Differentiate among plane shapes, including circles, squares, rectangles, and triangles.	**M. ES 1.3** **Differentiate among plane shapes including rectangles and triangles.**	(4)	• Identify objects in the environment shaped like triangles and rectangles
		(3)	• Differentiate among shapes including rectangles and triangles
		(2)	• Sort circles, squares, triangles, and rectangles
		(1)	• Respond purposefully as teacher identifies triangles, and rectangles
General Education Standard 1.12 Locate days, dates, and months on a calendar.	**M. ES 1.4** **Identify birth month.**	(4)	• Name the months of the year
		(3)	• Identify birth month
		(2)	• Imitate naming months of the year
		(1)	• Participate in naming months of the year
General Education Standard 2.1 Demonstrate concepts of	**M. ES 2.1** **Count and**	(4)	• Identify numbers from 1-20 in the environment
		(3)	• Count and identify numbers from 1-20

Course of Study	Extended Standard	Complexity	
number sense by using multiple representations of whole numbers up to 1000, counting forward and backward by threes from a given number, identifying a number that is 100 more or 100 less than a given number, and differentiating between odd and even numbers.	**identify numbers from 1-20**	(2)	• Imitate counting numbers 1-20
		(1)	• Respond purposefully to counting 1-3
General Education Standard 2.2 Apply the operations of addition and subtraction to solve problems involving two-digit numerals, using multiple strategies with and without regrouping.	**M. ES 2.2** **Demonstrate subtraction by separating sets with 9 or fewer objects.**	(4)	• Use subtraction to solve picture problems using minuends up to 9
		(3)	• Demonstrate subtraction by separating sets with 9 or fewer objects
		(2)	• Recount groups of objects after separating a set with 9 or fewer objects
		(1)	• Remove one object from a set with 9 or fewer objects
General Education Standard 2.3 Label equal parts of a whole using $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$.	**M. ES 2.3** **Separate an object into 2 parts.**	(4)	• Separate an object into 2 equal parts
		(3)	• Separate an object into 2 parts
		(2)	• Assemble 2 parts to make a whole
		(1)	• Recognize whole objects and parts of objects
General Education Standard 2.8 Describe attributes of two-dimensional (plane) and three-dimensional (solid) figures using the terms *side, surface, edge, vertex,* and *angle*.	**M. ES 2.4** **Identify the top, bottom, and side of an object.**	(4)	• Identify the positions of objects in relation to other objects (top, bottom, beside)
		(3)	• Identify the top, bottom, and side of an object
		(2)	• Indicate top and bottom of an object
		(1)	• Recognize the top of an object
General Education Standard 3.1 Demonstrate number sense	**M. ES 3.1** **Count by 1's**	(4)	• Identify numbers from 1 to 100
		(3)	• Count by 1's to 100

Course of Study	Extended Standard	Complexity	
by comparing, ordering, and expanding whole numbers through 9999.	**to 100.**	(2)	• Imitate counting by 1's to 100
		(1)	• Interact with different size groups of objects 1-100
General Education Standard 3.2 Solve addition and subtraction problems, including word problems, involving two- and three-digit numbers with and without regrouping.	**M. ES 3.2** **Add and subtract single digit numbers.**	(4)	• Add and subtract 2 digit numbers without regrouping
		(3)	• Add and subtract single digit numbers
		(2)	• Combine and count or separate and count two groups of objects each containing 9 or less
		(1)	• Add and remove objects from a set containing 9 or less as they are counted
General Education Standard 3.7 Complete a given numeric or geometric pattern.	**M. ES 3.3** **Continue an existing pattern of three shapes using the terms first, next, last.**	(4)	• Create a pattern of three or more shapes using the terms first, next, last
		(3)	• Continue an existing pattern of three shapes using the terms first, next, last
		(2)	• Match shapes to an existing 3 shape pattern, while imitating the terms first, next, last
		(1)	• Attend to the terms first, next, last while a pattern is created
General Education Standard 3.11 Determine elapsed time to the day with calendars and to the hour with a clock.	**M. ES 3.4** **Identify the hour using analog and digital clocks.**	(4)	• Follow a daily schedule with activities listed by the hour
		(3)	• Identify the hour using analog and digital clocks
		(2)	• Identify the hour using a digital clock
		(1)	• Associate a clock with the measurement of time
General Education Standard 4.1 Demonstrate number sense by comparing and ordering decimals to hundredths and whole numbers to 999,999.	**M. ES 4.1** **Count by 10's to 100.**	(4)	• Apply counting by 10's to real life situations
		(3)	• Count by 10's to 100
		(2)	• Imitate counting by 10's to 100
		(1)	• Respond purposefully to counting 1-10

Course of Study	Extended Standard	Complexity	
General Education Standard 4.2 Write money amounts in words and dollar-and-cent notation.	**M. ES 4.2** **Identify coins and their value including penny, nickel, dime, and quarter.**	(4)	• Exchange coins of equivalent value
		(3)	• Identify coins and their value including penny, nickel, dime and quarter
		(2)	• Sort pennies, nickels, dimes and quarters
		(1)	• Distinguish coins from other objects
General Education Standard 4.5 Round whole numbers to the nearest ten, hundred, or thousand and decimals to the nearest tenth.	**M. ES 4.3** **Determine place value for 1's, 10's and 100's.**	(4)	• Identify and use place value for 1's, 10's and 100's
		(3)	• Determine place value for 1's, 10's and 100's
		(2)	• Determine place value for 1's and 10's
		(1)	• Respond purposefully to regrouping ten 1's as 10
General Education Standard 4.13 Calculate elapsed time in hours and minutes.	**M. ES 4.4** **Identify time to the half-hour using analog and digital clocks.**	(4)	• Follow a daily schedule with activities listed by the hour and half-hour
		(3)	• Identify time to the half-hour using analog and digital clocks
		(2)	• Identify time to the half-hour using a digital clock
		(1)	• Respond purposely to comments about the schedule (e.g., it is time to clean up, it is time for lunch)
General Education Standard 5.1 Demonstrate number sense by comparing, ordering, rounding, and expanding whole numbers through millions and decimals to thousandths.	**M. ES 5.1** **Count by 5's to 100.**	(4)	• Apply counting by 5's to real life situations
		(3)	• Count by 5's to 100
		(2)	• Imitate counting by 5's to 100
		(1)	• Imitate counting 1-10
General Education Standard 5.2 Solve problems involving basic operations on whole numbers, including addition	**M. ES 5.2** **Add 2 digit numbers without**	(4)	• Add 2 digit numbers with regrouping
		(3)	• Add 2 digit numbers without regrouping
		(2)	• Count two distinct groups of objects totaling up to 20

Course of Study	Extended Standard	Complexity	
and subtraction of seven-digit numbers, multiplication with two-digit multipliers, and division with two-digit divisors.	**regrouping.**	(1)	• Combine two groups of objects and mimic counting total up to 10
General Education Standard 5.3 Solve word problems that involve decimals, fractions, or money.	**M. ES 5.3** **Count like coins up to $1.00.**	(4)	• Determine monetary value of unlike coins
		(3)	• Count like coins up to $1.00
		(2)	• Imitate counting like coins up to $1.00
		(1)	• Participate in counting like coins up to $1.00
General Education Standard 5.14 Analyze data collected from a survey or experiment to distinguish between what the data show and what might account for the results.	**M. ES 5.4** **Analyze data collected to determine the amount of time required for familiar activities.**	(4)	• Sort tasks by the amount of time required for the activity
		(3)	• Analyze data collected to determine the amount of time required for familiar activities
		(2)	• Group tasks into two categories of time requirements (e.g., long and short)
		(1)	• Stay on task to complete familiar activities
General Education Standard 6.1 Demonstrate computational fluency with addition, subtraction, multiplication, and division of decimals and fractions.	**M. ES 6.1** **Subtract 2 digit numbers without regrouping.**	(4)	• Subtract 2 digit numbers with regrouping
		(3)	• Subtract 2 digit numbers without regrouping
		(2)	• Separate and count one group of 20 or less objects into two distinct groups
		(1)	• Separate one group of objects into two groups

Course of Study	Extended Standard	Complexity	
General Education Standard 6.2 Solve problems involving decimals, percents, fractions, and proportions.	**M. ES 6.2** **Divide an object into equal parts and label as ½, ⅓, or ¼.**	(4)	• Divide a group of objects into equal subgroups and label as ½, 1/3, or ¼
		(3)	• Divide an object into equal parts and label as ½, ⅓, or ¼
		(2)	• Combine 2 objects to make a whole and divide the same object to represent two halves
		(1)	• Combine 2, 3, or 4 equal parts to make a whole
General Education Standard 6.2 Solve problems involving decimals, percents, fractions, and proportions.	**M. ES 6.3** **Identify bill amounts including $1.00, $5.00, $10.00, and $20.00.**	(4)	• Identify and count bills including $1.00, $5.00, $10.00, and $20.00
		(3)	• Identify bill amounts including $1.00, $5.00, $10.00, and $20.00
		(2)	• Sort $1.00, $5.00, $10.00, and $20.00 bills
		(1)	• Sort bills from other objects
General Education Standard 6.10 Interpret information from bar graphs, line graphs, and circle graphs.	**M. ES 6.4** **Organize pictures into data displays including tally charts and graphs.**	(4)	• Collect information and organize into data displays including tally charts and graphs
		(3)	• Organize pictures into data displays including tally charts and graphs
		(2)	• Organize objects into data displays
		(1)	• Follow an object, picture, or symbol schedule
General Education Standard 7.1 Demonstrate computational fluency with addition, subtraction, and multiplication of integers.	**M. ES 7.1** **Add 2 digit numbers with regrouping.**	(4)	• Solve simple word problems involving single digit numbers
		(3)	• Add 2 digit numbers with regrouping
		(2)	• Add single digit numbers
		(1)	• Combine two groups of objects and mimic counting total up to 10 to represent regrouping

Course of Study	Extended Standard	Complexity	
General Education Standard 7.3 Solve problems requiring the use of operations on rational numbers.	**M. ES 7.2** **Add unlike bills including $1, $5, $10, and $20 and express with dollar-and-cent notation.**	(4)	• Add unlike bills including $1, $5, $10, and $20 and unlike coins and express with dollar-and-cent notation
		(3)	• Add unlike bills including $1, $5, $10, and $20 and express with dollar-and-cent notation
		(2)	• Add like bills including $1, $5, $10, and $20 and match to appropriate dollar-and-cent notation
		(1)	• Mimic adding like bills including $1, $5, $10, and $20
General Education Standard 7.4 Express a pattern shown in a table, graph, or chart as an algebraic equation.	**M. ES 7.3** **Continue a pattern increasing by one, by five, and by ten.**	(4)	• Create a number pattern increasing by one, by five, and by ten
		(3)	• Continue a number pattern increasing by one, by five, and by ten
		(2)	• Continue a pattern increasing by one
		(1)	• Duplicate a pattern increasing by one
General Education Standard 7.11 Solve problems involving ratios or rates, using proportional reasoning.	**M. ES 7.4** **Compare weight of objects using customary units.**	(4)	• Compare weights of objects using proportional reasoning (e.g., weight of object, compared to weight of ½ object)
		(3)	• Compare weight of objects using customary units
		(2)	• Compare weight of familiar objects using non-customary units
		(1)	• Identify the heaviest object from a group
General Education Standard 8.1 Use various strategies and operations to solve problems involving real numbers.	**M. ES 8.1** **Subtract 2-digit numbers with**	(4)	• Solve simple word problems involving 2-digit numbers
		(3)	• Subtract 2-digit numbers with regrouping
		(2)	• Subtract single digit numbers

Course of Study	Extended Standard	Complexity	
	regrouping.	(1)	• Separate one group containing 20 or fewer objects into two groups and mimic counting each group to represent regrouping
General Education Standard 8.3 Use order of operations to evaluate and simplify algebraic expressions.	**M. ES 8.2** **Express a given numerical expression as a group of objects.**	(4)	• Translate pictures of objects into a numerical expression
		(3)	• Express a given numerical expression as a group of objects
		(2)	• Duplicate a group of objects that expresses a numerical expression
		(1)	• Duplicate a group of objects
General Education Standard 8.10 Find the perimeter and area of regular and irregular plane figures.	**M. ES 8.3** **Measure and compare length to the nearest inch using a ruler.**	(4)	• Calculate the perimeter of a rectangle, triangle, and square
		(3)	• Measure and compare length to the nearest inch using a ruler
		(2)	• Measure and compare length to the nearest foot
		(1)	• Sort objects by length
General Education Standard 8.13 Interpret data from populations, using given and collected data.	**M. ES 8.4** **Compare data sets involving two populations.**	(4)	• Compare data sets involving multiple populations
		(3)	• Compare data sets involving two populations
		(2)	• Describe data sets involving two populations
		(1)	• Identify a named set of data
General Education Standard ALG.1 Simplify numerical expressions using properties of real numbers and order of operations, including those involving square roots, radical form, or decimal approximations.	**M. ES 9.1** **Given a number 2 - 10, use at least 2 different combinations of numbers to represent**	(4)	• Use different combinations of coins and bills to equal a specific dollar amount
		(3)	• Given a number 2 -10, use at least 2 different combinations of numbers to represent the given number using addition and subtraction
		(2)	• Use 2 different combinations of numbers to represent an original sum

Course of Study	Extended Standard	Complexity	
	the given number using addition and subtraction.	(1)	• Use 2 combinations of objects to represent the sum of an original group of objects
General Education Standard ALG. 3 Determine characteristics of a relation, including its domain, range, and whether it is a function, when given graphs, tables of values, mappings, or sets of ordered pairs.	**M. ES 9.2** **Represent functional relationships by solving number sentences (e.g., 8+4=5+☐ or 8+☐=12, and 5+☐=12).**	(4)	• Determine value of y if given x in a functional relationship (x + 4 = y; when x changes, y changes making y a function of x)
		(3)	• Represent functional relationships by solving number sentences (e.g., 8+4=5+☐ or 8+☐=12, and 5+☐=12)
		(2)	• Solve simple number sentences (7+3=☐)
		(1)	• Duplicate groupings of objects to represent simple number sentences
General Education Standard ALG. 5 Perform operations of addition, subtraction, and multiplication on polynomial expressions.	**M. ES 9.3** **Apply the basic operations of multiplication and division to single digit numbers.**	(4)	• Apply the basic operations of multiplication and division to double digit numbers
		(3)	• Apply the basic operations of multiplication and division to single digit numbers
		(2)	• Apply the basic operations of multiplication and division to single digit numbers with objects
		(1)	• Mimic repeated addition and subtraction
General Education Standard ALG. 6 Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping.	**M. ES 9.4** **Display factors of various numbers using objects.**	(4)	• Identify factors of various numbers
		(3)	• Display factors of various numbers using objects
		(2)	• Given a set of objects, divide into groups that represent factors of the total number
		(1)	• Duplicate factors of various numbers using objects

Course of Study	Extended Standard	Complexity	
General Education Standard ALG. 7 Solve multistep equations and inequalities including linear, radical, absolute value, and literal equations.	**M. ES 10.1** **Demonstrate the concept of greater than, less than, and equal to with numbers.**	(4)	• Demonstrate the concept of greater than, less than, and equal to using symbols (>, <, =) with numbers
		(3)	• Demonstrate the concept of greater than, less than, and equal to with numbers
		(2)	• Distinguish between two groups of objects in terms of greater than, less than, and equal to
		(1)	• Choose the largest object from a group of two
General Education Standard ALG. 11 Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle, and volume and surface area of right circular cylinders or right rectangular prisms.	**M. ES 10.2** **Determine perimeter of a rectangle, triangle and square when given the dimensions.**	(4)	• Determine perimeter of a rectangle, triangle, and/or square to the nearest inch
		(3)	• Determine perimeter of a rectangle, triangle and square when given the dimensions
		(2)	• Identify the perimeter or area of a specific location (e.g., point out a specific area in the classroom)
		(1)	• Fit objects into a given area or space
General Education Standard ALG. 15 Estimate probabilities given data in lists or graphs.	**M. ES 10.3** **Determine if outcomes of familiar events are more likely, less likely, or impossible.**	(4)	• Determine if outcomes of familiar events are more likely, less likely, equally likely or impossible
		(3)	• Determine if outcomes of familiar events are more likely, less likely, or impossible
		(2)	• Determine if outcomes of familiar events are possible or impossible
		(1)	• Identify which is most likely when given two possible outcomes of familiar events,
General Education Standard GEO. 1 Determine the equation of a line parallel or perpendicular to a second line through a given point.	**M. ES 11.1** **Identify examples of points, lines and parallel**	(4)	• Identify examples of points, lines, parallel lines, and perpendicular lines
		(3)	• Identify examples of points, lines and parallel lines
		(2)	• Construct a line parallel to a given line

Course of Study	Extended Standard	Complexity	
	lines.	(1)	• Place objects in a line beginning with a given point
General Education Standard GEO. 5 Solve real-life and mathematical problems using properties and theorems related to circles, quadrilaterals, and other geometric shapes.	**M. ES 11.2** **Demonstrate knowledge of properties of geometric shapes by displaying the most efficient way of placing shapes into a given space.**	(4)	• Demonstrate knowledge of properties of geometric shapes by rearranging items to fit numerous shapes into a given space.
		(3)	• Demonstrate knowledge of properties of geometric shapes by displaying the most efficient way of placing shapes into a given space
		(2)	• Match different sized geometric shapes to their appropriately sized space
		(1)	• Sort geometric shapes by size
General Education Standard GEO. 13 Identify the coordinates of the vertices of the image of a given polygon that is translated, rotated, reflected, or dilated.	**M. ES 11.3** **Match rotated images of squares, rectangles, and triangles.**	(4)	• Match rotated images of different size squares, rectangles, and triangles
		(3)	• Match rotated images of squares, rectangles, and triangles
		(2)	• Match objects and their rotated image
		(1)	• Match an object to a given rotated object
General Education Standard GEO. 16 Calculate surface areas and volumes of solid figures, including spheres, cones, and pyramids.	**M. ES 12.1** **Determine the capacity of containers using non-customary units of measure.**	(4)	• Determine the capacity of containers using customary units of measure
		(3)	• Determine the capacity of containers using non-customary units of measure
		(2)	• Estimate capacities of containers
		(1)	• Determine which is the fullest when shown like containers filled to different levels
General Education Standard GEO. 17	**M. ES 12.2**	(4)	• Calculate and compare the perimeter of 3 areas

Course of Study	Extended Standard	Complexity	
Analyze sets of data from geometric contexts to determine what, if any, relationships exist.	**Compare the perimeter of 3 areas when given the dimensions.**	(3)	• Compare the perimeter of 3 areas when given the dimensions
		(2)	• Place at least 3 same shape objects in order of largest to smallest perimeter
		(1)	• Select the one with the smallest perimeter from two same shape objects
General Education Standard GEO. 18 Construct with precision a circle graph to represent data from given tables or classroom experiments.	**M. ES 12.3** **Read a circle graph with three or more variables.**	(4)	• Create a circle graph to represent data
		(3)	• Read a circle graph with three or more variables
		(2)	• Read a circle graph with two variables
		(1)	• Select two identical circle graphs from a series of three or more