



A L T E R N A T E

***Alabama Comprehensive Assessment
Program (ACAP) Alternate***

Item Specifications

Mathematics

Grade 2

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(ACAP) Alternate***

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Mathematics

The *Alabama Comprehensive Assessment Program (ACAP) Alternate* item specifications are based on the development of alternate assessments that measure the 2019 *Alabama Alternate Achievement Standards: Math*. The item specifications define the purpose of the *ACAP Alternate* and provide important information regarding the content to be measured. The item specifications also serve as a road map to guide Alabama educators in the development and subsequent review of items that best measure the 2019 *Alabama Alternate Achievement Standards: Math* for a given grade and subject area. Each item specification is aligned to the given Alabama content area, cluster, and standard and includes the following key information:

- Course of Study Standard
- Alternate Achievement Standard
- Content limits/constraints
- Recommended depth of knowledge (DOK) or cognitive levels
- Sample item stem information

Definitions

Course of Study Standards: The Course of Study Standards are a set of content curriculum statements that define what general education students should know and be able to do at a given grade level.

Alternate Achievement Standards: The 2019 *Alabama Alternate Achievement Standards: Math* are directly aligned to the 2019 Alabama Course of Study Standards. The 2019 *Alabama Alternate*

Achievement Standards: Math define what students with the most significant support needs should understand (know) and be able to do at the conclusion of a course or grade.

Alabama Content Areas: Alabama content areas are large groups of related clusters and content standards. Because mathematics is a connected subject, standards from different Alabama content areas may sometimes be closely related.

Standards: Standards define what students should understand (know) and be able to do at the conclusion of a course or grade.

Assessment Limits/Content Constraints: Assessment limits and/or content constraints define the range of content knowledge and the degree of difficulty allowable when items are written to measure a given standard.

Depth of Knowledge (DOK): Depth of knowledge involves the cognitive complexity or the nature of thinking required for a given item. Depth of knowledge levels are used in the development of items for cognitive demand. Therefore, when developing items for depth of knowledge, the item should be as demanding cognitively as what the actual standard expects. The depth of knowledge includes three levels, from the lowest (basic recall) to the highest (strategic thinking). The *ACAP Alternate* assessment items are written to one of three cognitive levels of complexity:

- Level 1: Recall
- Level 2: Application of a Skill/Concept
- Level 3: Strategic Thinking

Item Types: The *ACAP Alternate* assessments are composed of various item types. These item types are described in the following section.

Context: Context provides information regarding the types of stimulus materials that can be used

in the items. If a context is allowable, it means that the item may have context. If context is required, then the item measuring the given standard must have context. If no context is noted, then the items measuring the given standard should not have context.

Sample Stem Information: This statement explains what students are expected to do when they respond to a given item.

Item Types

The *Alabama Comprehensive Assessment Program (ACAP) Alternate* assessments are composed of various item types. These item types are described below.

Multiple-Choice (MC) Items: MC items have three answer choices, including two distractors and one correct answer. Distractors for mathematics represent common misconceptions, incorrect logic, incorrect application of an algorithm, computational errors, etc. A correct response to an MC item is worth one score point in the mathematics *ACAP Alternate*.

Performance Task Items:

Multiple-Select (MS) Items: MS items are similar in structure to MC items. However, unlike an MC item, an MS item has four options and more than one correct answer. In other words, multiple responses are required for a given item. A correct response to an MS item is worth two score points in the mathematics *ACAP Alternate*.

Two-Part Multiple-Choice Items: Two-Part Multiple-Choice Items have two questions. The questions may require the student to identify the sides and then angles of a shape, perform computations, identify information of a graph or chart, etc. A correct response to a Two-Part MC item is worth two score points in the mathematics *ACAP Alternate* when both parts are correct.

Item Specifications

Item specifications are one of the key requirements for a high-quality, legally defensible, standards-based assessment. Item specifications help define important characteristics of the items (i.e., test questions) developed for each Alternate Achievement Standard. These item specifications provide guidelines to help clarify the focus of what is to be assessed, what items may include, and what items may not include (i.e., assessment limits). Item specifications are used by item writers, item editors, and item reviewers as a common reference throughout the item-development process, from initial writing to final approval. These mathematics item specifications are based on the 2019 *Alabama Alternate Achievement Standards: Math*.

Grade	2
Content Area	Operations and Algebraic Thinking
Cluster	Add and subtract within 20.
Standard	<p>Fluently add and subtract within 20 using mental strategies such as counting on, making ten, decomposing a number leading to ten, using the relationship between addition and subtraction, and creating equivalent but easier or known sums.</p> <p>a. State automatically all sums of two one-digit numbers.</p>
Alternate Achievement Standard	M.AAS.2.2: Represent addition as "add to/put together" and subtraction as "take from/take apart" with objects, drawings, fingers, or sounds (within 30).
Assessment Limits/Content Constraints	Numbers must be within 30.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Here are ten buttons. Here are twenty buttons. How many buttons are there altogether?

Grade	2
Content Area	Operations and Algebraic Thinking
Cluster	Work with equal groups of objects to gain foundations for multiplication.
Standard	<p>Use concrete objects to determine whether a group of up to 20 objects is even or odd.</p> <p>a. Write an equation to express an even number as a sum of two equal addends.</p>
Alternate Achievement Standard	M.AAS.2.3: Equally distribute even numbers of up to 20 objects between two groups.
Assessment Limits/Content Constraints	<p>Limit number of objects to even numbers up to 20.</p> <p>Limit number of groups to 2.</p>
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Here are ten apples. The apples are divided into two equal groups. How many apples are in each group?

Grade	2
Content Area	Operations and Algebraic Thinking
Cluster	Work with equal groups of objects to gain foundations for multiplication.
Standard	Using concrete and pictorial representations and repeated addition, determine the total number of objects in a rectangular array with up to 5 rows and up to 5 columns. a. Write an equation to express the total number of objects in a rectangular array with up to 5 rows and up to 5 columns as a sum of equal addends.
Alternate Achievement Standard	M.AAS.2.4: Use repeated addition to find the sum of objects arranged in equal groups up to 10.
Assessment Limits/Content Constraints	Limit sum of objects to within 30. Limit groups to within 10 objects.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Chloe has two tacos, Gino has two tacos, and Nia has two tacos. How many tacos do they have in all?

Grade	2
Content Area	Operations and Algebraic Thinking
Cluster	Understand simple patterns.
Standard	Reproduce, extend, create, and describe patterns and sequences using a variety of materials.
Alternate Achievement Standard	M.AAS.2.5: Using vocalization, sign language, augmentative communication, or assistive technology, duplicate, extend, create, and describe simple patterns using concrete objects.
Assessment Limits/Content Constraints	Limit elements to concrete objects. Limit elements to four different objects.
DOK(s)	1 or 2
Item Types	MC, EBSR
Sample Item Stem(s)	Here is a pattern of objects: hat, shoe, hat, shoe, _____. Which object comes next?

Grade	2
Content Area	Operations with Numbers: Base Ten
Cluster	Understand place value.
Standard	<p>Explain that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.</p> <p>a. Explain the following three-digit numbers as special cases: 100 can be thought of as a bundle of ten tens, called a “hundred,” and the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</p>
Alternate Achievement Standard	M.AAS.2.6: Recognize and represent numbers up to 30 with sets of tens and ones (objects, columns, arrays).
Assessment Limits/Content Constraints	<p>Limit to numbers up to 30.</p> <p>Limit representations to objects, columns, or arrays.</p>
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Here are two tens rods and nine ones blocks. Which number do these rods and blocks represent?

Grade	2
Content Area	Operations with Numbers: Base Ten
Cluster	Understand place value.
Standard	<p>Explain that the equal sign means “the same as.” Determine whether equations involving addition and subtraction are true or false.</p> <p>Example: determining which of the following equations are true and which are false: $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$</p>
Alternate Achievement Standard	M.AAS.2.7: Using vocalization, sign language, augmentative communication, or assistive technology, count and recognize numerals 0 to 50 by ones. When given a numeral 0 to 25, name the next two numbers in a three-item sequence.
Assessment Limits/Content Constraints	<p>Limit numerals for counting and recognition to within 50.</p> <p>Limit numerals for sequencing to within 25.</p>
DOK(s)	1 or 2
Item Types	MC, MS
Sample Item Stem(s)	<p>Here is a number. What is this number?</p> <p>Here are some numbers: six, seven, eight, nine, ____, _____. What are the next two numbers after nine?</p>

Grade	2
Content Area	Operations with Numbers: Base Ten
Cluster	Understand place value.
Standard	Compare two three-digit numbers based on the value of the hundreds, tens, and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$ and orally with the words “is greater than,” “is equal to,” and “is less than.”
Alternate Achievement Standard	M.AAS.2.9: Using vocalization, sign language, augmentative communication, or assistive technology, compare sets of objects and numbers using appropriate vocabulary (greater than, less than, equal to; limited to thirty objects in a group).
Assessment Limits/Content Constraints	Limit sets of objects in a group to within 20. Difference in group size should be at least 2 for groups less than 10 and at least 4 for groups 10 to 20. Limit numbers to within 20.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Charlotte has eight balloons. William has ten balloons. Who has a greater number of balloons?

Grade	2
Content Area	Operations with Numbers: Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard	Fluently add and subtract within 100, using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Alternate Achievement Standard	M.AAS.2.10: Using vocalization, sign language, augmentative communication, or assistive technology, identify the meaning of the + sign (add, plus, put together) and the – sign (subtract, take away, take from) and the = sign (equal, the same as); compose and decompose numbers up to 20 using objects, pictures, drawings, or numbers.
Assessment Limits/Content Constraints	Limit to +, –, and = signs. Limit numbers to within 20.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Which addition number sentence equals twenty?

Grade	2
Content Area	Data Analysis
Cluster	Collect and analyze data and interpret results.
Standard	<p>Create a picture graph and bar graph to represent data with up to four categories.</p> <p>a. Using information presented in a bar graph, solve simple “put-together,” “take-apart,” and “compare” problems.</p> <p>b. Using Venn diagrams, pictographs, and “yes-no” charts, analyze data to predict an outcome.</p>
Alternate Achievement Standard	M.AAS.2.16: Using vocalization, sign language, augmentative communication, or assistive technology, use a graph, limited to 2 categories, to answer more/less, most/least, or equal to questions (a combined total of no more than 30 objects/pictures shown for the 2 categories).
Assessment Limits/Content Constraints	<p>Limit to more/less, most/least, or equal to questions.</p> <p>Limit to two categories.</p> <p>Limit to pictographs and bar graphs.</p>
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Here is a pictograph that shows how many pens and pencils students have. Based on this pictograph, which statement is true?

Grade	2
Content Area	Measurement
Cluster	Measure and estimate lengths in standard units.
Standard	Measure the length of an object by selecting and using standard units of measurement shown on rulers, yardsticks, meter sticks, or measuring tapes.
Alternate Achievement Standard	M.AAS.2.17: Using vocalization, sign language, augmentative communication, or assistive technology, identify standard tools associated with measurement (clock, ruler, scale, measuring cup); measure the lengths of objects using nonstandard units (e.g., hands, paper clips).
Assessment Limits/Content Constraints	Limit measuring tools to clock, ruler, scale, and liquid measuring cup.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Ally bought three oranges. Which tool was used to measure the weight of the oranges?

Grade	2
Content Area	Measurement
Cluster	Measure and estimate lengths in standard units.
Standard	Measure to determine how much longer one object is than another, expressing the length difference of the two objects using standard units of length.
Alternate Achievement Standard	M.AAS.2.19: Order three objects by length (long/longer/longest; short/shorter/shortest).
Assessment Limits/Content Constraints	Limit to length. Limit comparisons to long/longer/longest and short/shorter/shortest.
DOK(s)	1 or 2
Item Types	MC, EBSR
Sample Item Stem(s)	Elijah has four paintbrushes. Which paintbrush is the longest?

Grade	2
Content Area	Measurement
Cluster	Relate addition and subtraction to length.
Standard	Use addition and subtraction within 100 to solve word problems involving same units of length, representing the problem with drawings (such as drawings of rulers) and/or equations with a symbol for the unknown number.
Alternate Achievement Standard	M.AAS.2.21: Increase or decrease length by adding or subtracting nonstandard unit(s).
Assessment Limits/Content Constraints	Limit number of units to within 30. Avoid addition and subtraction problems that require regrouping.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Here is a picture of some roses. Each rose is the height of five paper clips. Which picture shows a rose that is five paper clips tall?

Grade	2
Content Area	Measurement
Cluster	Relate addition and subtraction to length.
Standard	Create a number line diagram using whole numbers and use it to represent whole-number sums and differences within 100.
Alternate Achievement Standard	M.AAS.2.22: Represent whole-number sums within 20 using a number line.
Assessment Limits/Content Constraints	Use a number line. Limit to sums within 20.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Here is a number line. Here is the number three. What is three plus five?

Grade	2
Content Area	Measurement
Cluster	Work with time and money.
Standard	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. a. Express an understanding of common terms such as, but not limited to, quarter past, half past, and quarter to.
Alternate Achievement Standard	M.AAS.2.23: Using vocalization, sign language, augmentative communication, or assistive technology, identify the time that matches a routine activity using a clock (limited to hour).
Assessment Limits/Content Constraints	Limit time to hour. Analog and digital clocks allowed.
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Liam has basketball practice at four o'clock. Which clock shows four o'clock?

Grade	2
Content Area	Measurement
Cluster	Work with time and money.
Standard	<p>Solve problems with money.</p> <p>a. Identify nickels and quarters by name and value.</p> <p>b. Find the value of a collection of quarters, dimes, nickels, and pennies.</p> <p>c. Solve word problems by adding and subtracting within one dollar, using the \$ and ¢ symbols appropriately (not including decimal notation).</p> <p>Example: $24¢ + 26¢ = 50¢$</p>
Alternate Achievement Standard	M.AAS.2.24: Using vocalization, sign language, augmentative communication, or assistive technology, identify and demonstrate knowledge that money has value; limited to penny = 1 cent, nickel = 5 cents, dime = 10 cents.
Assessment Limits/Content Constraints	<p>Limit to pennies, nickels, and dimes.</p> <p>Limit value to cents.</p>
DOK(s)	1 or 2
Item Types	MC, EBSR, MS
Sample Item Stem(s)	Amelia needs five cents to buy an eraser. Which coin can Amelia use to buy an eraser?

Grade	2
Content Area	Geometry
Cluster	Reason with shapes and their attributes.
Standard	<p>Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p> <p>a. Recognize and draw shapes having specified attributes.</p> <p>Examples: a given number of angles or a given number of equal faces.</p>
Alternate Achievement Standard	M.AAS.2.25: Using vocalization, sign language, augmentative communication, or assistive technology, identify two-dimensional shapes (limited to square, circle, triangle, and rectangle).
Assessment Limits/Content Constraints	<p>Limit shapes to squares, triangles, and rectangles (non-squares). Use rectangles that are clearly longer than they are wide.</p> <p>Limit orientation to standard orientation.</p>
DOK(s)	1 or 2
Item Types	MC, EBSR, MS
Sample Item Stem(s)	Here are some shapes. Which two shapes are triangles?

Grade	2
Content Area	Geometry
Cluster	Reason with shapes and their attributes.
Standard	<p>Partition circles and rectangles into two, three, or four equal shares. Describe the shares using such terms as halves, thirds, half of, or a third of, and describe the whole as two halves, three thirds, or four fourths.</p> <p>a. Explain that equal shares of identical wholes need not have the same shape.</p>
Alternate Achievement Standard	M.AAS.2.27: Using vocalization, sign language, augmentative communication, or assistive technology, identify half as being two equal parts of a shape (limited to circle, square, rectangle, and triangle).
Assessment Limits/Content Constraints	<p>Limit shapes to circles, squares, rectangles, equilateral triangles, and isosceles triangles.</p> <p>Limit orientation to standard orientation.</p> <p>Limit representation of half to vertical lines in triangles and either vertical or horizontal lines in circles, squares, and rectangles.</p>
DOK(s)	1 or 2
Item Types	MC
Sample Item Stem(s)	Mateo is putting cheese on his pizza. His pizza is a rectangle shape. Which picture shows half of Mateo's pizza?