Alabama Comprehensive Assessment Program (ACAP)

Summative

Item Specifications

Mathematics

Grade 2

Alabama Item Specifications
Grade 2 Mathematics
Alabama Comprehensive Assessment Program (ACAP)
Summative

The *Alabama Comprehensive Assessment Program* (ACAP) *Summative* item specifications are based on the development of summative assessments that measure the Alabama Course of Study Standards. The item specifications define the purpose of the *ACAP Summative* 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 Course of Study Standards 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:

- Evidence statements
- Content limits/constraints
- Recommended Webb's Depth of Knowledge (DOK) or cognitive levels
- Calculator usage
- Item types for measuring a given standard
- Information regarding whether or not context is allowable
- Sample item stem information

The appendix to this document includes sample test items, along with information about the item, including item type, page reference, alignment, depth of knowledge, and answer key. These sample items are provided to be an additional resource for educators to help guide instruction and assessment-building in the classroom. Teachers can use the sample items as models when leading classroom discussion as well as creating items for classroom tests or quizzes. In each sample item, the level of rigor needed in the item in order to align with the content standard is evident.

Definitions

Course of Study Standards: The Course of Study Standards are a set of content curriculum statements that define what students should know and be able to do at a given grade level. The goal is to prepare students for future opportunities and options in the workplace and for everyday life. Through the implementation of the Alabama Course of Study for Mathematics, students will be well equipped for the workforce upon graduation or ready to pursue higher levels of education in Alabama's colleges and universities.

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.

Clusters: Clusters are groups of related content standards. Because mathematics is a connected subject, standards from different clusters 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. The standard text in the item specification is preceded by a standard identifier (e.g., 4.OA.1) to indicate the student grade level as fourth (4), the Alabama content area as Operations and Algebraic Thinking (OA), and the standard number as one (1).

Evidence Statements: Evidence statements are closely aligned to the standard and do not deviate from the requirements of the standard. Standards that are substantial in content do provide for a better opportunity to "unpack the standard," which is the case for many of the Alabama Course of Study Standards. The evidence statements serve that purpose.

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. Most recently, Webb's 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. Webb's Depth of Knowledge includes four levels, from the lowest (basic recall) to the highest (extended thinking). The mathematics *ACAP Summative* 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 Summative* 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) *Summative* assessments are composed of various item types. These item types are described below.

Multiple-Choice (MC) Items: MC items have four answer choices, including three 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 Summative*.

Multiple-Select (MS) Items: MS items are similar in structure to MC items. However, unlike an MC item, an MS item has more than four options and more than one correct answer. In other words, multiple responses are required for a given item. For mathematics, there are two types of MS configurations. One has five answer options, two of which are correct, and the other has six answer options, two or three of which are correct. Directions for the number of options to select are provided with each item. A correct response to an MS item is worth one score point in the mathematics *ACAP Summative*.

Short-Answer (SA) Items: SA items are constructed-response items that require a keyed response from the student. The number of characters is limited to a relatively small number in order to facilitate autoscoring. The types of characters allowed can also be limited to text only, numbers only, or a mix. In the mathematics *ACAP Summative*, this item type is autoscored using scoring guidelines for the correct answer. A correct response to an SA item is worth one score point in the mathematics *ACAP Summative*.

Technology-Enhanced (TE) Items: TE items share the same functional structure as traditional paper-and-pencil test items; however, the expansive features and functions of a computer-based medium allow for the incorporation of technical enhancements into traditional elements of a test item, such as the stem, the stimulus (if any), the response area, or a combination of all three. These items require the use of one or more tools. A correct response to a TE item is worth one score point in the mathematics *ACAP Summative*. Mathematics TE items include, but are not limited to, the following:

- **Angle Draw Input:** These TE items provide a student with a given ray, and then the student completes the angle by drawing a second ray.
- **Drag-and-Drop Input**: These TE items provide a student with draggable entities that can be configured to be used once or multiple times.
- **Drop-Down List Input:** These TE items allow a student to select elements in drop-down lists that can be embedded within text or tables.
- **Hot Spot:** These TE items allow for an image to be highlighted or replaced with another image when selected by the student.
- **Line Plot Input:** These TE items provide another way for a student to graphically represent data when the structure is provided. Certain labeling on the line plot can be done by the student.
- **Matching:** These TE items allow for the use of text or graphics as the matching objects. The student selects one object and then selects a second object to connect them.
- **Matching Table:** These TE items include a table with multiple rows and columns, and the student makes matches between the given elements in the rows and columns. The table can be customized to allow for only a single selection in a row or column or for multiple selections within each.
- **Number Line Input:** These TE items allow a student to create a number line graph that might involve plotting points only or points and lines. Both closed and open points are available, as well as line segments and rays.

Standards for Mathematical Practice

The Standards for Mathematical Practice are based on important "processes and proficiencies" that have longstanding importance in mathematics education. The first of these are the National Council of Teachers of Mathematics (NCTM) process standards of problem-solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up: Helping Children Learn Mathematics*. These proficiencies include adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations, and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently, and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy). Because these practices are an important part of the curriculum, they will be assessed throughout the mathematics *ACAP Summative*. The eight Standards for Mathematical Practice are listed below, but more detail is provided in the Alabama Course of Study for Mathematics.

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

Mathematics Reference Sheets

An online reference sheet is available as a pop-up window in certain grades.

Grade	Conversions	Formulas
2	No	No
3	No	No
4	Yes	Yes
5	Yes	Yes
6	Yes	Yes
7	Yes	Yes
8	Yes	Yes

Item Specifications for Mathematics

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 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 item specifications are based on the 2019 Alabama Course of Study Standards for Mathematics.

Content Area	OA: Operations and Algebraic Thinking
Cluster	Represent and solve problems involving addition and subtraction.
Standard (2019 AL COS)	2.OA.1: Use addition and subtraction within 100 to solve one- and two-step word problems by using drawings and equations with a symbol for the unknown number to represent the problem.
Evidence Statements	The student will use addition and subtraction within 100 to solve one- and two-step word problems by using drawings and equations with a symbol for the unknown number to represent the problem.
Assessment Limits / Content Constraints	Tasks involve sums and minuends less than 100. Unknown may be written as a variable or box. Two-step problems should involve single-digit addends. *Note: Second grade problem types include adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions.*
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a word problem with an unknown, identify and/or use an equation to add or subtract numbers within 100.

Content Area	OA: Operations and Algebraic Thinking
Cluster	Add and subtract within 20.
Standard (2019 AL COS)	2.OA.2a: 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. a. State automatically all sums of two one-digit numbers.
Evidence Statements	The student will 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. The student will state automatically all sums of two one-digit numbers.
Assessment Limits / Content Constraints	Sum and minuend must be within 20. **Note: fluency vs. automaticity.** Fluency involves a mixture of "just knowing" answers, knowing answers from patterns, and knowing answers from the use of strategies. The word *fluently* is used in the standards to mean accurately, efficiently and flexibly. Automaticity of facts becomes evident when a student no longer uses a pattern or mental algorithm to determine the answer.
DOK(s)	1
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	**This standard is not appropriate for large-scale assessment.**

Content Area	OA: Operations and Algebraic Thinking
Cluster	Work with equal groups of objects to gain foundations for multiplication.
Standard (2019 AL COS)	2.OA.3a: Use concrete objects to determine whether a group of up to 20 objects is even or odd. a. Write an equation to express an even number as a sum of two equal addends.
Evidence Statements	The student will use concrete objects to determine whether a group of up to 20 objects is even or odd. The student will write an equation to express an even number as a sum of two equal addends.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a group of objects, in any orientation, determine whether the number of objects is even or odd. Write an equation that shows two equal addends equal an even number.

Content Area	OA: Operations and Algebraic Thinking
Cluster	Work with equal groups of objects to gain foundations for multiplication.
Standard (2019 AL COS)	2.OA.4a: 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.
Evidence Statements	The student will determine the total number of objects in a rectangular array with up to 5 rows and up to 5 columns by using concrete and pictorial representations and repeated addition. The student will 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.
Assessment Limits / Content Constraints	Vocabulary can include “array,” but should not include “column” and “row.”
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a rectangular array, write an addition equation that represents the total number in the array. Given a rectangular array, add to find the total number in the array.

Content Area	OA: Operations and Algebraic Thinking
Cluster	Understand simple patterns.
Standard (2019 AL COS)	2.OA.5: Reproduce, extend, create, and describe patterns and sequences using a variety of materials.
Evidence Statements	The student will reproduce, extend, create, and describe patterns and sequences using a variety of materials.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Understand place value.
Standard (2019 AL COS)	2.NBT.6a: Explain that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. 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).
Evidence Statements	The student will explain that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. The student will 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).
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given 100 objects or the word “hundred,” determine how many groups of ten can be made. Given 10 groups of 10 objects, determine the number of objects, using words and numbers. Given the word form, short word form, standard form, or manipulative representation of a three-digit number (with 0 tens and 0 ones), identify an equivalent but different form of the number.

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Understand place value.
Standard (2019 AL COS)	2.NBT.7: Count within 1000 by ones, fives, tens, and hundreds.
Evidence Statements	The student will count within 1000 by ones, fives, tens, and hundreds.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a number, count backward or forward by ones, fives, tens, or hundreds. Identify the missing number in a sequence that skip-counts by ones, fives, tens, or hundreds.

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Understand place value.
Standard (2019 AL COS)	2.NBT.8: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
Evidence Statements	The student will read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
Assessment Limits / Content Constraints	The vocabulary of the item should match the vocabulary of the standard (e.g., base-ten numerals, number names, and expanded form).
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a number represented in base-ten numerals, word form, or expanded form, represent that number in a different form.

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Understand place value.
Standard (2019 AL COS)	2.NBT.9: 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.”
Evidence Statements	The student will 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.”
Assessment Limits / Content Constraints	Low-difficulty items may include a pictorial representation of the two three-digit numbers.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given two numbers, use the symbols <, =, or > to make a comparison.

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard (2019 AL COS)	2.NBT.10: Fluently add and subtract within 100, using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Evidence Statements	The student will use strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to fluently add and subtract within 100.
Assessment Limits / Content Constraints	Tasks involve sums and minuends within 100. Students are not expected to name, label, or identify the properties of operations. **Note: fluency vs. automaticity.** Fluency involves a mixture of "just knowing" answers, knowing answers from patterns, and knowing answers from the use of strategies. The word *fluently* is used in the standards to mean accurately, efficiently and flexibly. Automaticity of facts becomes evident when a student no longer uses a pattern or mental algorithm to determine the answer.
DOK(s)	1
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard (2019 AL COS)	2.NBT.11: Use a variety of strategies to add up to four two-digit numbers.
Evidence Statements	The student will use a variety of strategies to add up to four two-digit numbers.
Assessment Limits / Content Constraints	Students are not expected to name, label, or identify the properties of operations.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given four two-digit numbers, find the sum.

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard (2019 AL COS)	2.NBT.12a: Add and subtract within 1000 using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. a. Explain that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
Evidence Statements	The student will add and subtract within 1000 using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. relate the strategy to a written method; relate the strategy for adding and subtracting to a written method. The student will explain that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
Assessment Limits / Content Constraints	Tasks use concrete models or drawings unless there is one simple decomposition/composition or no decomposition/composition.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given two numbers, add or subtract, using models or drawings as appropriate.

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard (2019 AL COS)	2.NBT.13: Mentally add and subtract 10 or 100 to a given number between 100 and 900.
Evidence Statements	The student will mentally add and subtract 10 or 100 to a given number between 100 and 900.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	**This standard is not appropriate for large-scale assessment.**

Content Area	NBT: Operations with Numbers: Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard (2019 AL COS)	2.NBT.14: Explain why addition and subtraction strategies work, using place value and the properties of operations. Note: Explanations may be supported by drawings or objects.
Evidence Statements	The student will explain why addition and subtraction strategies work, using place value and the properties of operations.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	

Content Area	DA: Data Analysis
Cluster	Collect and analyze data and interpret results.
Standard (2019 AL COS)	2.DA.15a: Measure lengths of several objects to the nearest whole unit. a. Create a line plot where the horizontal scale is marked off in whole-number units to show the lengths of several measured objects.
Evidence Statements	The student will measure lengths of several objects to the nearest whole unit. The student will create a line plot where the horizontal scale is marked off in whole-number units to show the lengths of several measured objects.
Assessment Limits / Content Constraints	Tasks do not include interpretation or analysis of data. Tasks require no more than 10 items to measure. Objects may need to be rounded to the nearest whole unit.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Measure a group of objects and display the data on a line plot.

Content Area	DA: Data Analysis
Cluster	Collect and analyze data and interpret results.
Standard (2019 AL COS)	2.DA.16a: Create a picture graph and bar graph to represent data with up to four categories. a. Using information presented in a bar graph, solve simple "put-together," "take-apart," and "compare" problems.
Evidence Statements	The student will solve simple "put-together," "take-apart," and "compare" problems by using information presented in a bar graph.
Assessment Limits / Content Constraints	Data must have a context (e.g., science, social science, health). Tasks can have only a scale of 1. Tasks require no more than 10 data points.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given data, create a picture graph or bar graph. Use the information from a picture graph or bar graph to solve simple one-step problems.

Content Area	DA: Data Analysis
Cluster	Collect and analyze data and interpret results.
Standard (2019 AL COS)	2.DA.16b: Create a picture graph and bar graph to represent data with up to four categories. b. Using Venn diagrams, pictographs, and "yes-no" charts, analyze data to predict an outcome.
Evidence Statements	The student will analyze data to predict an outcome by using Venn diagrams, pictographs, and "yes-no" charts.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	

Content Area	M: Measurement
Cluster	Measure and estimate lengths in standard units.
Standard (2019 AL COS)	2.M.17: Measure the length of an object by selecting and using standard units of measurement shown on rulers, yardsticks, meter sticks, or measuring tapes.
Evidence Statements	The student will measure the length of an object by selecting and using standard units of measurement shown on rulers, yardsticks, meter sticks, or measuring tapes.
Assessment Limits / Content Constraints	Tasks should not assess “customary” or “metric.”
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given an object, identify the appropriate tool for measuring its length.

Content Area	M: Measurement
Cluster	Measure and estimate lengths in standard units.
Standard (2019 AL COS)	2.M.18: Measure objects with two different units, and describe how the two measurements relate to each other and the size of the unit chosen.
Evidence Statements	The student will measure objects with two different units, and describe how the two measurements relate to each other and the size of the unit chosen.
Assessment Limits / Content Constraints	Tasks may include nonstandard units of measure.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given an object, measure the object using two different tools and describe why the measurements differ.

Content Area	M: Measurement
Cluster	Measure and estimate lengths in standard units.
Standard (2019 AL COS)	2.M.19: Estimate lengths using the following standard units of measurement: inches, feet, centimeters, and meters.
Evidence Statements	The student will estimate lengths using the following standard units of measurement: inches, feet, centimeters, and meters.
Assessment Limits / Content Constraints	Tasks should not require students to select both the tool and the unit.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given an object, identify its approximate length with an appropriate unit.

Content Area	M: Measurement
Cluster	Measure and estimate lengths in standard units.
Standard (2019 AL COS)	2.M.20: Measure to determine how much longer one object is than another, expressing the length difference of the two objects using standard units of length.
Evidence Statements	The student will measure to determine how much longer one object is than another, expressing the length difference of the two objects using standard units of length.
Assessment Limits / Content Constraints	Tasks must stay within the same unit. Tasks use whole-number lengths. Tasks should not assess “customary” or “metric.”
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given two objects, determine how much longer one object is than the other.

Content Area	M: Measurement
Cluster	Relate addition and subtraction to length.
Standard (2019 AL COS)	2.M.21: 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.
Evidence Statements	The student will 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.
Assessment Limits / Content Constraints	Tasks may include word problems for missing measurement problems (e.g., given the total distance around a triangle and two sides, find the third side). Standard units of distance are limited to inches, feet, centimeters, and meters. Unknowns should be in all positions and may be given by a variable or box.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a word problem involving lengths, use addition and subtraction to find an unknown.

Content Area	M: Measurement
Cluster	Relate addition and subtraction to length.
Standard (2019 AL COS)	2.M.22: Create a number line diagram using whole numbers and use it to represent whole-number sums and differences within 100.
Evidence Statements	The student will create a number line diagram using whole numbers and use it to represent whole-number sums and differences within 100.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a number line, represent whole-number sums or distances. Use a number line to represent whole numbers.

Content Area	M: Measurement
Cluster	Work with time and money.
Standard (2019 AL COS)	2.M.23a: 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.
Evidence Statements	The student will tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. The student will express an understanding of common terms such as, but not limited to, quarter past, half past, and quarter to.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a clock and a scenario, write the time and use a.m. or p.m. appropriately.

Content Area	M: Measurement
Cluster	Work with time and money.
Standard (2019 AL COS)	2.M.24a: Solve problems with money. a. Identify nickels and quarters by name and value.
Evidence Statements	The student will identify nickels and quarters by name and value.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given images of nickels and quarters, identify the name and value.

Content Area	M: Measurement
Cluster	Work with time and money.
Standard (2019 AL COS)	2.M.24b: Solve problems with money. b. Find the value of a collection of quarters, dimes, nickels, and pennies.
Evidence Statements	The student will find the value of a collection of quarters, dimes, nickels, and pennies.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	

Content Area	M: Measurement
Cluster	Work with time and money.
Standard (2019 AL COS)	2.M.24c: Solve problems with money. c. Solve word problems by adding and subtracting within one dollar, using the $ and ¢ symbols appropriately (not including decimal notation). Example: 24¢ + 26¢ = 50¢
Evidence Statements	The student will solve word problems by adding and subtracting within one dollar, using the $ and ¢ symbols appropriately (not including decimal notation).
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	

Content Area	G: Geometry
Cluster	Reason with shapes and their attributes.
Standard (2019 AL COS)	2.G.25a: Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. a. Recognize and draw shapes having specified attributes. Examples: a given number of angles or a given number of equal faces
Evidence Statements	The student will identify triangles, quadrilaterals, pentagons, hexagons, and cubes. The student will recognize and draw shapes having specified attributes.
Assessment Limits / Content Constraints	For two-dimensional shapes, tasks involve naming and describing the defining attributes of circles, triangles, squares, rectangles, rhombuses, and the general category of quadrilaterals. For three-dimensional shapes, a cube is the only shape that may be named formally, but other three-dimensional shapes may be used (e.g., to identify the shape of the face). Tasks involve describing pentagons, hexagons, heptagons, octagons, and other polygons by the number of sides; the formal names of these shapes are not assessed. Tasks involve using length to identify properties of a shape (e.g., a shape with four equal sides is a rhombus). Tasks include recognizing right angles.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Identify shapes with the specified attribute(s).

Content Area	G: Geometry
Cluster	Reason with shapes and their attributes.
Standard (2019 AL COS)	2.G.26: Partition a rectangle into rows and columns of same-size squares, and count to find the total number of squares.
Evidence Statements	The student will partition a rectangle into rows and columns of same-size squares, and count to find the total number of squares.
Assessment Limits / Content Constraints	Tasks may not assess the distinction between rows and columns.
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Count the total number of squares when a rectangle is partitioned into rows and columns of same-size squares.

Content Area	G: Geometry
Cluster	Reason with shapes and their attributes.
Standard (2019 AL COS)	2.G.27a: 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. a. Explain that equal shares of identical wholes need not have the same shape.
Evidence Statements	The student will partition circles and rectangles into two, three, or four equal shares. The student will 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. The student will explain that equal shares of identical wholes need not have the same shape.
Assessment Limits / Content Constraints	
DOK(s)	1, 2, or 3
Calculator	NO – a calculator will not be available for items
Item Type(s)	MC, MS, SA, TE
Context	Allowable
Sample Stem Information (as applicable)	Given a partitioned circle or rectangle, describe the shares. Given two identical wholes partitioned differently but equally, identify the shares as equal.

Appendix A: Sample Items

Sample Items

Appendix A: Sample Items

Sample Item 1

Thomas had 35 toy cars. He later bought 8 toy cars. He then gave 10 toy cars to his brother.

Which equation could Thomas use to find how many toy cars he has left?

(a) 35 – 8 – 10 = ☐

(b) 35 + 8 – 10 = ☐

(c) 35 – 8 + 10 = ☐

(d) 35 + 8 + 10 = ☐

Item Information	
Item Type	Multiple Choice
Page Reference	9
Alignment	2.OA.1
Depth of Knowledge	2
Answer Key	B

Option Annotations

A. The student subtracts the number of cars bought.
B. Correct
C. The student reverses the number of cars bought and the number of cars given away.
D. The student adds the number of cars given away.

Appendix A: Sample Items

Sample Item 2

There is an even number of fish in a group.

Select the **two** equations, with two equal addends, that could represent the number of fish in the group.

(a) 6 + 6 = ☐

(b) 3 + 4 = ☐

(c) 4 + 8 = ☐

(d) 3 + 3 = ☐

(e) 5 + 3 = ☐

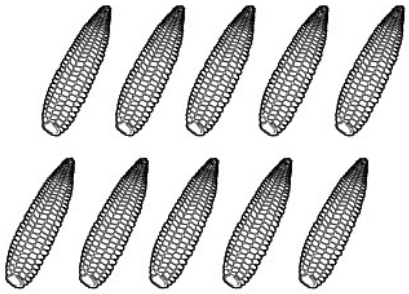
Item Information		Option Annotations
Item Type	Multiple Select	A. Correct B. The student selects addends that are consecutive. C. The student selects even addends. D. Correct E. The student selects odd addends.
Page Reference	11	
Alignment	2.OA.3a	
Depth of Knowledge	2	
Answer Key	A, D	

Appendix A: Sample Items

Sample Item 3

Rashid buys the ears of corn shown.

Rashid's Corn



How many ears of corn does Rashid buy?

(a) 2

(b) 5

(c) 10

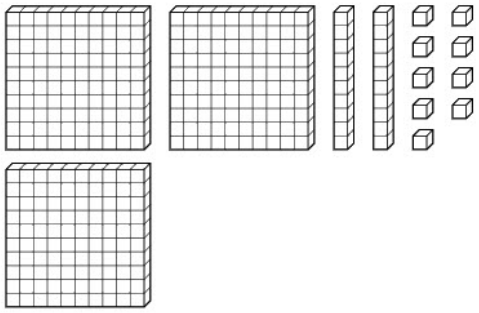
(d) 12

Item Information		Option Annotations
Item Type	Multiple Choice	A. The student counts the number of rows. B. The student counts the number of ears of corn in each row. C. Correct D. The student miscounts the number of ears of corn.
Page Reference	12	
Alignment	2.OA.4	
Depth of Knowledge	1	
Answer Key	C	

Appendix A: Sample Items

Sample Item 4

Some base-ten blocks are shown.



Which number is represented by the base-ten blocks?

(a) 239

(b) 293

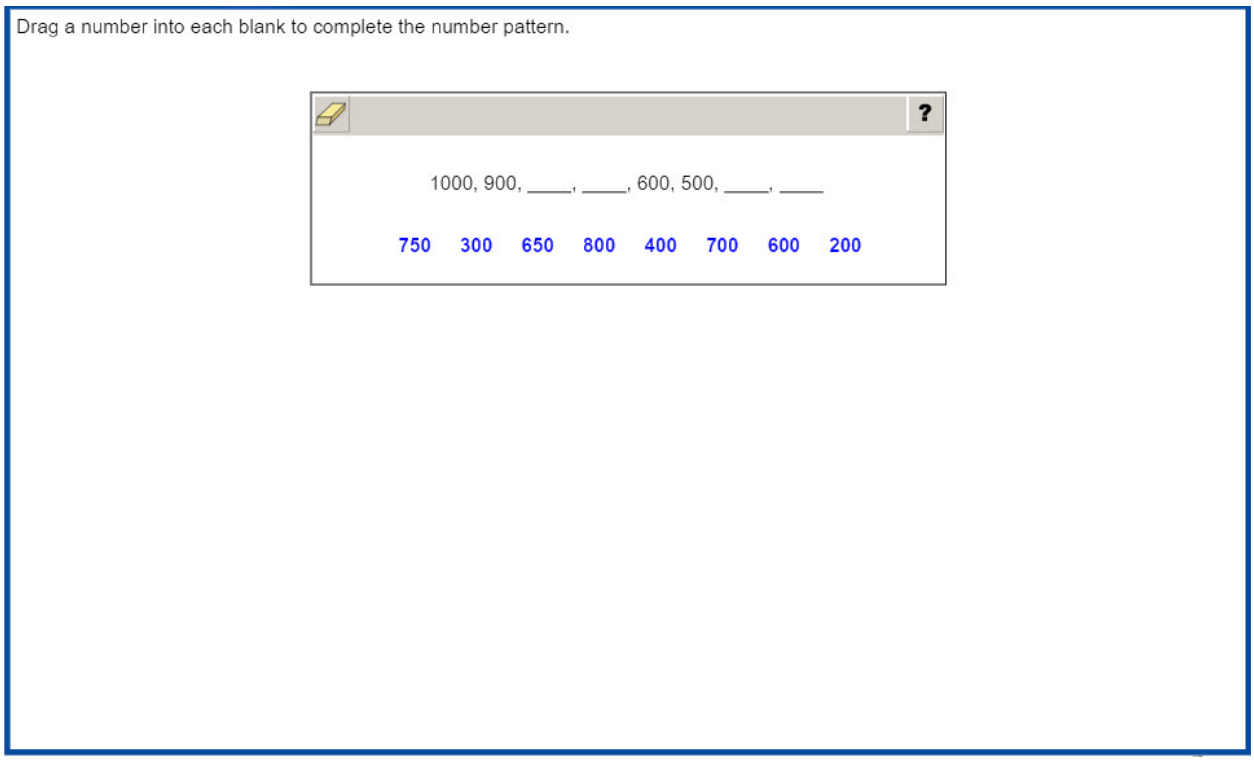
(c) 329

(d) 392

Item Information		Option Annotations
Item Type	Multiple Choice	A. The student counts the tens rods as hundreds and the hundreds flats as tens. B. The student counts the tens rods as hundreds, the ones cubes as tens, and the hundreds flats as ones. C. Correct D. The student counts the ones cubes as tens and the tens rods as ones.
Page Reference	14	
Alignment	2.NBT.6	
Depth of Knowledge	1	
Answer Key	C	

Appendix A: Sample Items

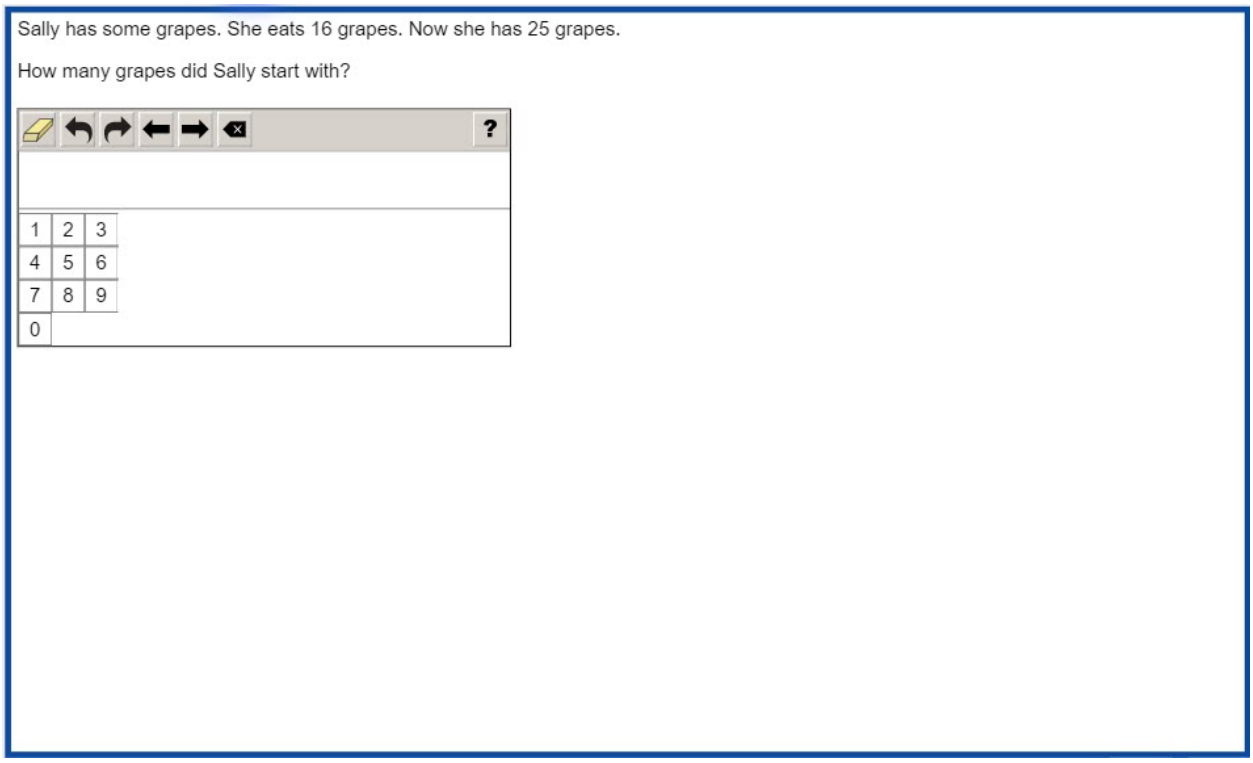
Sample Item 5



Item Information		Answer Key(s) Description
Item Type	Technology Enhanced	1000, 900, 800, 700, 600, 500, 400, 300
Page Reference	15	
Alignment	2.NBT.7	
Depth of Knowledge	2	
Answer Key	(see description)	

Appendix A: Sample Items

Sample Item 6



Item Information		Answer Key(s) Description
Item Type	Short Answer	41 (or equivalent)
Page Reference	18	
Alignment	2.NBT.10	
Depth of Knowledge	2	
Answer Key	(see description)	

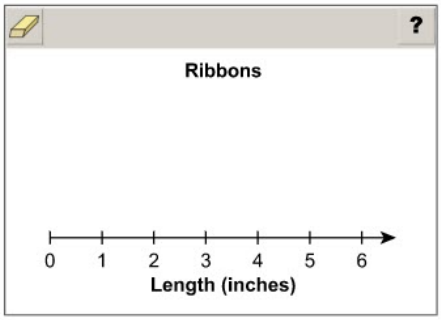
Appendix A: Sample Items

Sample Item 7

Millie measured the lengths of six ribbons to the nearest inch. The length of each ribbon is shown.

- One ribbon has a length of 2 inches.
- Two ribbons each have a length of 3 inches.
- Two ribbons each have a length of 4 inches.
- One ribbon has a length of 5 inches.

Complete the line plot to show the lengths of the six ribbons.



Item Information		Answer Key(s) Description
Item Type	Technology Enhanced	One X above 2 Two Xs above 3 Two Xs above 4 One X above 5
Page Reference	23	
Alignment	2.DA.15a	
Depth of Knowledge	1	
Answer Key	(see description)	

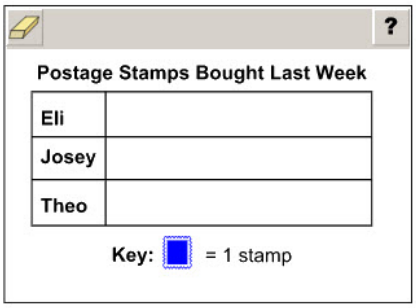
Appendix A: Sample Items

Sample Item 8

Eli, Josey, and Theo each bought postage stamps last week.

- Eli bought 2 stamps last week.
- Josey bought 3 stamps last week.
- Theo bought 1 stamp last week.

Drag stamps into the picture graph to show the number of postage stamps each person bought last week.

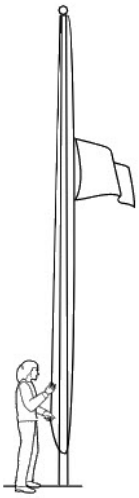


Item Information		Answer Key(s) Description
Item Type	Technology Enhanced	Eli: 2 stamps Josey: 3 stamps Theo: 1 stamp
Page Reference	24	
Alignment	2.DA.16	
Depth of Knowledge	1	
Answer Key	(see description)	

Appendix A: Sample Items

Sample Item 9

Ms. Rush cuts a piece of rope to go from the top to the bottom of the flagpole outside her school.



What is the **best** estimate for the length of the piece of rope?

(a) 2 inches

(b) 2 feet

(c) 20 inches

(d) 20 feet

Item Information	
Item Type	Multiple Choice
Page Reference	28
Alignment	2.M.19
Depth of Knowledge	2
Answer Key	D

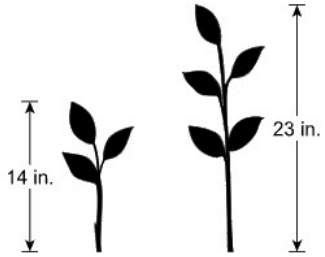
Option Annotations

A. The student selects the incorrect unit and does not pay close attention to place value.
B. The student does not pay close attention to place value.
C. The student selects the incorrect unit.
D. Correct

Appendix A: Sample Items

Sample Item 10

Ty and Grace are growing plants as shown below. Ty's plant is 14 inches tall. Grace's plant is 23 inches tall.



How many inches taller is Grace's plant than Ty's plant?

(a) 9

(b) 11

(c) 19

(d) 37

Item Information		Option Annotations
Item Type	Multiple Choice	A. Correct B. The student subtracts 3 from 4 when subtracting the measurements. C. The student forgets to regroup in the tens place. D. The student adds the measurements.
Page Reference	30	
Alignment	2.M.21	
Depth of Knowledge	2	
Answer Key	A	

Appendix A: Sample Items

Sample Item 11

Some coins are shown.

What is the value, in cents, of the coins?

(a) 50

(b) 66

(c) 71

(d) 80

Item Information		Option Annotations
Item Type	Multiple Choice	A. The student counts each coin as 10 cents. B. Correct C. The student counts the nickel as 10 cents. D. The student counts the nickel and the penny as 10 cents each.
Page Reference	34	
Alignment	2.M.24b	
Depth of Knowledge	1	
Answer Key	B	

Appendix A: Sample Items

Sample Item 12

Select the **two** quadrilaterals.

a 

b 

c 

d 

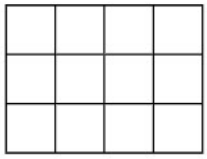
e 

Item Information		Option Annotations
Item Type	Multiple Select	A. The student selects a three-sided figure. B. Correct C. The student selects a six-sided figure. D. The student selects a five-sided figure. E. Correct
Page Reference	36	
Alignment	2.G.25a	
Depth of Knowledge	1	
Answer Key	B, E	

Appendix A: Sample Items

Sample Item 13

The rectangle shown is made up of equal-sized small squares.



How many equal-sized small squares are in the rectangle?

(a) 7

(b) 8

(c) 10

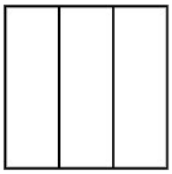
(d) 12

Item Information		Option Annotations
Item Type	Multiple Choice	A. The student adds the length and width. B. The student counts 2 of the 3 rows. C. The student counts the squares on the perimeter only. D. Correct
Page Reference	37	
Alignment	2.G.26	
Depth of Knowledge	1	
Answer Key	D	

Appendix A: Sample Items

Sample Item 14

A rectangle is partitioned into thirds, as shown.



How many thirds are in the rectangle?

Item Information		Answer Key(s) Description
Item Type	Short Answer	3 (or equivalent)
Page Reference	38	
Alignment	2.G.27	
Depth of Knowledge	1	
Answer Key	(see description)	