

DRAFT

Grade 5 Mathematics Item Specifications



The release of the updated *FSA Test Item Specifications* is intended to provide greater specificity for item writers in developing items to be field tested in 2016. The revisions in the specifications will NOT affect the Spring 2015 Florida Standards Assessments. The enhanced explanations, clarifications, and sample items should assist item writers and other stakeholders in understanding the Florida Standards and the various types of test items that can be developed to measure student proficiency in the applicable content areas for 2016 and beyond.

The draft Florida Standards Assessments (FSA) *Test Item Specifications (Specifications)* are based upon the Florida Standards and the Florida Course Descriptions as provided in [CPALMs](#). The *Specifications* are a resource that defines the content and format of the test and test items for item writers and reviewers. Each grade-level and course *Specifications* document indicates the alignment of items with the Florida Standards. It also serves to provide all stakeholders with information about the scope and function of the FSA.

Item Specifications Definitions

Also assesses refers to standard(s) closely related to the primary standard statement.

Clarification statements explain what students are expected to do when responding to the question.

Assessment limits define the range of content knowledge and degree of difficulty that should be assessed in the assessment items for the standard.

Item types describe the characteristics of the question.

Context defines types of stimulus materials that can be used in the assessment items.

- **Context – Allowable** refers to items that may but are not required to have context.
- **Context – No context** refers to items that should not have context.
- **Context – Required** refers to items that must have context.

Technology-Enhanced Item Descriptions:

The Florida Standards Assessments (FSA) are composed of test items that include traditional multiple-choice items, items that require students to type or write a response, and technology-enhanced items (TEI). Technology-enhanced items are computer-delivered items that require students to interact with test content to select, construct, and/or support their answers.

Currently, there are nine types of TEIs that may appear on computer-based assessments for FSA Mathematics. For Grades 3 and 4 assessments, which will be paper-based tests in 2014-2015, and for students with an IEP or 504 plan that specifies a paper-based accommodation, TEIs will be modified or replaced with test items that can be scanned and scored electronically.

For samples of each of the item types described below, see the FSA Training Tests.

Technology-Enhanced Item Types – Mathematics

1. **Editing Task Choice** – The student clicks a highlighted word or phrase, which reveals a drop-down menu containing options for correcting an error as well as the highlighted word or phrase as it is shown in the sentence to indicate that no correction is needed. The student then selects the correct word or phrase from the drop-down menu. For paper-based assessments, the item is modified so that it can be scanned and scored electronically. The student fills in a circle to indicate the correct word or phrase.
2. **Editing Task** – The student clicks on a highlighted word or phrase that may be incorrect, which reveals a text box. The directions in the text box direct the student to replace the highlighted word or phrase with the correct word or phrase. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
3. **Hot Text** –
 - a. **Selectable Hot Text** – Excerpted sentences from the text are presented in this item type. When the student hovers over certain words, phrases, or sentences, the options highlight. This indicates that the text is selectable (“hot”). The student can then click on an option to select it. For paper-based assessments, a “selectable” hot text item is modified so that it can be scanned and scored electronically. In this version, the student fills in a circle to indicate a selection.

- b. **Drag-and-Drop Hot Text** – Certain numbers, words, phrases, or sentences may be designated “draggable” in this item type. When the student hovers over these areas, the text highlights. The student can then click on the option, hold down the mouse button, and drag it to a graphic or other format. For paper-based assessments, drag-and-drop hot text items will be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
4. **Open Response** – The student uses the keyboard to enter a response into a text field. These items can usually be answered in a sentence or two. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
5. **Multiselect** – The student is directed to select all of the correct answers from among a number of options. These items are different from multiple-choice items, which allow the student to select only one correct answer. These items appear in the online and paper-based assessments.
6. **Graphic Response Item Display (GRID)** – The student selects numbers, words, phrases, or images and uses the drag-and-drop feature to place them into a graphic. This item type may also require the student to use the point, line, or arrow tools to create a response on a graph. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
7. **Equation Editor** – The student is presented with a toolbar that includes a variety of mathematical symbols that can be used to create a response. Responses may be in the form of a number, variable, expression, or equation, as appropriate to the test item. For paper-based assessments, this item type may be replaced with a modified version of the item that can be scanned and scored electronically or replaced with another item type that assesses the same standard and can be scanned and scored electronically.
8. **Matching Item** – The student checks a box to indicate if information from a column header matches information from a row. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
9. **Table Item** – The student types numeric values into a given table. The student may complete the entire table or portions of the table depending on what is being asked. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.

Mathematical Practices:

The Mathematical Practices are a part of each course description for Grades 3-8, Algebra 1, Geometry, and Algebra 2. These practices are an important part of the curriculum. The Mathematical Practices will be assessed throughout.

Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

[MAFS.K12.MP.1.1:](#)

Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved.

[MAFS.K12.MP.2.1:](#)

	<p>Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.</p>
<p>MAFS.K12.MP.3.1:</p>	<p>Construct viable arguments and critique the reasoning of others.</p> <p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>
<p>MAFS.K12.MP.4.1:</p>	<p>Model with mathematics.</p> <p>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their</p>

	<p>mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</p>
<p>MAFS.K12.MP.5.1:</p>	<p>Use appropriate tools strategically.</p> <p>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>
<p>MAFS.K12.MP.6.1:</p>	<p>Attend to precision.</p> <p>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>

Look for and make use of structure.

[MAFS.K12.MP.7.1:](#)

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y .

Look for and express regularity in repeated reasoning.

[MAFS.K12.MP.8.1:](#)

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through $(1, 2)$ with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Calculators:

General Designations:

Calculator:

Items only appear on Calculator Sessions.

Calculator Neutral:

Items appear on Calculator and No Calculator Sessions.

No Calculator:

Items only appear on No Calculator Sessions.

Types of Calculators:

Grades 3–6

- No calculator permitted for paper-based or computer-based tests.

Grades 7–8

- Online scientific calculator provided in the CBT platform for Sessions 2 and 3 of the Grades 7 and 8 FSA Mathematics tests.
- Online calculator may be accessed in the FSA Portal for use in the classroom.
- CBT students may request and use a handheld scientific calculator during Sessions 2 and 3. See below for a list of prohibited functionalities for handheld scientific calculators. Calculators that allow these prohibited functionalities may not be used.
- Students with paper-based accommodations must be provided a handheld scientific calculator for Sessions 2 and 3. See below for a list of prohibited functionalities for handheld scientific calculators. Calculators that allow these prohibited functionalities may not be used.

End-of-Course (EOC)

- Online scientific calculator provided in the CBT platform for Session 2 of the Algebra 1, Algebra 2, and Geometry tests.
- Online calculator may be accessed in the FSA Portal for use in the classroom.
- CBT students may request and use a handheld scientific calculator during Session 2. See below for a list of prohibited functionalities for handheld scientific calculators. Calculators that allow these prohibited functionalities may not be used.
- Students with paper-based accommodations must be provided a handheld scientific calculator for Session 2. See below for a list of prohibited functionalities for handheld scientific calculators. Calculators that allow these prohibited functionalities may not be used.

Calculator Functionality:

Students will need access to the following calculator functions:

- π
- x^2
- Square root ($\sqrt{\quad}$)
- x^3 or x^y for Grade 8 and EOCs
- e^x for Algebra 1 and Algebra 2
- Trigonometric functions for Geometry and Algebra 2
- log and/or ln for Algebra 2

Students **may not** use a handheld calculator that has ANY of the following prohibited functionalities:

- CAS (an ability to solve algebraically) or a solver of any kind
- regression capabilities
- a table
- unit conversion other than conversions between degrees and radians (e.g., feet to inches)
- ability to simplify radicals
- graphing capability
- matrices
- a display of more than one line
- text-editing functionality (edit, copy, cut, and paste)
- the ability to perform operations with complex numbers
- the ability to perform prime factorization
- the ability to find gcd or lcm
- wireless or Bluetooth capability or Internet accessibility
- QWERTY keyboard or keypad
- need for an electrical outlet
- calculator peripherals

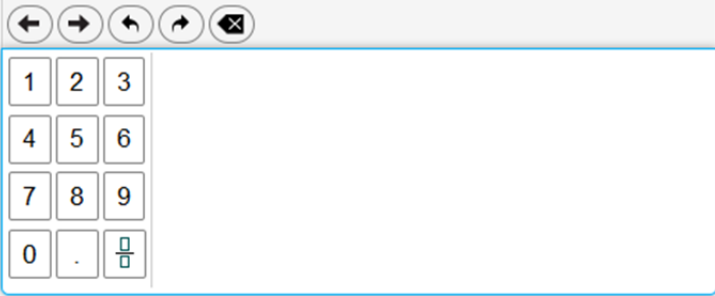
Reference Sheets:

- Reference sheets and z-tables will be available as online references (in a pop-up window). A paper version will be available for paper-based tests.
- Reference sheets with conversions will be provided for FSA Mathematics assessments in Grades 4–8 and EOC Mathematics assessments.
- There is no reference sheet for Grade 3.
- For Grades 4, 6, and 7, Geometry, and Algebra 2, some formulas will be provided on the reference sheet.
- For Grade 5 and Algebra 1, some formulas may be included with the test item if needed to meet the intent of the standard being assessed.
- For Grade 8, no formulas will be provided; however, conversions will be available on a reference sheet.
- For Algebra 2, a z-table will be available.

Grade	Conversions	Some Formulas	z-table
3	No	No	No
4	On Reference Sheet	On Reference Sheet	No
5	On Reference Sheet	With Item	No
6	On Reference Sheet	On Reference Sheet	No
7	On Reference Sheet	On Reference Sheet	No
8	On Reference Sheet	No	No
Algebra 1	On Reference Sheet	With Item	No
Algebra 2	On Reference Sheet	On Reference Sheet	Yes
Geometry	On Reference Sheet	On Reference Sheet	No

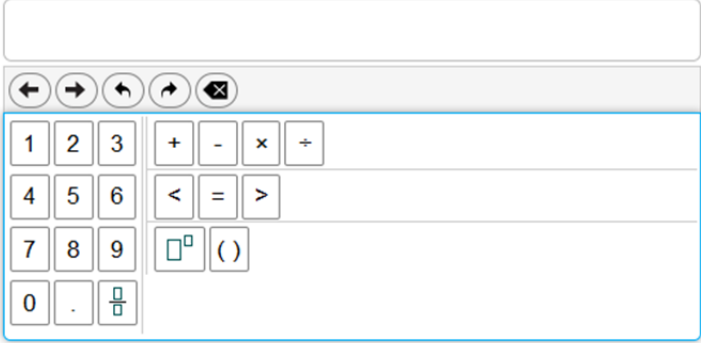
Grade 5 Mathematics Item Specifications
Florida Standards Assessments

Content Standard	<p>MAFS.5.OA Operations and Algebraic Thinking</p> <p>MAFS.5.OA.1 Write and interpret numerical expressions.</p> <p>MAFS.5.OA.1.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p>	
Assessment Limits	<p>Expressions may contain whole numbers and up to one fraction with a denominator of 10 or less.</p> <p>Items may not require division with fractions.</p> <p>Expressions may not be more complex than those used in associative or distributive property situations.</p>	
Calculator	No	
Item Types	<p>Equation Editor</p> <p>GRID</p> <p>Multiple Choice</p> <p>Multiselect</p>	
Context	No context	
Sample Item		Item Type
<p>An expression is shown.</p> $3 + 8 - 4 \times 2 - 12$ <p>Create an equivalent expression that includes a set of parentheses so that the value of the expression is 2.</p>		Equation Editor
<p>What is the value of the expression $\frac{1}{2} \times [4 + 6 \times 3] - 9$?</p>		Equation Editor
<p>A numerical expression is evaluated as shown.</p> $\frac{1}{2} \times \{6 \times 1 + 7\} + 11$ <p>Step 1: $\frac{1}{2} \times \{6 \times 8\} + 11$</p> <p>Step 2: $\frac{1}{2} \times 48 + 11$</p> <p>Step 3: $24 + 11$</p> <p>Step 4: 35</p> <p>In which step does a mistake first appear?</p> <p>A. Step 1</p> <p>B. Step 2</p> <p>C. Step 3</p> <p>D. Step 4</p>		Multiple Choice

Sample Item	Item Type												
<p data-bbox="207 254 922 285">What is the value of the expression $6 \times (4 + 2) + 100$?</p> <div data-bbox="207 325 922 695"><input data-bbox="212 325 922 394" type="text"/> <p>The equation editor interface includes a toolbar with four navigation icons: left arrow, right arrow, undo, and redo, followed by a delete icon. Below the toolbar is a grid of input fields for numbers and symbols. The grid contains the following elements:</p><table border="1" data-bbox="212 453 358 684"><tbody><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>4</td><td>5</td><td>6</td></tr><tr><td>7</td><td>8</td><td>9</td></tr><tr><td>0</td><td>.</td><td>$\frac{\square}{\square}$</td></tr></tbody></table></div>	1	2	3	4	5	6	7	8	9	0	.	$\frac{\square}{\square}$	Equation Editor
1	2	3											
4	5	6											
7	8	9											
0	.	$\frac{\square}{\square}$											

Grade 5 Mathematics Item Specifications
Florida Standards Assessments

Content Standard	<p>MAFS.5.OA Operations and Algebraic Thinking</p> <p>MAFS.5.OA.1 Write and interpret numerical expressions.</p> <p>MAFS.5.OA.1.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</p>	
Assessment Limits	<p>Expressions may contain whole numbers or fractions with a denominator of 10 or less.</p> <p>Expressions may not include nested parentheses.</p> <p>Multiplication cross symbol is the only acceptable symbol for multiplication. The multiplication dot (\bullet) may not be used.</p> <p>When grouping symbols are part of the expression, the associative property or distributive property must be found in the expression.</p>	
Calculator	No	
Item Types	Equation Editor Multiple Choice Open Response	
Context	No context	
Sample Item		Item Type
<p>Which expression could represent the following phrase?</p> <p>Divide 10 by 2, then subtract 3.</p> <p>A. $2 \div 10 - 3$ B. $2 \div (10 - 3)$ C. $10 \div 2 - 3$ D. $10 \div (2 - 3)$</p>		Multiple Choice
<p>Which statement describes the expression $18 + \frac{1}{2} \times (9 - 4)$?</p> <p>A. Half the difference of 4 from 9 added to 18 B. Subtract half the quantity of 9 and 4 from 18 C. The sum of 18 and half the product of 9 and 4 D. Half of 9 added to 18 minus 4</p>		Multiple Choice

Sample Item	Item Type																												
<p>An expression is described in words.</p> <p>"Add 5 and 14, triple the sum, and then add four-fifths."</p> <p>Create the expression using numbers and symbols.</p> <div data-bbox="215 411 911 751"><input type="text"/> <p>The image shows a screenshot of an equation editor interface. At the top is a text input field. Below it is a toolbar with four navigation icons: left arrow, right arrow, undo, and redo, followed by a delete icon. Below the toolbar is a grid of input fields for numbers and operators. The grid is organized as follows:</p><table border="1"><tr><td>1</td><td>2</td><td>3</td><td>+</td><td>-</td><td>×</td><td>÷</td></tr><tr><td>4</td><td>5</td><td>6</td><td><</td><td>=</td><td>></td><td></td></tr><tr><td>7</td><td>8</td><td>9</td><td>\square^{\square}</td><td>()</td><td></td><td></td></tr><tr><td>0</td><td>.</td><td>$\frac{\square}{\square}$</td><td></td><td></td><td></td><td></td></tr></table></div>	1	2	3	+	-	×	÷	4	5	6	<	=	>		7	8	9	\square^{\square}	()			0	.	$\frac{\square}{\square}$					Equation Editor
1	2	3	+	-	×	÷																							
4	5	6	<	=	>																								
7	8	9	\square^{\square}	()																									
0	.	$\frac{\square}{\square}$																											

Content Standard	<p>MAFS.5.OA Operations and Algebraic Thinking</p> <p>MAFS.5.OA.2 Analyze patterns and relationships.</p> <p>MAFS.5.OA.2.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i></p>	
Assessment Limits	<p>Expressions may contain whole numbers or fractions with a denominator of 10 or less.</p> <p>Ordered pairs may only be located within Quadrant I of the coordinate plane.</p> <p>Operations in rules limited to: addition, subtraction, multiplication, and division.</p> <p>Items may not contain rules that exceed two procedural operations.</p> <p>Items must provide the rule.</p> <p>Expressions may not include nested parentheses.</p>	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice Multiselect Open Response Table Item	
Context	Allowable	
Sample Item		Item Type
<p>Michael and John are creating patterns.</p> <ul style="list-style-type: none"> • Michael uses the rule “multiply by 2” and starts at 5. • John uses the rule “add 8” and starts at 16. <p>What is the first number in Michael’s pattern that also appears in John’s pattern?</p>		Equation Editor

Sample Item	Item Type																								
<p>Michael and John are creating patterns. Each pattern starts at 1.</p> <ul style="list-style-type: none"> Michael uses the rule “multiply by 2, then add 3.” John uses the rule “multiply by 2, then add 4.” <p>A. Drag numbers into the table to show the next 2 terms for Michael’s pattern and John’s pattern.</p> <p>B. Use the Add Point tool to plot the ordered pairs that are created from the first three terms of their patterns. Michael's pattern provides the x values and John's pattern provides the y values.</p> <div data-bbox="207 625 980 1192" style="border: 1px solid black; padding: 5px;"> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> 0 1 2 3 4 5 6 7 8 9 </div> <div style="border: 1px solid black; padding: 5px;"> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> Delete Add Point </div> <p>A.</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th style="width: 50%;">Michael’s Pattern</th> <th style="width: 50%;">John’s Pattern</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> <p>B.</p> </div> </div>	Michael’s Pattern	John’s Pattern	1	1					<p>GRID</p>																
Michael’s Pattern	John’s Pattern																								
1	1																								
<p>Michael and John are creating patterns. The first term in each pattern is 1.</p> <ul style="list-style-type: none"> Michael uses the rule “Multiply by 3.” John uses the rule “Add 5.” <p>Complete the table to show the next three numbers in each pattern.</p> <table border="1" style="width: 100%; text-align: center; margin-top: 10px;"> <thead> <tr> <th colspan="2">Michael’s Pattern</th> <th colspan="2">John’s Pattern</th> </tr> <tr> <th>Term</th> <th>Number</th> <th>Term</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td> </td> <td>2</td> <td> </td> </tr> <tr> <td>3</td> <td> </td> <td>3</td> <td> </td> </tr> <tr> <td>4</td> <td> </td> <td>4</td> <td> </td> </tr> </tbody> </table>	Michael’s Pattern		John’s Pattern		Term	Number	Term	Number	1	1	1	1	2		2		3		3		4		4		<p>Table Item</p>
Michael’s Pattern		John’s Pattern																							
Term	Number	Term	Number																						
1	1	1	1																						
2		2																							
3		3																							
4		4																							

Content Standard	<p>MAFS.5.NBT <i>Number and Operations in Base Ten</i></p> <p>MAFS.5.NBT.1 <i>Understand the place value system.</i></p> <p>MAFS.5.NBT.1.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.</p>	
Assessment Limit	Items may require a comparison of the values of digits across multiple place values, including whole numbers and decimals from millions to thousandths.	
Calculator	No	
Item Types	Equation Editor Multiple Choice Multiselect Open Response	
Context	Allowable	
Sample Item		Item Type
What is the missing value in the equation shown?		Equation Editor
$\square \times \frac{1}{10} = 0.034$		
What is the value of the missing number in the following equation?		Multiple Choice
$0.34 \times \square = 3.4$		
A. 10		
B. 100		
C. $\frac{1}{10}$		
D. $\frac{1}{100}$		
How many times greater is the value 0.34 than the value 0.0034?		Equation Editor
Which statements about the values 0.034 and 3.40 are true?		Multiselect
<input type="checkbox"/> 0.034 is $\frac{1}{10}$ of 3.40		
<input type="checkbox"/> 0.034 is $\frac{1}{100}$ of 3.40		
<input type="checkbox"/> 0.034 is 10 times less than 3.40		
<input type="checkbox"/> 0.034 is 100 times more than 3.40		
<input type="checkbox"/> 3.40 is 100 times more than 0.034		

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 Florida Standards Assessments

Content Standard	<p>MAFS.5.NBT <i>Number and Operations in Base Ten</i></p> <p>MAFS.5.NBT.1 <i>Understand the place value system.</i></p> <p>MAFS.5.NBT.1.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p>	
Assessment Limits	<p>Items may contain whole numbers and decimals from millions to thousandths. Items may contain whole number exponents with bases of 10.</p>	
Calculator	<p>No</p>	
Item Types	<p>Equation Editor Multiple Choice Multiselect Open Response</p>	
Context	<p>No context</p>	
Sample Item		Item Type
What is the value of 10^2 ?	<p>A. 10 B. 12 C. 20 D. 100</p>	Multiple Choice
What is 0.523×10^2 ?		Equation Editor
What is the value of the missing exponent in the expression $523 \div 10^{\square} = 52.3$?		Equation Editor
Which statement is equivalent to multiplying a number by 10^3 ?	<p>A. adding 10 three times B. adding 3 ten times C. multiplying by 10 three times D. multiplying by 3 ten times</p>	Multiple Choice
When dividing a number by 10^3 , how is the decimal point moved?	<p>A. 3 places to the right B. 3 places to the left C. 4 places to the right D. 4 places to the left</p>	Multiple Choice

Sample Item	Item Type
Multiselect	
David multiplies and divides original numbers by powers of 10 to create new numbers.	
Original Number	New Number
523	523,000
0.005	5
100	0.001
600	60,000
4.56	4,560
37.9	3,790
Which original numbers were multiplied by 10^3 to create the new numbers?	
<input type="checkbox"/> 523 <input type="checkbox"/> 0.005 <input type="checkbox"/> 100 <input type="checkbox"/> 600 <input type="checkbox"/> 4.56 <input type="checkbox"/> 37.9	

Content Standard	<p>MAFS.5.NBT <i>Number and Operations in Base Ten</i></p> <p>MAFS.5.NBT.1 <i>Understand the place value system.</i></p> <p>MAFS.5.NBT.1.3 Read, write, and compare decimals to thousandths.</p> <p>MAFS.5.NBT.1.3a Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times \left(\frac{1}{10}\right) + 9 \times \left(\frac{1}{100}\right) + 2 \times \left(\frac{1}{1,000}\right)$.</p> <p>MAFS.5.NBT.1.3b Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p>																
Assessment Limit	Items may contain decimals to the thousandths with the greatest place value within 1,000,000.																
Calculator	No																
Item Types	Equation Editor GRID Matching Item Multiple Choice Multiselect																
Context	Allowable																
Sample Item		Item Type															
What is “two hundred sixty-five thousandths” in decimal form? <p>A. 260.005 B. 265.0 C. 0.265 D. 2.65</p>		Multiple Choice															
Select the decimal form for each number name.		Matching Item															
	<table border="1"> <thead> <tr> <th></th> <th>0.650</th> <th>0.605</th> <th>0.065</th> <th>6.050</th> </tr> </thead> <tbody> <tr> <td><i>Sixty-five thousandths</i></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><i>Six hundred five thousandths</i></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		0.650	0.605	0.065	6.050	<i>Sixty-five thousandths</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Six hundred five thousandths</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.650	0.605	0.065	6.050													
<i>Sixty-five thousandths</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
<i>Six hundred five thousandths</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
A number in expanded form is shown.		Equation Editor															
$3 \times 1 + 2 \times \left(\frac{1}{10}\right) + 6 \times \left(\frac{1}{100}\right) + 5 \times \left(\frac{1}{1,000}\right)$ <p>What is the number in decimal form?</p>																	

Grade 5 Mathematics Item Specifications
Florida Standards Assessments

Sample Item	Item Type
<p>Select all the expressions that show 2.059 written in expanded form.</p> <p><input type="checkbox"/> $2 \times 1 + 0 \times \left(\frac{1}{10}\right) + 5 \times \left(\frac{1}{100}\right) + 9 \times \left(\frac{1}{1,000}\right)$</p> <p><input type="checkbox"/> $2 \times 1 + 5 \times \left(\frac{1}{10}\right) + 9 \times \left(\frac{1}{100}\right)$</p> <p><input type="checkbox"/> $2 \times 1 + 0 \times \left(\frac{1}{10}\right) + 59 \times \left(\frac{1}{1,000}\right)$</p> <p><input type="checkbox"/> $20 \times \left(\frac{1}{10}\right) + 59 \times \left(\frac{1}{100}\right)$</p> <p><input type="checkbox"/> $20 \times \left(\frac{1}{10}\right) + 5 \times \left(\frac{1}{100}\right) + 9 \times \left(\frac{1}{1,000}\right)$</p>	Multiselect
<p>Select all the statements that correctly compare the two numbers.</p> <p><input type="checkbox"/> $1.309 > 1.315$</p> <p><input type="checkbox"/> $5.029 > 5.128$</p> <p><input type="checkbox"/> $7.25 > 7.255$</p> <p><input type="checkbox"/> $2.001 < 2.10$</p> <p><input type="checkbox"/> $9.401 > 9.309$</p>	Multiselect

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Content Standard	<p>MAFS.5.NBT <i>Number and Operations in Base Ten</i></p> <p>MAFS.5.NBT.1 <i>Understand the place value system.</i></p> <p>MAFS.5.NBT.1.4 Use place value understanding to round decimals to any place.</p>													
Assessment Limits	<p>Items may contain decimals to the thousandths with the greatest place value within 1,000,000.</p> <p>The least place value a decimal may be rounded to is the hundredths place.</p>													
Calculator	No													
Item Types	<p>Equation Editor</p> <p>Matching Item</p> <p>Multiple Choice</p> <p>Multiselect</p> <p>Table Item</p>													
Context	Allowable													
Sample Item		Item Type												
<p>Select all the numbers that round to 4.3 when rounded to the nearest tenth.</p> <p><input type="checkbox"/> 4.25</p> <p><input type="checkbox"/> 4.24</p> <p><input type="checkbox"/> 4.31</p> <p><input type="checkbox"/> 4.352</p> <p><input type="checkbox"/> 4.219</p> <p><input type="checkbox"/> 4.305</p>		Multiselect												
<p>What is 3.149 rounded to the nearest hundredth?</p>		Equation Editor												
<p>Numbers are rounded to the nearest tenth and hundredth, as shown in the table.</p> <p>Complete the table to show the numbers that could be rounded.</p> <table border="1" data-bbox="203 1360 729 1539"> <thead> <tr> <th>Number</th> <th>Rounded to Nearest Tenth</th> <th>Rounded to Nearest Hundredth</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td>1.5</td> <td>1.55</td> </tr> <tr> <td><input type="text"/></td> <td>3.2</td> <td>3.18</td> </tr> <tr> <td><input type="text"/></td> <td>9.4</td> <td>9.35</td> </tr> </tbody> </table>	Number	Rounded to Nearest Tenth	Rounded to Nearest Hundredth	<input type="text"/>	1.5	1.55	<input type="text"/>	3.2	3.18	<input type="text"/>	9.4	9.35		Table Item
Number	Rounded to Nearest Tenth	Rounded to Nearest Hundredth												
<input type="text"/>	1.5	1.55												
<input type="text"/>	3.2	3.18												
<input type="text"/>	9.4	9.35												

Sample Item	Item Type															
Matching Item																
Select the value of each decimal number when it is rounded to the nearest whole number.																
<table border="1" data-bbox="688 338 878 554"><thead><tr><th></th><th>5</th><th>6</th></tr></thead><tbody><tr><td>5.06</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>5.53</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>5.92</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>5.47</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table>			5	6	5.06	<input type="checkbox"/>	<input type="checkbox"/>	5.53	<input type="checkbox"/>	<input type="checkbox"/>	5.92	<input type="checkbox"/>	<input type="checkbox"/>	5.47	<input type="checkbox"/>	<input type="checkbox"/>
	5	6														
5.06	<input type="checkbox"/>	<input type="checkbox"/>														
5.53	<input type="checkbox"/>	<input type="checkbox"/>														
5.92	<input type="checkbox"/>	<input type="checkbox"/>														
5.47	<input type="checkbox"/>	<input type="checkbox"/>														

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Content Standard	<p>MAFS.5.NBT <i>Number and Operations in Base Ten</i></p> <p>MAFS.5.NBT.2 <i>Perform operations with multi-digit whole numbers and with decimals to hundredths.</i></p> <p>MAFS.5.NBT.2.5 Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	
Assessment Limit	Multiplication may not exceed five digits by two digits.	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice	
Context	Allowable	
Sample Item		Item Type
Multiply:		Equation Editor
$\begin{array}{r} 423 \\ \times 79 \\ \hline \end{array}$		
<p>The product of the following expression is 34,572.</p> $\begin{array}{r} 402 \\ \times \square 6 \\ \hline \end{array}$ <p>What is the missing digit?</p> <p>(A) 0</p> <p>(B) 1</p> <p>(C) 7</p> <p>(D) 8</p>		Multiple Choice

Content Standard	<p>MAFS.5.NBT <i>Number and Operations in Base Ten</i></p> <p>MAFS.5.NBT.2 <i>Perform operations with multi-digit whole numbers and with decimals to hundredths.</i></p> <p>MAFS.5.NBT.2.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p>	
Assessment Limit	Division may not exceed four digits by two digits.	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice Multiselect Open Response	
Context	Allowable	
Sample Item		Item Type
What is the value of the expression?		Equation Editor
$12 \overline{) 432}$		
Select all the expressions that have a value of 34.		Multiselect
<input type="checkbox"/> $340 \div 16$ <input type="checkbox"/> $380 \div 13$ <input type="checkbox"/> $408 \div 12$ <input type="checkbox"/> $510 \div 15$ <input type="checkbox"/> $680 \div 24$		
Which expression could be used to find the quotient of $1,575 \div 21$?		Multiple Choice
<input type="radio"/> Ⓐ $(1,000 \div 21) + (500 \div 21) + (70 \div 21) + (5 \div 21)$ <input type="radio"/> Ⓑ $(1,500 \div 20) + (75 \div 1)$ <input type="radio"/> Ⓒ $(1,575 \div 21) + (575 \div 21) + (75 \div 21) + (5 \div 21)$ <input type="radio"/> Ⓓ $(1,575 \div 20) + (1,575 \div 1)$		

Content Standard	<p>MAFS.5.NBT <i>Number and Operations in Base Ten</i></p> <p>MAFS.5.NBT.2 <i>Perform operations with multi-digit whole numbers and with decimals to hundredths.</i></p> <p>MAFS.5.NBT.2.7 Add, subtract, multiply, and divide decimals to hundredths, 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 and explain the reasoning used.</p>													
Assessment Limits	<p>Items may only use factors that result in decimal solutions to the thousandths place (e.g., multiplying tenths by hundredths). Items may not include multiple different operations within the same expression (e.g., $21 + 0.34 \times 8.55$). Expressions may have up to two procedural steps of the same operation.</p>													
Calculator	No													
Item Types	Equation Editor GRID Multiple Choice Multiselect Open Response													
Context	Allowable													
Sample Item	Item Type													
<p>What is the value of the expression?</p> <p>5.2×10.38</p>	Equation Editor													
<p>An expression is shown.</p> <p>$12.25 + 3.05 + 0.6$</p> <p>What is the value of the expression?</p>	Equation Editor													
<p>Allen ran 5.4 miles on Monday and 3.28 miles on Tuesday.</p> <p>How many miles did Allen run altogether?</p> <div data-bbox="207 1518 940 1866" style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <input style="width: 100%; height: 25px; margin-bottom: 5px;" type="text"/> <div style="border: 1px solid #ccc; padding: 2px; display: flex; align-items: center; gap: 5px;"> ← → ↶ ↷ ✖ </div> <table border="1" style="border-collapse: collapse; text-align: center; width: 100%;"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>.</td><td>$\frac{\square}{\square}$</td></tr> </table> </div>	1	2	3	4	5	6	7	8	9	0	.	$\frac{\square}{\square}$	Equation Editor	
1	2	3												
4	5	6												
7	8	9												
0	.	$\frac{\square}{\square}$												

Content Standard	<p>MAFS.5.NF Numbers and Operations – Fractions</p> <p>MAFS.5.NF.1 Use equivalent fractions as a strategy to add and subtract fractions.</p> <p>MAFS.5.NF.1.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example,</i> $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. <i>(In general,</i> $\frac{a}{b} + \frac{c}{d} = \frac{(ad+bc)}{bd}$<i>.)</i></p>	
Assessment Limits	<p>Fractions greater than 1 and mixed numbers may be included. Expressions may have up to three addends. Least common denominator is not necessary to calculate sums or differences of fractions. Items may not use the terms “simplify” or “lowest terms.” For given fractions in items, denominators are limited to 1-20. Items may require the use of equivalent fractions to find a missing addend or part of an addend.</p>	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice Multiselect	
Context	No context	
Sample Item	Item Type	
<p>What is the value of the expression?</p> $\frac{5}{6} + \frac{8}{12}$ <p>A. $\frac{9}{12}$</p> <p>B. $\frac{13}{18}$</p> <p>C. $\frac{18}{12}$</p> <p>D. $\frac{13}{24}$</p>	Multiple Choice	
<p>What is the value of the expression $6\frac{1}{3} - 4\frac{3}{4}$?</p>	Equation Editor	
<p>What is the missing number in the following equation?</p> $\frac{11}{14} - \frac{\square}{4} = \frac{4}{14}$	Equation Editor	

Sample Item	Item Type											
<p data-bbox="215 239 837 275">What is the missing value in the equation?</p> $2\frac{3}{12} + \frac{3}{\square} = 2\frac{5}{8}$ <div data-bbox="215 409 945 821"><input data-bbox="215 409 945 485" type="text"/> <div data-bbox="215 491 496 541">← → ↶ ↷ ✖</div><table border="1" data-bbox="215 548 380 806"><tbody><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>4</td><td>5</td><td>6</td></tr><tr><td>7</td><td>8</td><td>9</td></tr><tr><td>0</td><td>.</td><td></td></tr></tbody></table></div>	1	2	3	4	5	6	7	8	9	0	.	
1	2	3										
4	5	6										
7	8	9										
0	.											

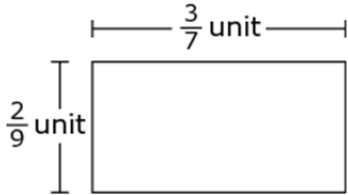
Grade 5 Mathematics Item Specifications
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Content Standard	<p>MAFS.5.NF <i>Number and Operations - Fractions</i></p> <p>MAFS.5.NF.1 <i>Use equivalent fractions as a strategy to add and subtract fractions.</i></p> <p>MAFS.5.NF.1.2 <i>Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$.</i></p>	
Assessment Limits	<p>Fractions greater than 1 and mixed numbers may be included. Expressions may have up to three addends. Least common denominator is not necessary to calculate sums or differences of fractions. Items may not use the terms “simplify” or “lowest terms.” For given fractions in items, denominators are limited to 1-20. Items may require the use of equivalent fractions to find a missing addend or part of an addend.</p>	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice Open Response	
Context	Required	
Sample Item		Item Type
John and Sue are baking cookies. The recipe lists $\frac{3}{4}$ cup of flour. They only have $\frac{3}{8}$ cup of flour left. How many more cups of flour do they need to bake the cookies?		Equation Editor
Javon, Sam, and Antoine are baking cookies. Javon has $\frac{1}{2}$ cup of flour, Sam has $1\frac{1}{6}$ cups of flour, and Antoine has $1\frac{3}{4}$ cups of flour. How many cups of flour do they have altogether?		Equation Editor

Sample Item	Item Type
<p>Richard and Gianni each bought a pizza. The pizzas are the same size.</p> <ul style="list-style-type: none">• Richard cut his pizza into 12 slices.• Gianni cut his pizza into 6 slices, and ate 2 slices.• Together, Richard and Gianni ate $\frac{9}{12}$ of one pizza. <p>How many slices of his pizza did Richard eat?</p> <p>A. 3 B. 5 C. 6 D. 7</p>	Multiple Choice
<p>Jasmine has $\frac{3}{4}$ cup of flour in a mixing bowl.</p> <p>After adding more flour to the mixing bowl, Jasmine says that she now has $\frac{5}{8}$ cup of flour.</p> <p>Which phrase explains why Jasmine’s statement is incorrect?</p> <p>Ⓐ 5 is not a multiple of 3 Ⓑ 3 is less than 5 Ⓒ $\frac{5}{8}$ is less than $\frac{3}{4}$ Ⓓ $\frac{5}{8}$ is not a multiple of $\frac{3}{4}$</p>	Multiple Choice

Content Standard	<p>MAFS.5.NF <i>Numbers and Operations – Fractions</i></p> <p>MAFS.5.NF.2 <i>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</i></p> <p>MAFS.5.NF.2.3 Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b} = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $\frac{3}{4}$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p>	
Assessment Limits	<p>Quotients in division items may not be equivalent to a whole number. Items may contain fractions greater than 1. Items may not use the terms “simplify” or “lowest terms.” Only use whole numbers for the divisor and dividend of a fraction. For given fractions in items, denominators are limited to 1-20.</p>	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice Open Response Table Item	
Context	Allowable	
Sample Item		Item Type
<p>Which expression is equivalent to $\frac{8}{15}$?</p> <p>A. $8 - 15$ B. $15 - 8$ C. $8 \div 15$ D. $15 \div 8$</p>		Multiple Choice
<p>Joe has a board that is 6 feet long. He needs to cut the board into 15 equal-length pieces.</p> <p>How many feet long should each piece of the board be?</p>		Equation Editor
<p>Enter the two consecutive whole numbers that the quotient for $78 \div 14$ is between.</p> <p>Between <input type="text"/> and <input type="text"/></p>		Table Item

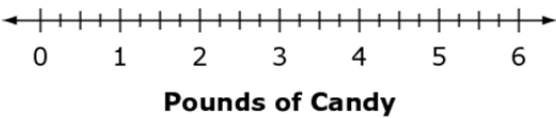
Content Standard	<p>MAFS.5.NF <i>Number and Operations – Fractions</i></p> <p>MAFS.5.NF.2 <i>Apply and extend previous understanding of multiplication and division to multiply and divide fractions.</i></p> <p>MAFS.5.NF.2.4 <i>Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</i></p> <p>MAFS.5.NF.2.4a <i>Interpret the product $\left(\frac{a}{b}\right) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $\left(\frac{2}{3}\right) \times 4 = \frac{8}{3}$, and create a story context for this equation. Do the same with $\left(\frac{2}{3}\right) \times \left(\frac{4}{5}\right) = \frac{8}{15}$. (In general, $\left(\frac{a}{b}\right) \times \left(\frac{c}{d}\right) = \frac{ac}{bd}$).</i></p> <p>MAFS.5.NF.2.4b <i>Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</i></p> <p>Also Assesses:</p> <p>MAFS.5.NF.2.6 <i>Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</i></p>
Assessment Limits	<p>Items may require multiplying whole numbers by fractions or fractions by fractions.</p> <p>Visual models may include:</p> <ul style="list-style-type: none"> • Any appropriate fraction model (e.g., circles, tape, polygons, etc.) • Rectangle models tiled with unit squares <p>For tiling, the dimensions of the tile must be unit fractions with the same denominator as the given rectangular shape.</p> <p>Items may not use the terms “simplify” or “lowest terms.”</p> <p>Items may require students to interpret the context to determine operations.</p> <p>Fractions may be greater than 1.</p> <p>For given fractions in items, denominators are limited to 1-20.</p>
Calculator	No
Item Types	Equation Editor GRID Multiple Choice Multiselect
Context	Allowable for MAFS.5.NF.2.4; Required for MAFS.5.NF.2.6

Sample Item	Item Type
<p>Which expression is equivalent to $\frac{3}{8} \times \frac{4}{9}$?</p> <p>A. $\frac{12}{72}$</p> <p>B. $\frac{7}{17}$</p> <p>C. $\frac{12}{17}$</p> <p>D. $\frac{7}{72}$</p>	Multiple Choice
<p>Roger has $2\frac{3}{4}$ gallons of water in a jug. He pours $\frac{5}{8}$ of the water into a new container.</p> <p>How many gallons of water does Roger have left in the jug?</p>	Equation Editor
<p>Courtney has 4 gallons of milk. She uses $\frac{1}{2}$ of the milk to make hot chocolate.</p> <p>Then, she uses $\frac{2}{3}$ of the remaining milk to make cookies.</p> <p>How many gallons of milk does Courtney have left after making hot chocolate and cookies?</p>	Equation Editor
<p>What is the area, in square units, of the rectangle?</p>  <p>The diagram shows a rectangle with a width of $\frac{3}{7}$ unit and a height of $\frac{2}{9}$ unit.</p> <div data-bbox="212 1434 854 1787"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div>	Equation Editor

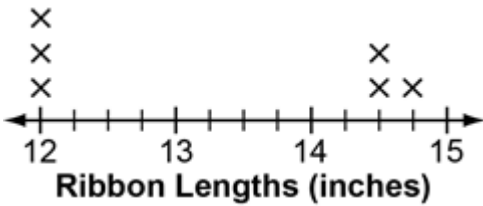
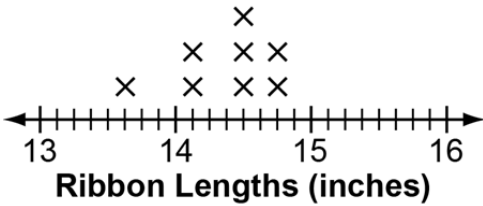
Content Standard	<p>MAFS.5.NF <i>Number and Operations — Fractions</i></p> <p>MAFS.5.NF.2 <i>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</i></p> <p>MAFS.5.NF.2.5 Interpret multiplication as scaling (resizing), by:</p> <p>MAFS.5.NF.2.5a Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</p> <p>MAFS.5.NF.2.5b Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{(n \times a)}{(n \times b)}$ to the effect of multiplying $\frac{a}{b}$ by 1.</p>	
Assessment Limits	<p>For given fractions in items, denominators are limited to 1-20. Non-fraction factors in items must be greater than 1,000. Scaling geometric figures may not be assessed at this standard. Scaling quantities of any kind in two dimensions is beyond the scope of this standard.</p>	
Calculator	No	
Item Types	<p>Multiple Choice Multiselect Open Response</p>	
Context	Allowable	
Sample Item	Item Type	
<p>Two newspapers are comparing sales from last year.</p> <ul style="list-style-type: none"> • The Post sold 34,859 copies. • The Tribune sold $34,859 \times \frac{1}{2}$ copies. <p>Which statement compares the numbers of newspapers sold?</p> <p>A. The Post sold half the number of newspapers that the Tribune sold. B. The Tribune sold half the number of newspapers that the Post sold. C. The Tribune sold twice the number of newspapers that the Post sold. D. The Post sold the same number of newspapers that the Tribune sold.</p>	Multiple Choice	

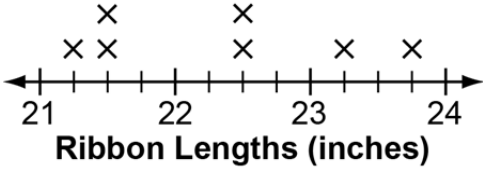
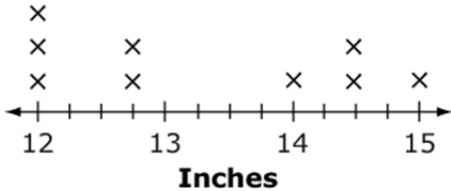
Sample Item	Item Type
<p>Two newspapers are comparing sales from last year.</p> <ul style="list-style-type: none">• The Post sold 34,859 copies.• The Tribune sold one-and-a-half times as many copies as the Post. <p>Which expression describes the number of newspapers the Tribune sold?</p> <p>A. $34,859 \times 1\frac{1}{2}$</p> <p>B. $34,859 \div 1\frac{1}{2}$</p> <p>C. $34,859 \times \frac{1}{2}$</p> <p>D. $34,859 \div \frac{1}{2}$</p>	Multiple Choice
<p>Select all the expressions that have a value greater than 1,653.</p> <p><input type="checkbox"/> $1,653 \times \frac{1}{4}$</p> <p><input type="checkbox"/> $1,653 \times 4$</p> <p><input type="checkbox"/> $1,653 \times 12$</p> <p><input type="checkbox"/> $1,653 \times \frac{1}{4}$</p> <p><input type="checkbox"/> $1,653 \times 1\frac{1}{2}$</p>	Multiselect
<p>Select all the numbers that Logan could multiply by 54,216 to get a product less than 54,216.</p> <p><input type="checkbox"/> $\frac{7}{12}$</p> <p><input type="checkbox"/> $\frac{4}{4}$</p> <p><input type="checkbox"/> $1\frac{1}{5}$</p> <p><input type="checkbox"/> $\frac{2}{9}$</p> <p><input type="checkbox"/> 3</p> <p><input type="checkbox"/> $\frac{8}{5}$</p>	Multiselect

Content Standard	<p>MAFS.5.NF <i>Number and Operations – Fractions</i></p> <p>MAFS.5.NF.2 <i>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</i></p> <p>MAFS.5.NF.2.7 <i>Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</i></p> <p>MAFS.5.NF.2.7a <i>Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $\left(\frac{1}{3}\right) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $\left(\frac{1}{3}\right) \div 4 = \frac{1}{12}$ because $\left(\frac{1}{12}\right) \times 4 = \frac{1}{3}$.</i></p> <p>MAFS.5.NF.2.7b <i>Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div \left(\frac{1}{5}\right)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div \left(\frac{1}{5}\right) = 20$ because $20 \times \left(\frac{1}{5}\right) = 4$.</i></p> <p>MAFS.5.NF.2.7c <i>Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb. of chocolate equally? How many $\frac{1}{3}$ cup servings are in 2 cups of raisins?</i></p>	
Assessment Limit	For given fractions in items, denominators are limited to 1-20.	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice Multiselect Open Response	
Context	Allowable	
Sample Item	Item Type	
<p>An expression is shown.</p> <p>$\frac{1}{7} \div 12$</p> <p>What is the value of the expression?</p>	Equation Editor	

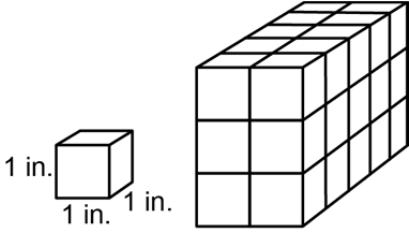
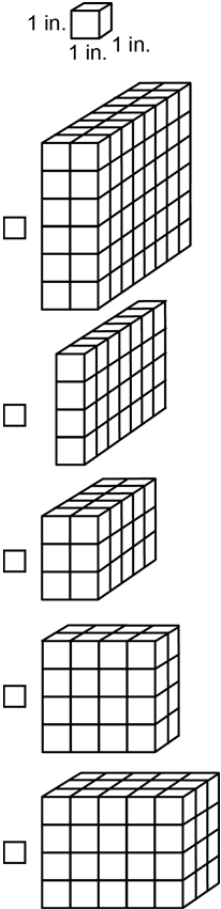
Sample Item	Item Type
<p>Julio has 8 pounds of candy. He wants to put the candy into bags so that each bag has $\frac{1}{2}$ pound.</p> <p>Which equation shows how to calculate the number of bags of candy Julio can make?</p> <p>A. $16 \times \frac{1}{2} = 8$ B. $16 \times 2 = 32$ C. $16 \times 8 = \frac{1}{2}$ D. $16 \times 8 = 128$</p>	Multiple Choice
<p>Julio has 12 pounds of candy. He wants to put the candy into bags so that each bag has $\frac{1}{6}$ pound of candy.</p> <p>How many bags of candy can Julio make?</p>	Equation Editor
GRID	
<p>Julio has 6 pounds of candy. He wants to put the candy into bags so that each bag has $\frac{1}{2}$ pound of candy.</p> <p>A. Click on the number line to create sections that model how Julio can put all the candy evenly into bags.</p> <p>B. Click on the total number of bags that Julio can make.</p>	<div style="border: 1px solid black; padding: 10px;"> <p>A.</p>  <p style="text-align: center;">Pounds of Candy</p> <hr style="border: 1px solid blue;"/> <p>B.</p> <p style="text-align: center;">Number of bags Julio can make:</p> <p style="text-align: center;">A. 2 bags B. 3 bags C. 6 bags D. 12 bags</p> </div>

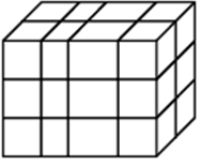
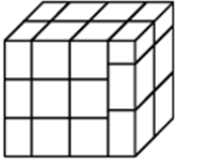
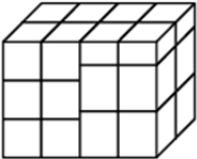
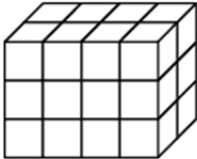
Content Standard	<p>MAFS.5.MD Measurement and Data</p> <p>MAFS.5.MD.1 Convert like measurement units within a given measurement system.</p> <p>MAFS.5.MD.1.1 Convert among different-sized standard measurement units (i.e., km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec) within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems.</p>													
Assessment Limits	<p>Measurement values may be whole, decimal, or fractional values. Conversion is within the same system. Acceptable units are limited to those given in standard.</p>													
Calculator	No													
Item Types	<p>Equation Editor Multiple Choice Multiselect Table Item</p>													
Context	Allowable													
Sample Item		Item Type												
Michael is measuring fabric for the costumes of a school play. He needs 11.5 meters of fabric. He has 28.5 centimeters of fabric. How many more centimeters of fabric does he need?		Equation Editor												
Equation Editor														
<p>Michael is measuring fabric for the costumes of a school play. He needs 47 feet of fabric. He has $12\frac{1}{3}$ yards of fabric.</p> <p>How many more yards of fabric does he need?</p>														
<div style="border: 1px solid #ccc; padding: 5px;"> <input style="width: 100%; height: 25px; margin-bottom: 5px;" type="text"/> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;"> ← → ↶ ↷ ✖ </div> <table border="1" style="border-collapse: collapse; text-align: center; width: 100px;"> <tr><td style="width: 25px; height: 25px;">1</td><td style="width: 25px; height: 25px;">2</td><td style="width: 25px; height: 25px;">3</td></tr> <tr><td style="width: 25px; height: 25px;">4</td><td style="width: 25px; height: 25px;">5</td><td style="width: 25px; height: 25px;">6</td></tr> <tr><td style="width: 25px; height: 25px;">7</td><td style="width: 25px; height: 25px;">8</td><td style="width: 25px; height: 25px;">9</td></tr> <tr><td style="width: 25px; height: 25px;">0</td><td style="width: 25px; height: 25px;">.</td><td style="width: 25px; height: 25px;">$\frac{\square}{\square}$</td></tr> </table> </div>			1	2	3	4	5	6	7	8	9	0	.	$\frac{\square}{\square}$
1	2	3												
4	5	6												
7	8	9												
0	.	$\frac{\square}{\square}$												

Content Standard	<p>MAFS.5.MD Measurement and Data</p> <p>MAFS.5.MD.2 Represent and interpret data.</p> <p>MAFS.5.MD.2.2 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i></p>	
Assessment Limit	Items requiring operations on fractions must adhere to the Assessment Limits for that operation’s corresponding standard.	
Calculator	No	
Item Types	Equation Editor GRID Multiple Choice Table Item	
Context	Allowable	
Sample Item	Item Type	
<p>A line plot with Kelly’s lengths of ribbons is shown.</p>  <p>Ribbon Lengths (inches)</p> <p>What is the total length, in inches, of the longest piece and shortest piece of ribbon?</p>	Equation Editor	
<p>A line plot with Kelly’s lengths of ribbons is shown. She adds another ribbon so that the difference between the longest ribbon and shortest ribbon is $1\frac{1}{8}$ inches.</p>  <p>Ribbon Lengths (inches)</p> <p>What length of ribbon, in inches, could Kelly have added?</p>	Equation Editor	

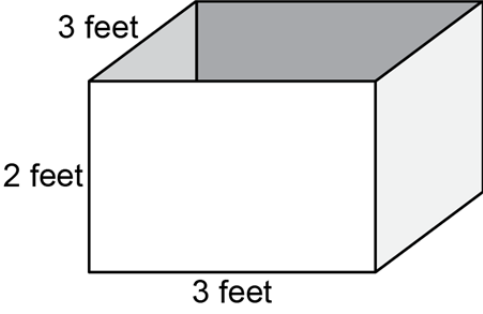
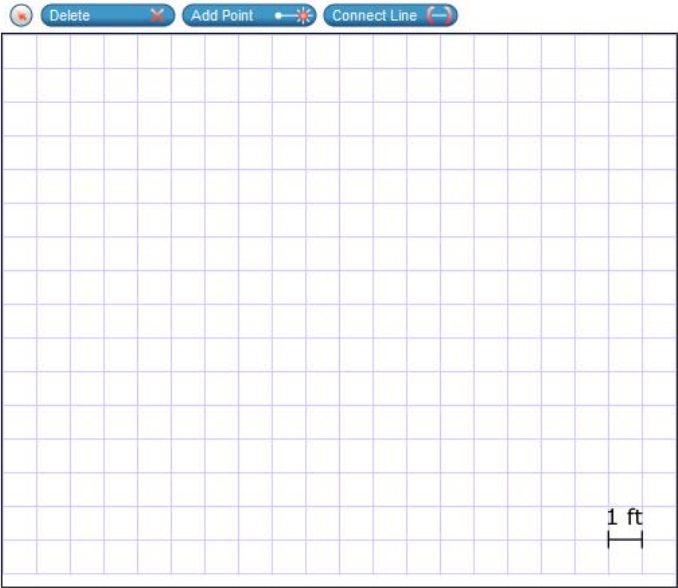
Sample Item	Item Type
<p>A line plot with Kelly's ribbon lengths is shown. She adds two more ribbons so that the total length of ribbon is 200 inches.</p>  <p>Ribbon Lengths (inches)</p> <p>What are two possible lengths of ribbon, in inches, that Kelly could have added?</p>	<p>Equation Editor</p>
<p style="text-align: right;">Multiple Choice</p> <p>Kelly has nine pieces of ribbon. She recorded the length of each piece in the line plot shown.</p>  <p>Ribbon Lengths</p> <p>Inches</p> <p>What is the total length of the three longest pieces of ribbon?</p> <p>Ⓐ 43 inches</p> <p>Ⓑ $43\frac{1}{2}$ inches</p> <p>Ⓒ 44 inches</p> <p>Ⓓ $44\frac{1}{4}$ inches</p>	

Content Standard	<p>MAFS.5.MD Measurement and Data</p> <p>MAFS.5.MD.3 Geometric measurement: understand concepts of volume and relate volume to multiplication and division.</p> <p>MAFS.5.MD.3.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <p>MAFS.5.MD.3.3a A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.</p> <p>MAFS.5.MD.3.3b A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.</p> <p>Also Assesses:</p> <p>MAFS.5.MD.3.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p>	
Assessment Limits	<p>Items may contain right rectangular prisms with whole-number side lengths. Graphics must include unit cube. Labels may include cubic units (i.e. cubic centimeters, cubic feet, etc.) or exponential units (i.e., cm^3, ft^3, etc.). Items requiring measurement of volume by counting unit cubes must provide a key of the cubic unit.</p>	
Calculator	No	
Item Types	<p>Equation Editor Matching Item Multiple Choice Multiselect</p>	
Context	Allowable	
Sample Item		Item Type
<p>Ellen is shopping for boxes. Which measurement should she use to determine the amount the box will hold?</p> <p>A. Area B. Perimeter C. Length D. Volume</p>		Multiple Choice

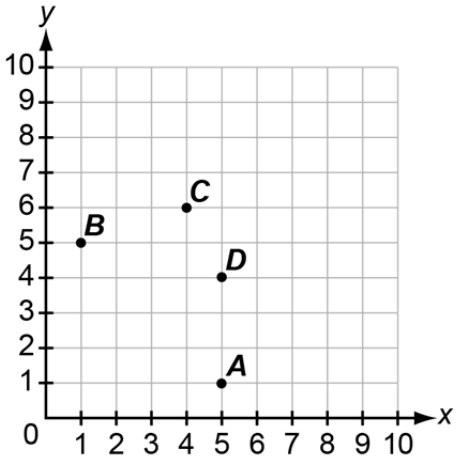
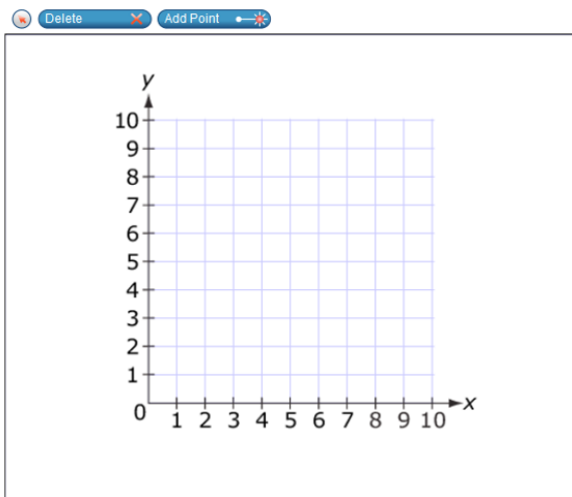
Sample Item	Item Type
<p>A rectangular prism is shown.</p>  <p>What is the volume, in cubic inches (in.), of the rectangular prism?</p>	Equation Editor
<p>Which prisms have a volume between 20 and 40 cubic units?</p> 	Multiselect

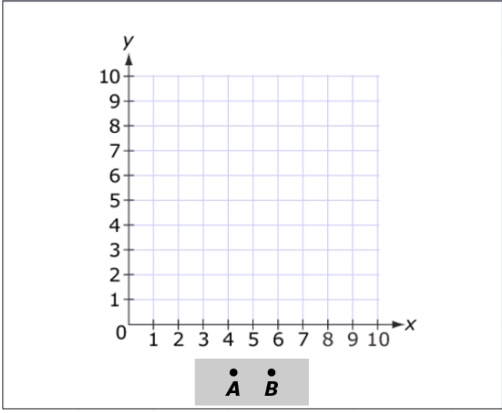
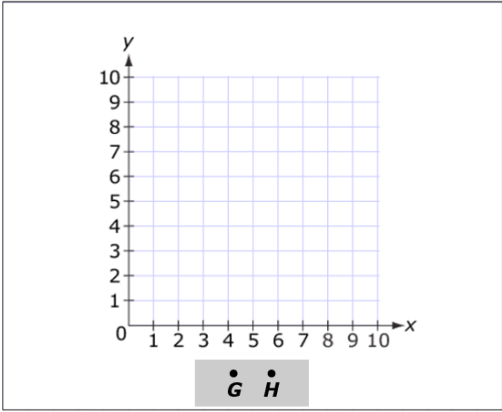
Sample Item	Item Type
Multiple Choice	
For which solid object can the volume be found only by counting the number of cubes?	
<p>(A) </p>	<p>(C) </p>
<p>(B) </p>	<p>(D) </p>

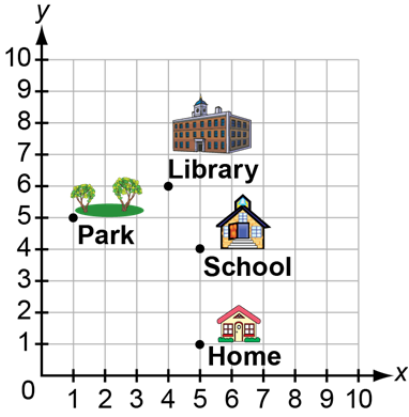
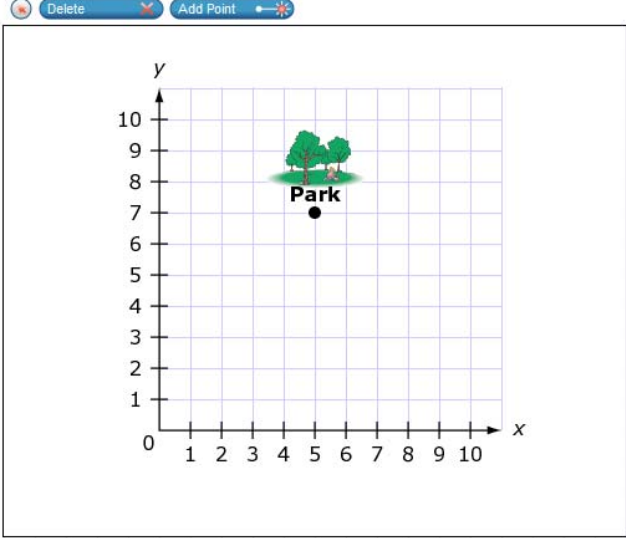
Content Standard	<p>MAFS.5.MD: Measurement and Data</p> <p>MAFS.5.MD.3 <i>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</i></p> <p>MAFS.5.MD.3.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>MAFS.5.MD.3.5a Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.</p> <p>MAFS.5.MD.3.5b Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.</p> <p>MAFS.5.MD.3.5c Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.</p>
Assessment Limits	<p>Items may not contain fraction or decimal dimensions or volumes.</p> <p>Items may contain no more than two non-overlapping prisms – non-overlapping means that two prisms may share a face, but they do not share the same volume.</p> <p>Items assessing MAFS.5.MD.3.5b may not contain the use or graphic of unit cubes.</p> <p>Items assessing MAFS.5.MD.3.5c must contain a graphic of the figures.</p>
Calculator	No
Item Types	<p>Equation Editor GRID Matching Item Multiple Choice Multiselect</p>
Context	Allowable

Sample Item	Item Type
<p>A shipping box in the shape of a rectangular prism has the dimensions shown.</p>  <p>What is the volume, in cubic feet, of the box?</p>	Equation Editor
<p>Select all the options that could be the dimensions of a rectangular prism with a volume of 384 cubic feet (ft).</p> <ul style="list-style-type: none"> <input type="checkbox"/> length: 6 ft, width: 8 ft, height: 8 ft <input type="checkbox"/> length: 4 ft, width: 12 ft, height: 24 ft <input type="checkbox"/> length: 4 ft, width: 6 ft, height: 16 ft <input type="checkbox"/> length: 4 ft, width: 8 ft, height: 12 ft <input type="checkbox"/> length: 3 ft, width: 10 ft, height: 20 ft 	Multiselect
<p>A shipping box in the shape of a rectangular prism has a height of 6 feet (ft) and a volume of 96 ft³.</p> <p>Use the Connect Line tool to draw a possible base for the box.</p>	<p style="text-align: right;">GRID</p> 

Content Standard	<p>MAFS.5.G Geometry</p> <p>MAFS.5.G.1 Graph points on the coordinate plane to solve real-world and mathematical problems.</p> <p>MAFS.5.G.1.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p> <p>Also Assesses:</p> <p>MAFS.5.G.1.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</p>
Assessment Limits	<p>Items assessing MAFS.5.G.1.1 may not require directions between two given points. Points must rely on the origin.</p> <p>Items assessing MAFS.5.G.1.1 may require identifying the point (e.g., <i>Point A</i>) on a coordinate grid that represents a given ordered pair.</p> <p>Items assessing MAFS.5.G.1.1 may require determining the ordered pair that represents a given point on the coordinate plane.</p> <p>Items assessing MAFS.5.G.1.1 may not require graphing/plotting a point given an ordered pair.</p> <p>Points may only contain positive, whole number ordered pairs.</p> <p>Mathematical and real-world problems must have axes scaled to whole numbers (not letters).</p>
Calculator	No
Item Types	GRID Matching Multiple Choice Multiselect Open Response
Context	No context for MAFS 5.G.1.1; Allowable for MAFS.5.G.1.2
Sample Item	Item Type
<p>Point Z is 3 units away from the origin on the x-axis.</p> <p>What could be the coordinates of point Z?</p> <p>A. (0, 3) B. (3, 0) C. (3, 3) D. (3, 6)</p>	Multiple Choice



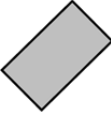
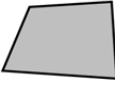
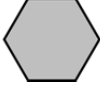
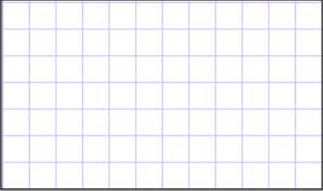
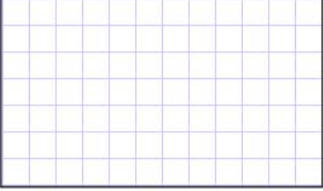
Sample Item	Item Type
<p>Point M is 3 units away from the origin along the x-axis, and 5 units away along the y-axis.</p> <p>What could be the coordinates of point M?</p> <p>A. (3, 5) B. (5, 3) C. (3, 8) D. (5, 8)</p>	Multiple Choice
<p>Which point is located at (5, 1) on the coordinate grid?</p>  <p>A. Point A B. Point B C. Point C D. Point D</p>	Multiple Choice
<p>Use the Add Point tool to plot the point (3, 4).</p> 	GRID

Sample Item	Item Type
<p data-bbox="201 237 1084 268">Point A has the coordinates $(3, 5)$. Point B is located 5 units above point A.</p> <p data-bbox="201 306 1008 338">Drag points A and B to show their locations in the coordinate plane.</p>  <p>The image shows a coordinate plane with a grid. The x-axis and y-axis both range from 0 to 10, with major grid lines every 1 unit. Below the grid, there is a grey rectangular box containing two small black dots. The dot on the left is labeled 'A' and the dot on the right is labeled 'B'.</p>	GRID
<p data-bbox="201 821 974 852">Point G is located 5 units below and 4 units to the left of point H.</p> <p data-bbox="201 890 1013 921">Drag points G and H to show their locations in the coordinate plane.</p>  <p>The image shows a coordinate plane with a grid. The x-axis and y-axis both range from 0 to 10, with major grid lines every 1 unit. Below the grid, there is a grey rectangular box containing two small black dots. The dot on the left is labeled 'G' and the dot on the right is labeled 'H'.</p>	GRID

Sample Item	Item Type
<p>Some locations in Lamar’s town are shown in the coordinate plane.</p>  <p>Lamar moved from one location to another by traveling 1 unit left and 5 units up. Which ways could he have traveled?</p> <p>A. from home to the park B. from the park to the library C. from home to the library D. from school to the park</p>	<p>Multiple Choice</p>
<p>In the ordered pair (0, 4), what does the 4 represent in terms of its location on the coordinate plane? Type your answer in the space provided.</p> <div style="border: 1px solid gray; height: 80px; width: 100%;"></div>	<p>Open Response</p>
<p>The location of a park is shown on the coordinate plane.</p> <p>Dan left his house, went 2 units up and 3 units right, and arrived at the park.</p> <p>Use the Add Point tool to plot a point that shows the location of Dan’s house.</p>	<p style="text-align: right;">GRID</p> 

Grade 5 Mathematics Item Specifications
Florida Standards Assessments

Content Standard	<p>MAFS.5.G Geometry</p> <p>MAFS.5.G.2 Classify two-dimensional figures into categories based on their properties.</p> <p>MAFS.5.G.2.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</i></p> <p>Also Assesses:</p> <p>MAFS.5.G.2.4 Classify and organize two-dimensional figures into Venn diagrams based on the attributes of the figures.</p>	
Assessment Limit	Attributes of figures may be stated verbally or presented within given graphics.	
Calculator	No	
Item Types	GRID Matching Item Multiple Choice Multiselect Open Response	
Context	No context	
Sample Item		Item Type
Which type of parallelogram could have four equal-length sides?	A. Kite B. Rectangle C. Rhombus D. Triangle	Multiple Choice
Select all the properties that both rectangles and parallelograms share.	<input type="checkbox"/> 4 right angles <input type="checkbox"/> 4 sides of equal length <input type="checkbox"/> 2 pairs of parallel sides <input type="checkbox"/> 2 pairs of sides with equal length <input type="checkbox"/> 2 acute angles and 2 obtuse angles	Multiselect
Which kinds of shapes are always rectangles?	A. Parallelograms B. Quadrilaterals C. Rhombuses D. Squares	Multiple Choice

Sample Item	Item Type
<p>Select all the shapes that are also always parallelograms.</p> <p><input type="checkbox"/> </p> <p><input type="checkbox"/> </p> <p><input type="checkbox"/> </p> <p><input type="checkbox"/> </p> <p><input type="checkbox"/> </p>	Multiselect
<p>Select all the names of figures that could also be classified as a rhombus.</p> <p><input type="checkbox"/> Parallelogram</p> <p><input type="checkbox"/> Square</p> <p><input type="checkbox"/> Rectangle</p> <p><input type="checkbox"/> Quadrilateral</p> <p><input type="checkbox"/> Triangle</p>	Multiselect
<p>Two descriptions are given.</p> <ul style="list-style-type: none"> • If the shape cannot be drawn, select "Cannot be drawn." • If the shape can be drawn, use the Connect Line tool to draw an example of the shape. 	<p style="text-align: right;">GRID</p> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Rectangle that is not a square</p> <p><input type="checkbox"/> Cannot be drawn</p>  </div> <hr/> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Square that is a rectangle</p> <p><input type="checkbox"/> Cannot be drawn</p>  </div>

Grade 5 FSA Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 year = 365 days
1 year = 52 weeks