First Grade Mathematics Item Specifications

Missouri
DEPARTMENT OF ELEMENTARY & SECONDARY
EDUCATION

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Introduction

In 2014 Missouri legislators passed House Bill 1490, mandating the development of the Missouri Learning Expectations. In April of 2016, these Missouri Learning Expectations were adopted by the State Board of Education. Groups of Missouri educators from across the state collaborated to create the documents necessary to support the implementation of these expectations.

One of the documents developed is the item specification document, which includes all Missouri grade level/course expectations arranged by domains/strands. It defines what could be measured on a variety of assessments. The document serves as the foundation of the assessment development process.

Although teachers may use this document to provide clarity to the expectations, these specifications are intended for summative, benchmark, and large-scale assessment purposes.

Components of the item specifications include:

Expectation Unwrapped breaks down a list of clearly delineated content and skills the students are expected to know and be able to do upon mastery of the Expectation.

Depth of Knowledge (DOK) Ceiling indicates the highest level of cognitive complexity that would typically be assessed on a large scale assessment. The DOK ceiling is not intended to limit the complexity one might reach in classroom instruction.

Item Format indicates the types of items used in large scale assessment. For each expectation, the item format specifies the type best suited for that particular expectation.

Text Types suggests a broad list of text types for both literary and informational expectations. This list is not intended to be all inclusive: other text types may be used in the classroom setting. The expectations were written in grade level bands; for this reason, the progression of the expectations relies upon increasing levels of quantitative and qualitative text complexities.

Grade 1 Mathematics

Content Limits/Assessment Boundaries are parameters that item writers should consider when developing a large scale assessment. For example, some expectations should not be assessed on a large scale assessment but are better suited for local assessment.

Sample stems are examples that address the specific elements of each expectation and address varying DOK levels. The sample stems provided in this document are in no way intended to limit the depth and breadth of possible item stems. The expectation should be assessed in a variety of ways.

Grade 1 Mathematics

Mathematics		1.NS.A.1
NS **A** **1**	**Number Sense** **Understand and use numbers up to 120.** Count to 120, starting at any number less than 120.	

Expectation Unwrapped	**DOK Ceiling**
The student will count to 120 beginning at 0. The student will count to 120 starting at any number less than 120. The student will use the strategy of counting by tens to support "counting across the decade".	2 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**
Content Limits/Assessment Boundaries	**Calculator Designation**
Can be assessed verbally and non-verbally. Limit to 0-120. Students are expected to apply expectation K.NS.A.1 (count to 100 by tens and ones) to support their learning with this expectation.	**NO** – a calculator will not be available for items

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.NS.A.2</th></tr>
<tr><td>NS
A
2</td><td colspan="2">Number Sense
Understand and use numbers up to 120.
Read and write numerals and represent a number of objects with a written numeral.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will be able to verbally identify numerals (written form) 0-120, when given numerals out of sequence.

The student will identify the next numeral (written form) in a forward number sequence up to 120.

The student will be able to write numerals 0-120, when verbally prompted, in and out of sequence.

The student will produce a set representing a given numeral up to 120.

The student will write a numeral to represent the quantity of objects in a given set 0-120.</td><td><u>DOK Ceiling</u>
2

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Limit numerals 0-120.
Limit to 120 objects.
The use of “write” refers to the students forming the numeral with pencil and paper.
In the expectations above, those that are assessed verbally are not appropriate for large scale assessment.
Students are not expected to read the number words, e.g., twenty-five.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

Mathematics		1.NS.A.3
NS **A** **3**	**Number Sense** **Understand and use numbers up to 120.** Count backward from a given number between 20 and 1.	

Expectation Unwrapped

The student will count backward from 20 to 0.

The student will identify the next numeral (written form) in a backward sequence, where the first numeral is less than or equal to 20.

The student will count backward from 20 starting at any number less than 20.

DOK Ceiling
2

Item Format
Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries
Can be assessed verbally and non-verbally.
Limit to 20-0.

Calculator Designation
NO – a calculator will not be available for items

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.NS.A.4</th></tr>
<tr><td>NS
A
4</td><td colspan="2">Number Sense
Understand and use numbers up to 120.
Count by 5s to 100 starting at any multiple of five.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will count by 5s from 0 to 100.

The student will count by 5s up to 100 starting at any multiple of five between 0 and 100.</td><td><u>DOK Ceiling</u>
2

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Can be assessed verbally and non-verbally.
Limit 0-100 by multiples of 5.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.NBT.A.1</th></tr>
<tr><td>NBT
A
1</td><td colspan="2">Number Sense and Operations in Base Ten
Understand place value of two-digit numbers.
Understand that 10 can be thought of as a bundle of 10 ones – called a “ten”.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will decompose 1 ten into 10 ones.

The student will compose 10 ones into a bundle of 1 ten, called a “ten”.</td><td><u>DOK Ceiling</u>
2

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u></td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

Mathematics		1.NBT.A.2
NBT A 2	**Number Sense and Operations in Base Ten** **Understand place value of two-digit numbers.** Understand two-digit numbers are composed of ten (s) and ones (s).	

Expectation Unwrapped

The student will decompose a two-digit number using ten(s) and one(s), in multiple ways.

The student will compose ten(s) and one(s) to form a two-digit number.

The student will decompose a given set of tens into the equivalent ones.

The student will compose a given set of ones (that are multiples of ten) into bundle(s) of ten(s), called a "ten" and zero "ones".

DOK Ceiling

3

Item Format

Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries

Two digit numbers
Students are expected to apply expectation K.NBT.A.1 (compose and decompose numbers from 11 to 19 into sets of tens with additional ones) to support their learning with this expectation.

Calculator Designation

NO – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.NBT.A.3
NBT A 3	**Number Sense and Operations in Base Ten** **Understand place value of two-digit numbers.** Compare two two-digit numbers using the symbols >, = or <.	
Expectation Unwrapped The student will compare two two-digit numbers based on the meaning (value) of the tens and ones digits. The student will use the meaning (value) of the tens and ones digits to explain the comparison of two two-digit numbers. The student will record the results of comparison using the symbols >, =, and <.		**DOK Ceiling** 3 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**
Content Limits/Assessment Boundaries Two two-digit numbers Students are expected to apply their learning from 1.NBT.A.2 (understand two-digit numbers are composed of ten(s) and one(s) to support their learning with this expectation of place value/meaning of hundreds, tens, and ones digits.		**Calculator Designation** **NO** – a calculator will not be available for items

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.NBT.A.4</th></tr>
<tr><td>NBT
A
4</td><td colspan="2">Number Sense and Operations in Base Ten
Understand place value of two-digit numbers.
Count by 10s to 120 starting at any number.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will count by 10s from 0 to 120.

The student will count by 10s to 120 starting at any multiple of ten less than 120.

The student will count by 10s within 120 starting at any given number between 0 and 110.</td><td><u>DOK Ceiling</u>
2

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Can be assessed verbal and non-verbal.
Limit 0-120.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

Mathematics		1.NBT.B.5
NBT **B** **5**	**Number Sense and Operations in Base Ten** **Use place value understanding to add and subtract** Add within 100.	

Expectation Unwrapped

The student will add a one-digit number and a one-digit number. For sums that are 10 or more, the student will justify the answer using concrete models, drawings, and/or symbols to convey strategies that connect to place value understanding.

The student will add within 100 by adding a two-digit number and a one-digit number and justify the answer using concrete models, drawings, and/or symbols to convey strategies that connect to place value understanding.

The student will add within 100 by adding a two-digit number and a multiple of 10 and justify the answer using concrete models, drawings, and/or symbols to convey strategies that connect to place value understanding.

The student will add two two-digit numbers whose sum is within 100 by adding tens to tens and ones to ones and justify the answer using concrete models, drawings, and/or symbols to convey strategies that connect to place value understanding.

DOK Ceiling

3

Item Format

Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries

Sum cannot be greater than 100.
Only number combinations that do not require regrouping are appropriate for large scale assessment. However, experience with regrouping supports 2.NBT.B.6 (demonstrate fluency with addition and subtraction within 100).
Students are expected to apply their learning from K.RA.A.1 (represent addition and subtraction within 10) to support their learning with this expectation of place value/meaning of hundreds, tens, and ones digits.
Students are expected to build on their mastery of learning from 1.RA.C.7 (add and subtract within 20) to support their learning with this expectation of place value/meaning of hundreds, tens, and ones digits.

Calculator Designation

NO – a calculator will not be available for items

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.NBT.B.6</th></tr>
<tr><td>NBT
B
6</td><td colspan="2">Number Sense and Operations in Base Ten
Use place value understanding to add and subtract
Calculate 10 more or 10 less than a given number mentally without having to count.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will mentally find 10 more than a given two-digit number without having to count.

The student will mentally find 10 less than a given two-digit number without having to count.</td><td><u>DOK Ceiling</u>
2

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Can be assessed only verbally.
Students are expected to apply their learning from 1.NBT.A.4 (count by 10s to 120 starting at any number) to support their learning with this expectation of place value/meaning of hundreds, tens, and ones digits.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.NBT.B.7</th></tr>
<tr><td>NBT
B
7</td><td colspan="2">Number Sense and Operations in Base Ten
Use place value understanding to add and subtract
Add or subtract a multiple of 10 from another two-digit number, and justify the solution.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will add a multiple of 10 to a two-digit number within 100.

The student will subtract a multiple of 10 from a two-digit number within 100.

The student will justify answers when adding a multiple of 10 within 100 using concrete models, drawings, and/or symbols that convey strategies that connect to place value understanding.

The student will justify answers when subtracting a multiple of 10 within 100 using concrete models, drawings, and/or symbols that convey strategies that connect to place value understanding.

The student will solve for two-digit numbers by adding tens to tens and ones to ones.

The student will solve for two-digit numbers by subtracting tens from tens and ones from ones.</td><td><u>DOK Ceiling</u>
3

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Minuend cannot be greater than 100.
Sum cannot be greater than 100.
Students are expected to apply their learning from 1.NBT.B.5 (add within 100) to support their learning with this expectation of place value/meaning of hundreds, tens, and ones digits.
The focus of this standard is using multiples of 10.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.RA.A.1</th></tr>
<tr><td>RA
A
1</td><td colspan="2">Relationships and Algebraic Thinking
Represent and solve problems involving addition and subtraction
Use addition and subtraction within 20 to solve problems.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will solve problems involving addition within 20 by using strategies such as adding to, putting together, and comparing with unknowns in all positions.

The student will solve problems involving subtraction within 20 by using strategies such as taking from, taking apart, and comparing with unknowns in all positions.

The student will solve word problems involving addition within 20 by using strategies such as adding to, putting together, and comparing with unknowns in all positions.

The student will solve word problems involving subtraction within 20 by using strategies such as taking from, taking apart, and comparing with unknowns in all positions.

Problems are not limited to word problems.</td><td><u>DOK Ceiling</u>
3

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Sum cannot be greater than 20.
Minuend cannot be greater than 20.
One-step word problems</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.RA.A.2</th></tr>
<tr><td>RA
A
2</td><td colspan="2">Relationships and Algebraic Thinking
Represent and solve problems involving addition and subtraction
Solve problems that call for addition of three whole numbers whose sum is within 20.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will solve problems that call for addition of three whole numbers whose sum cannot be greater than 20.

The student will solve word problems that call for addition of three whole numbers whose sum cannot be greater than 20.

The student will use objects, drawings, and/or equations with a symbol for the unknown number to represent the problem whose sum cannot be greater than 20.</td><td><u>DOK Ceiling</u>
3

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Sum cannot be greater than 20.
Problems assessed are in word problem format.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

Mathematics		1.RA.A.3
RA **A** **3**	**Relationships and Algebraic Thinking** **Represent and solve problems involving addition and subtraction** Develop the meaning of the equal sign and determine if equations involving addition and subtraction are true or false.	
Expectation Unwrapped The student will develop the meaning of the equal sign using objects, drawings, etc. The student will determine if equations involving addition and subtraction are true or false.		**DOK Ceiling** 3 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**
Content Limits/Assessment Boundaries Sums cannot be greater than 20.		**Calculator Designation** **NO** – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.RA.A.4
RA **A** **4**	**Relationships and Algebraic Thinking** **Represent and solve problems involving addition and subtraction** Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.	

Expectation Unwrapped

The student will determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

DOK Ceiling
3

Item Format
Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries
Sum cannot be greater than 20.
Minuend cannot be greater than 20.

Calculator Designation
NO – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.RA.B.5
RA B 5	**Relationships and Algebraic Thinking** **Understand and apply properties of operations and the relationship between addition and subtraction.** Use properties as strategies to add and subtract.	

Expectation Unwrapped	**DOK Ceiling**
The student will use knowledge of fact families to solve addition and subtraction equations. The student will use knowledge of making 10 to solve addition equations. The student will discuss how and why results are the same. The students will generalize patterns in addition and subtraction.	3 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**

Content Limits/Assessment Boundaries	**Calculator Designation**
The students need not be assessed on the use of formal terms for these properties; however, the teacher should use the correct mathematical vocabulary in class. Sum cannot be greater than 20. Minuend cannot be greater than 20.	**NO –** a calculator will not be available for items

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.RA.B.6</th></tr>
<tr><td>RA
B
6</td><td colspan="2">Relationships and Algebraic Thinking
Understand and apply properties of operations and the relationship between addition and subtraction.
Demonstrate that subtraction can be solved as an unknown-addend problem.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will model how subtraction can be solved using unknown-addend problems.

The student will determine the unknown addend in a subtraction equation.</td><td><u>DOK Ceiling</u>
2

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Minuend cannot be greater than 20.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

Mathematics		1.RA.C.7
RA **C** **7**	**Relationships and Algebraic Thinking** **Add and subtract within 20** Add and subtract within 20.	

Expectation Unwrapped

The student will add using a variety of strategies within 20, such as:

- counting on;
- making ten;
- using the relationship between addition and subtraction;
- creating equivalent but easier or known sums.

The student will subtract using a variety of strategies within 20, such as:

- decomposing a number leading to a ten;
- using the relationship between addition and subtraction.

DOK Ceiling

3

Item Format

Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries

Sum cannot be greater than 20.
Minuend cannot be greater than 20.
No single strategy is recommended over another. Consider the needs of the students.

Calculator Designation

NO – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.RA.C.8
RA **C** **8**	**Relationships and Algebraic Thinking** **Add and subtract within 20** Demonstrate fluency with addition and subtraction within 10.	

Expectation Unwrapped

The student will use multiple representations to model real-world and mathematic problems involving addition and subtraction within ten.

The student will critique the reasoning of others, identifying errors and alternate approaches to solving problems involving addition and subtraction within ten.

The student will decontextualize and contextualize problems and solutions to explain his or her reasoning in addition and subtraction problems within ten.

The student will identify and explain patterns and the structure of the problems with specific focus on the properties of mathematics when solving problems involving addition and subtraction within ten.

The student will communicate his or her reasoning precisely to problems involving addition and subtraction within ten.

DOK Ceiling

1

Item Format

Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries

Sum cannot be greater than 10.
Minuend cannot be greater than 10.
The above expectations are not appropriate for large scale assessment.
Fluency refers to accuracy and efficiency and does not equate to memorization.

Calculator Designation

NO – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.GM.A.1
GM A 1	**Geometry and Measurement** **Reason with shapes and their attributes.** Distinguish between defining attributes versus non-defining attributes; build and draw shapes that possess defining attributes.	
Expectation Unwrapped The student will identify non-defining attributes. The student will identify defining attributes. The student will distinguish between defining attributes and non-defining attributes. The student will build and draw shapes to possess defining attributes. The student will describe the similarities and differences of two two-dimensional shapes.		**DOK Ceiling** 3 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**
Content Limits/Assessment Boundaries Two two-dimensional shapes.		**Calculator Designation** **NO –** a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.GM.A.2
GM A 2	**Geometry and Measurement** **Reason with shapes and their attributes.** Compose and decompose two- and three-dimensional shapes to build an understanding of part-whole relationships and the properties of the original and composite shapes.	
Expectation Unwrapped The student will compose two-dimensional shapes. The student will decompose two-dimensional shapes. The student will compose three-dimensional shapes. The student will decompose three-dimensional shapes. The student will compose and decompose shapes to build an understanding of part-whole relationships. The student will identify the properties of the original and composite shapes.		**DOK Ceiling** 3 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**
Content Limits/Assessment Boundaries Two-dimensional shapes Three-dimensional shapes When discussing two-dimensional shapes, the teacher should use the term angles. When discussing three-dimensional shapes, the teacher should use the term vertices.		**Calculator Designation** **NO** – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.GM.A.3
GM A 3	**Geometry and Measurement** **Reason with shapes and their attributes.** Recognize two- and three-dimensional shapes from different perspectives and orientations.	
Expectation Unwrapped The student will recognize two- and three-dimensional shapes from different perspectives and orientations.		**DOK Ceiling** 3 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**
Content Limits/Assessment Boundaries Two-dimensional shapes. Three-dimensional shapes.		**Calculator Designation** **NO** – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.GM.A.4
GM A 4	**Geometry and Measurement** **Reason with shapes and their attributes.** Partition circles and rectangles into two or four equal shares, and describe the shares and the wholes verbally.	

Expectation Unwrapped

The student will partition (divide) circles into two equal shares.

The student will partition (divide) rectangles into two equal shares.

The student will partition (divide) circles into four equal shares.

The student will partition (divide) rectangles into four equal shares.

The student will verbally describe the partitioned shape using halves, fourths, and quarters.

The student will verbally describe the partitioned shapes using the phrases half of, fourth of, and quarter of.

The student will verbally describe the whole of a partitioned shape as two of or four of the shares.

The student will identify that decomposing into more equal shares creates smaller shares.

DOK Ceiling

3

Item Format

Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries

Circles and rectangles
Halves, fourths, and quarters
Verbal descriptions are not appropriate for large scale assessment.

Calculator Designation

NO – a calculator will not be available for items

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.GM.B.5</th></tr>
<tr><td>GM
B
5</td><td colspan="2">Geometry and Measurement
Measure lengths in non-standard units
Order three or more objects by length.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will compare three or more objects by their length using the terms short, shorter, shortest, long, longer, longest, same as, equal to.

The student will order three or more objects by length.</td><td><u>DOK Ceiling</u>
3

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Three or more objects.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.GM.B.6</th></tr>
<tr><td>GM
B
6</td><td colspan="2">Geometry and Measurement
Measure lengths in non-standard units
Compare the lengths of two objects indirectly by using a third object.</td></tr>
<tr><td colspan="2" rowspan="2"><u>Expectation Unwrapped</u>

The student will compare the lengths of two objects indirectly by using a third object.</td><td><u>DOK Ceiling</u>
3</td></tr>
<tr><td><u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>

Two objects indirectly measured by a third object.
Students are expected to apply their learning from 1.GM.B.5 to support their learning of this expectation.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.GM.B.7</th></tr>
<tr><td>GM
B
7</td><td colspan="2">Geometry and Measurement
Measure lengths in non-standard units
Demonstrate the ability to measure length or distance using objects.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will use non-standard units of measurement to measure length or distance.

The student will express the length of an object as a whole number of length units by laying same size length units end to end.</td><td><u>DOK Ceiling</u>
3

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Non-standard units.
Non-standard units refer to objects outside of the customary units of measurement (e.g., paperclips, cubes, etc.).
Whole numbers lengths.
Measuring length and distance.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

Mathematics		1.GM.C.8
GM C 8	**Geometry and Measurement** **Work with time and money.** Tell and write time in hours and half-hours using analog and digital clocks.	
Expectation Unwrapped The student will tell time in hours using digital clocks. The student will tell time in half hours using digital clocks. The student will tell time in hours using analog clocks. The student will tell time in half hours using analog clocks. The student will write time in hours using digital clocks. The student will write time in half hours using digital clocks. The student will write time in hours using analog clocks. The student will write time in half hours using analog clocks.		**DOK Ceiling** 2 **Item Format** Selected Response Constructed Response Technology Enhanced **Sample Stems**
Content Limits/Assessment Boundaries Half hours and hours.		**Calculator Designation** **NO** – a calculator will not be available for items

Grade 1 Mathematics

Mathematics		1.GM.C.9
GM C 9	**Geometry and Measurement** **Work with time and money.** Know the value of a penny, nickel, dime and quarter.	

Expectation Unwrapped

The student will identify the value of the penny.

The student will identify the value of the nickel.

The student will identify the value of the dime.

The student will identify the value of the quarter.

DOK Ceiling
2

Item Format
Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries
Coins limited to penny, nickel, dime and quarter.

Calculator Designation
NO – a calculator will not be available for items

Grade 1 Mathematics

<table>
<tr><th colspan="2">Mathematics</th><th>1.DS.A.1</th></tr>
<tr><td>DS
A
1</td><td colspan="2">Data and Statistics
Represent and interpret data
Collect, organize and represent data with up to three categories.</td></tr>
<tr><td colspan="2"><u>Expectation Unwrapped</u>

The student will collect data for up to three categories using object graphs.

The student will organize data for up to three categories using object graphs.

The student will represent data for up to three categories using object graphs.

The student will collect data for up to three categories using picture graphs.

The student will organize data for up to three categories using picture graphs.

The student will represent data for up to three categories using picture graphs.

The student will collect data for up to three categories using T-charts.

The student will organize data for up to three categories using T-charts.

The student will represent data for up to three categories using T-charts.

The student will collect data for up to three categories using tally charts.

The student will organize data for up to three categories using tally charts.

The student will represent data for up to three categories using tally charts.</td><td><u>DOK Ceiling</u>
3

<u>Item Format</u>
Selected Response
Constructed Response
Technology Enhanced

<u>Sample Stems</u></td></tr>
<tr><td colspan="2"><u>Content Limits/Assessment Boundaries</u>
Up to three categories.
Object graphs, picture graphs, T-charts and tally charts.</td><td><u>Calculator Designation</u>
NO – a calculator will not be available for items</td></tr>
</table>

Grade 1 Mathematics

Mathematics		1.DS.A.2
DS A 2	**Data and Statistics** **Represent and interpret data** Draw conclusions from object graphs, picture graphs, T-charts and tallies.	

Expectation Unwrapped

The student will draw conclusions from given object graphs.

The student will draw conclusions from given picture graphs.

The student will draw conclusions from given T-charts.

The student will draw conclusions from given tally charts.

Draw conclusions includes: ask and answer questions about the total number of data points; find how many in each category; and find how many more or less are in one category compared to another category.

DOK Ceiling
3

Item Format
Selected Response
Constructed Response
Technology Enhanced

Sample Stems

Content Limits/Assessment Boundaries
Object graphs, pictographs, T-charts and tally chart.
Students are expected to apply their learning from 1.DS.A.1 (collect, organize, and represent data with up to three categories) to support their learning with this expectation representing and interpreting data.
Twenty items.

Calculator Designation
NO – a calculator will not be available for items