

Unit 1: Math Is...

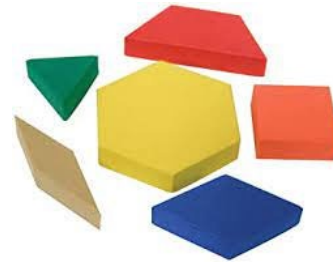
District Formative Unit Assessment:
NONE

Suggested Manipulatives

Shape Cards



Pattern Blocks



Instructional Skills Sequence

Optional:

- Students complete Diagnostic Assessment for Redbird. (This assessment will create their individual learning paths)
- Students complete the Math Attitude Survey
- Readiness Diagnostic *How Ready Am I?* (for Unit 2)
 - Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.
- Unit 1: Fluency Practice

Lesson 1-1: Math is Mine	Proficiency Scale: ▪ NONE	Resources: McGraw Hill Reveal ▪ Lesson 1-1 to 1-6 Formative Assessment: Fluency Practice Additional Resources: See Grade1 BIG-M document for an instructional task(s) and item(s).
Lesson 1-2: Math is Exploring and Thinking	Proficiency Scale: ▪ NONE	
Lesson 1-3: Math is in my World	Proficiency Scale: ▪ NONE	
Lesson 1-4: Math is Explaining and Sharing	Proficiency Scale: ▪ NONE	
Lesson 1-5: Math is Finding Patterns	Proficiency Scale: ▪ NONE	
Lesson 1-6: Math is Ours	Proficiency Scale: ▪ NONE	

Unit 2: Numbers to 5

District Formative Unit Assessment: Unit 2 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.1

Develop an understanding for counting using objects in a set.

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<ol style="list-style-type: none"> 1) Subitizes (immediately recognizes without counting) up to five objects. 2) Counts and identifies the number sequence "1 to 31" 3) 3. Demonstrates one-to-one correspondence when counting objects placed in a row (one to 15 and beyond) 4) Identifies the last number spoken tells "how many" up to 10 (cardinality) 5) Constructs and counts sets of objects (one to 10 and beyond) 6) Uses counting and matching strategies to find which is more, less than, or equal to 10. 7) Reads and writes some numerals one to 10 using appropriate activities. 	<p><u>MA.K.NSO.1.1</u> Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction focuses on developing an understanding of cardinality and one-to-one correspondence. ▪ Clarification 2: Instruction includes counting objects and pictures presented in a line, rectangular array, circle or scattered arrangement. Objects presented in a scattered arrangement are limited to 10. ▪ Clarification 3: Within this benchmark, the expectation is not to write the number in word form. <p><u>MA.K.NSO.1.2</u> Given a number from 0 to 20, count out that many objects.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes giving a number verbally or with a written numeral. <p><u>MA.K.NSO.1.3</u> Identify positions of objects within a sequence using the words "first," "second," "third," "fourth" or "fifth."</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes the understanding that rearranging a group of objects does not change the total number of objects but may change the order of an object in that group. <p><u>MA.K.NSO.1.4</u> Compare the number of objects from 0 to 20 in two groups using the terms less than, equal to or greater than.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction focuses on matching, counting and the connection to addition and subtraction. ▪ Clarification 2: Within this benchmark, the expectation is not to use the relational symbols =, > or <. 	<p><u>In First Grade</u>, students will interact with patterns found in counting. (MA.2.NSO.1.1)</p> <p><u>In First Grade</u>, students will understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3. (MA.2.NSO.1.2)</p> <p><u>In First Grade</u>, students will identify ways that numbers can be written flexibly using decomposition. (MA.2.NSO.1.3)</p> <p><u>In First Grade</u>, students will understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3. (MA.2.NSO.1.4)</p>

Instructional Strategies:

MA.K.NSO.1.1

The purpose of this benchmark is to help students develop an understanding of cardinality: the principle that the last number when counted in a set represents the total number within the set, and that the number of objects in a set remains the same regardless of the arrangement of the set. Additionally, this benchmark allows students to begin recognizing and writing numerals.

- Instruction includes the use of manipulatives, pictorial representations and real-world contexts to provide a purpose for counting. (MTR.2.1, MTR.7.1)
- Instruction includes symbolic representation of numbers 0 – 20. (MTR.7.1)

MA.K.NSO.1.2

The purpose of this benchmark is to help students further develop the concept that counting gives the number of objects in a set and to reinforce the counting sequence. Students should count out a given number of objects, and if the counted set is rearranged or moved, students should restate the number of objects without counting.

- Instruction includes the use of manipulatives and pictorial representations.
- Instruction may use ten-frames or similar organizers to help students organize their counting. (MTR.5.1)
- Instruction includes context to provide a purpose for counting. (MTR.7.1)

MA.K.NSO.1.3

The purpose of this benchmark is to develop students' vocabulary for describing the position of objects in a set (i.e., ordinality). This benchmark reinforces further development of cardinality – even though objects in a set may switch positions, the total numbers of objects in the set remain the same.

- For mastery of this benchmark, instruction does not need to include students writing the positional word names.
- Instruction includes specificity of sequence relative to the starting position and direction (first from the left, etc.)
- Instruction may include sets larger than five as students identify the positions first through fifth. (Many students may be comfortable with using the words sixth through twentieth.)
- Instruction includes the use of manipulatives and pictorial representations.

MA.K.NSO.1.4

The purpose of this benchmark is to develop student understanding of comparing numbers and values relative to others. This benchmark may be used to connect to the counting sequence, forwards and backwards, and to addition and subtraction as strategies to compare numbers.

- Instructions encourage students to explain “how they know” a number is greater than, less than or equal to. (MTR.6.1)
 - For example, a student could explain that 5 is after 3 so 5 is greater than 3. A student could also pair objects one-to-one to determine that 5 is greater than 3.
- Instruction allows for students to compare sets and demonstrate their thinking using various strategies, such as addition and subtraction, counting on or back, and manipulatives. (MTR.2.1)
 - For example, 7 is greater than 5 because $5 + 2 = 7$ and because it is like starting at 5 and counting “5, 6, 7.”
- Instruction includes pairing objects in two sets one-to-one, students may observe that a set has more objects when there are no more to pair with. (MTR.5.1)
- Instruction includes the language “which is greater,” “which is less,” and “are they equal,” to help students develop vocabulary.
- Instruction includes comparing sets of objects as well as numbers.

Key Vocabulary (may not be comprehensive)
items in bold can be found in the K-5 Glossary

Cardinality Principle
Natural Number zero one two three four five one more first second third fourth fifth equal equal group

Common Misconceptions:

MA.K.NSO.1.1

- Students may inaccurately report the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged (i.e., conservation of cardinality).
- Students may recount the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged.
- Students may recount a group of objects when asked “how many,” rather than reporting the last number counted.
- Students may not be systematic in their counting. o For example, a student may double count or skip numbers.

MA.K.NSO.1.2

- Students may skip or repeat numbers when counting out objects. o For example, a student may say “14, 15, 17.”
- Students may lose track of which objects have been counted.

MA.K.NSO.1.3

- Students may not be able to connect the positional terms (first, second, etc.) to the object's position after rearrangement.

matching fewer greater than less than more	<ul style="list-style-type: none"> ○ For example, a set from left to right shows an elephant, pig and dolphin. When rearranged the students still identify the dolphin as "third" regardless of sequence. ▪ Students may give similar objects the same order number especially if they are next to each other in the sequence. <p>MA.K.NSO.1.4</p> <ul style="list-style-type: none"> ▪ Students may confuse the size of objects with the number of objects when comparing.
---	---

Suggested Manipulatives

		
---	--	---

Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*
 Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 2-1 Skill: Count 1,2, and 3	Success Criteria: ▪ I can count objects to 3 ▪ I can explain how to count objects to 3	Proficiency Scale: ▪ Counting & Comparing Objects (MA.K.NSO.1)	Resources: McGraw Hill Reveal ▪ Lesson 2-1 to 2-10 Formative Assessment: ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit) Additional Resources: See Grade1 BIG-M document for an instructional task(s) and item(s).
Lesson 2-2 Skill: Represent 1,2,and 3	Success Criteria: ▪ I can show numbers 1,2, and 3. ▪ I can explain how to show numbers 1,2 and 3.	Proficiency Scale: ▪ Counting & Comparing Objects (MA.K.NSO.1)	
Lesson 2-3 Skill: Count 4 and 5	Success Criteria: ▪ I can count objects to 5. ▪ I can explain how to count objects to 5. ▪	Proficiency Scale: ▪ Counting & Comparing Objects (MA.K.NSO.1)	
Lesson 2-4 Skill: Represent 4 and 5	Success Criteria: ▪ I can show numbers 4 and 5. ▪ I can explain how to show numbers 4 and 5.	Proficiency Scale: ▪ Counting & Comparing Objects (MA.K.NSO.1)	
Lesson 2-5 Skill: Represent 0	Success Criteria: ▪ I can identify 0. ▪ I can explain how to identify 0.	Proficiency Scale: ▪ Counting & Comparing Objects (MA.K.NSO.1)	
Lesson 2-6 Skill: Numbers to 5	Success Criteria: ▪ I can identify the number that is one more.	Proficiency Scale: ▪ Counting & Comparing Objects (MA.K.NSO.1)	

Lesson 2-7 Skill: Ordinal Numbers	Success Criteria: <ul style="list-style-type: none"> ▪ I can identify position using ordinal numbers. ▪ I can explain how to identify the positions of objects using the words "first," "second," "third," "fourth," or "fifth." 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	NOTES:
Lesson 2-8 Skill: Equal Groups to 5	Success Criteria: <ul style="list-style-type: none"> ▪ I can tell if groups are equal by matching the objects in the group. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Lesson 2-9 Skill: Greater Than and Less Than	Success Criteria: <ul style="list-style-type: none"> ▪ I can use matching to determine if the numbers of objects in one group is greater than or less than the number of objects in another group. ▪ I can explain how to use matching to determine if the number of objects in one group is greater than or less than the number of objects in another group. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Lesson 2-10 Skill: Compare Number to 5	Success Criteria: <ul style="list-style-type: none"> ▪ I can use counting to determine if the number of objects in one group is greater than, less than, or equal to the number of objects in another group. ▪ I can explain how to use counting to determine if the number of objects in one group is greater than, less than, or equal to the number of objects in another group. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Math Probe: Who Has More Stickers?			

Unit 3: Numbers to 10

District Formative Unit Assessment: Unit 3 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.1

Develop an understanding for counting using objects in a set.

MA.K.NSO.2

Recite number names sequentially within 100 and develop an understanding for place value (also covered in unit 10)

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards

- 1) Subitizes (immediately recognizes without counting) up to five objects.
- 2) Counts and identifies the number sequence "1 to 31"
- 3) 3. Demonstrates one-to-one correspondence when counting objects placed in a row (one to 15 and beyond)
- 4) Identifies the last number spoken tells "how many" up to 10 (cardinality)
- 5) Constructs and counts sets of objects (one to 10 and beyond)
- 6) Uses counting and matching strategies to find which is more, less than, or equal to 10.
- 7) Reads and writes some numerals one to 10 using appropriate activities.

Kindergarten

MA.K.NSO.1.1

Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting.

- **Clarification 1:** Instruction focuses on developing an understanding of cardinality and one-to-one correspondence.
- **Clarification 2:** Instruction includes counting objects and pictures presented in a line, rectangular array, circle or scattered arrangement. Objects presented in a scattered arrangement are limited to 10.
- **Clarification 3:** Within this benchmark, the expectation is not to write the number in word form.

MA.K.NSO.1.2

Given a number from 0 to 20, count out that many objects.

- **Clarification 1:** Instruction includes giving a number verbally or with a written numeral.

MA.K.NSO.1.4

Compare the number of objects from 0 to 20 in two groups using the terms less than, equal to or greater than.

- **Clarification 1:** Instruction focuses on matching, counting and the connection to addition and subtraction.
- **Clarification 2:** Within this benchmark, the expectation is not to use the relational symbols =, > or <.

MA.K.NSO.2.3

Locate, order and compare numbers from 0 to 20 using the number line and terms less than, equal to or greater than.

- **Clarification 1:** Within this benchmark, the expectation is not to use the relational symbols =, > or <.
- **Clarification 2:** When comparing numbers from 0 to 20, both numbers are plotted on the same number line.
- **Clarification 3:** When locating numbers on the number line, the expectation includes filling in a missing number by counting from left to right on the number line.

First Grade

In First Grade, students will interact with patterns found in counting.
(MA.2.NSO.1.1)

In First Grade, students will understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3.
(MA.2.NSO.1.2)

In First Grade, students will understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3.
(MA.2.NSO.1.4)

Instructional Strategies:

MA.K.NSO.1.1

The purpose of this benchmark is to help students develop an understanding of cardinality: the principle that the last number when counted in a set represents the total number within the set, and that the number of objects in a set remains the same regardless of the arrangement of the set. Additionally, this benchmark allows students to begin recognizing and writing numerals.

- Instruction includes the use of manipulatives, pictorial representations and real-world contexts to provide a purpose for counting.
- Instruction includes symbolic representation of numbers 0 – 20. (MTR.7.1)

MA.K.NSO.1.2

The purpose of this benchmark is to help students further develop the concept that counting gives the number of objects in a set and to reinforce the counting sequence. Students should count out a given number of objects, and if the counted set is rearranged or moved, students should restate the number of objects without counting.

- Instruction includes the use of manipulatives and pictorial representations
- Instruction may use ten-frames or similar organizers to help students organize their counting. (MTR.5.1)
- Instruction includes context to provide a purpose for counting. (MTR.7.1)

MA.K.NSO.1.4

The purpose of this benchmark is to develop student understanding of comparing numbers and values relative to others. This benchmark may be used to connect to the counting sequence, forwards and backwards, and to addition and subtraction as strategies to compare numbers.

- Instructions encourage students to explain “how they know” a number is greater than, less than or equal to. (MTR.6.1)
 - For example, a student could explain that 5 is after 3 so 5 is greater than 3. A student could also pair objects one-to-one to determine that 5 is greater than 3.
- Instruction allows for students to compare sets and demonstrate their thinking using various strategies, such as addition and subtraction, counting on or back, and manipulatives. (MTR.2.1)
 - For example, 7 is greater than 5 because $5 + 2 = 7$ and because it is like starting at 5 and counting “5, 6, 7.”
- Instruction includes pairing objects in two sets one-to-one, students may observe that a set has more objects when there are no more to pair with. (MTR.5.1)
- Instruction includes the language “which is greater,” “which is less,” and “are they equal,” to help students develop vocabulary.
- Instruction includes comparing sets of objects as well as numbers.

MA.K.NSO.2.3

The purpose of this benchmark is to build on knowledge from comparing in MA.K.NSO.1.4 and to introduce the number line. This benchmark will deepen student understanding of the relationship between numbers, as well as provide the foundation for the number line as a strategy for operations later on.

- Instruction includes varied orientations and ranges of the number line.
 - For example, given number lines can be horizontal, vertical, starting at 0, starting at another number, include blanks or an open number line. (MTR.5.1)
- Instruction includes making a connection to measurement when comparing numbers on a number line, which will help prepare students for using rulers in later grades

Key Vocabulary (may not be comprehensive) **items in bold can be found in the K-5 Glossary**
automaticity expressions
equations
 six(6)
 seven(7)
 eight(8)
 nine(9)
 ten(10)

Common Misconceptions:

MA.K.NSO.1.1

- Students may inaccurately report the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged (i.e., conservation of cardinality).
- Students may recount the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged.
- Students may recount a group of objects when asked “how many,” rather than reporting the last number counted.
- Students may not be systematic in their counting.
 - For example, a student may double count or skip numbers.

MA.K.NSO.1.2

- Students may skip or repeat numbers when counting out objects.
 - For example, a student may say “14, 15, 17.”
- Students may lose track of which objects have been counted.
- Students may give similar objects the same order number especially if they are next to each other in the sequence.

MA.K.NSO.1.4

- Students may confuse the size of objects with the number of objects when comparing.

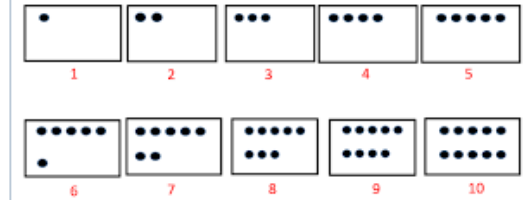
MA.K.NSO.2.3

- Students may assume that all number lines start at 0 or 1.
- When looking at number lines with hash marks, students may number the spaces between the hash marks instead of the hash marks

Suggested Manipulatives



Dot Cards



Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

<p>Lesson 3-1 Skill: Count 6 and 7</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> ▪ I can count objects to 7 ▪ I can explain how to count objects to 7 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	<p>Resources:</p> <p>McGraw Hill Reveal</p> <ul style="list-style-type: none"> ▪ Lesson 3-1 to 3-12 <p>Formative Assessment:</p> <ul style="list-style-type: none"> ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit) <p>Additional Resources:</p> <p>See Grade1 BIG-M document for an instructional task(s) and item(s).</p>
<p>Lesson 3-2 Skill: Represent 6 and 7</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> ▪ I can show numbers 6 and 7 ▪ I can explain how to show numbers 6 and 7 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
<p>Lesson 3-3 Skill: Count 8 and 9</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> ▪ I can count objects to 9 ▪ I can explain how to count objects to 9 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
<p>Lesson 3-4 Skill: Represent 8 and 9</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> ▪ I can show numbers 8 and 9 ▪ I can explain how to show numbers 8 and 9 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
<p>Lesson 3-5 Skill: Count 10</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> ▪ I can count objects to 10 ▪ I can explain how to count objects to 10 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
<p>Lesson 3-6 Skill: Represent 10</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> ▪ I can show the number 10 ▪ I can explain how to show the number 10 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	

Lesson 3-7 Skill: Numbers to 10	Success Criteria: <ul style="list-style-type: none"> ▪ I can identify the number that is one more ▪ I can explain how to identify the number that is one more 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Lesson 3-8 Skill: Compare objects in groups	Success Criteria: <ul style="list-style-type: none"> ▪ I can use matching and counting to determine if the number of objects in one group is greater than or less than the number of objects in another group ▪ I can explain how to compare the number of objects in two groups by matching or counting the objects in each group 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Lesson 3-9 Skill: Compare Numbers	Success Criteria: <ul style="list-style-type: none"> ▪ I can compare two numbers by counting ▪ I can explain how to compare two numbers by counting 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Math Probe: Who Has More Stickers?			
Lesson 3-10 Skill: Write Numbers to 3	Success Criteria: <ul style="list-style-type: none"> ▪ I can write numbers to show how many ▪ I can explain how to write numbers to show how many 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Lesson 3-11 Skill: Write Numbers to 6	Success Criteria: <ul style="list-style-type: none"> ▪ I can write numbers to show how many ▪ I can explain how to write numbers to show how many 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Lesson 3-12 Skill: Write Numbers to 10	Success Criteria: <ul style="list-style-type: none"> ▪ I can write numbers to show how many ▪ I can explain how to write numbers to show how many 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	

Unit 4: Sort, Count, and Compare Objects

District Formative Unit Assessment:
Unit 4 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.DP.1

Develop an understanding for collecting, representing and comparing data

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<p>Represents, analyzes and discusses data (e.g., charts, graphs and tallies)</p>	<p>MA.K.DP.1 Develop an understanding for collecting, representing and comparing data.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction focuses on supporting work in counting. ▪ Clarification 2: Instruction includes geometric figures that can be categorized using their defining attributes. ▪ Clarification 3: Within this benchmark, it is not the expectation for students to construct formal representations or graphs on their own. 	<p><i>In First Grade</i>, students will begin thinking about how they can organize information in a way that can be interpreted. (MA.2.DP.1.1)</p> <p><i>In First Grade</i>, students will begin to understand different displays of data and the information that they can represent. (MA.2.DP.1.2)</p>

Instructional Strategies:

The purpose of this benchmark is to develop a foundation for statistical thinking, as well as providing a context to support the development of counting skills. (MTR.5.1)

- Instruction reinforces the counting and comparing benchmarks within the Number Sense and Operations strand. (MTR.5.1)
- Instruction reinforces the identifying and sorting of figures benchmarks within the Geometric Reasoning strand. (MTR.5.1)

Key Vocabulary (may not be comprehensive)
items in bold can be found in the K-5 Glossary

sort shape size

Common Misconceptions:

MA.K.DP.1.1

- Students may not clearly define categories for sorting objects which may lead to inaccurate data collection as objects fit into multiple categories.
- When students are presented with objects to be sorted into predefined categories, they may be frustrated that some objects don't fit into any category.

Suggested Manipulatives

Shapes



Buttons





Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 4-1 Skill: Sort Objects into Groups	Success Criteria: <ul style="list-style-type: none"> ▪ I can recognize different attributes and sort objects into groups ▪ I can explain how I sorted each group 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Collect, Represent & Compare Data (MA.K.DP.1) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> ▪ Lesson 4-1 to 4-4 Formative Assessment: <ul style="list-style-type: none"> ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit) Additional Resources: See Grade1 BIG-M document for an instructional task(s) and item(s).
Lesson 4-2 Skill: Count Objects in Groups	Success Criteria: <ul style="list-style-type: none"> ▪ I can sort and count objects ▪ I can explain how to count sorted groups of objects 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Collect, Represent & Compare Data (MA.K.DP.1) 	
Lesson 4-3 Skill: Describe Groups of Objects	Success Criteria: <ul style="list-style-type: none"> ▪ I can describe sorted groups by attribute ▪ I can describe sorted groups by the number of objects in each group 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Collect, Represent & Compare Data (MA.K.DP.1) 	
Math Probe: Sort by Count			
Lesson 4-4 Skill: Compare Groups of Objects	Success Criteria: <ul style="list-style-type: none"> ▪ I can compare sorted groups based on attributes and the number of objects in each group. ▪ I can explain how to compare sorted groups based on attributes and the number of objects. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Collect, Represent & Compare Data (MA.K.DP.1) 	

Unit 5: 2-Dimensional Shapes

District Formative Unit Assessment:
Unit 5 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.GR.1

Identify, compare and compose two- and three-dimensional figures

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards

- 1) Recognizes and names two-dimensional shapes (circle, square, triangle, and rectangle) of different sizes and orientation.
- 2) Describe, sort, and classifies two- and three-dimensional shapes using some attributes such as size, sides, and other properties (e.g., vertices)
- 3) Creates two-dimensional shapes using other shapes (e.g., putting two squares together to make a rectangle)
- 4) Constructs with three-dimensional shapes in the environment through play (e.g., building castles in the construction area)

Kindergarten

MA.K.GR.1.1

Identify two- and three-dimensional figures regardless of their size or orientation. Figures are limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders

- **Clarification 1:** Instruction includes a wide variety of circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders.
- **Clarification 2:** Instruction includes a variety of non-examples that lack one or more defining attributes.
- **Clarification 3:** Two-dimensional figures can be either filled, outlined or both.

MA.K.GR.1.2 Compare two-dimensional figures based on their similarities, differences and positions. Sort two-dimensional figures based on their similarities and differences. Figures are limited to circles, triangles, rectangles and squares.

- *Example:* A triangle can be compared to a rectangle by stating that they both have straight sides, but a triangle has 3 sides and vertices, and a rectangle has 4 sides and vertices.
- **Clarification 1:** Instruction includes exploring figures in a variety of sizes and orientations.
- **Clarification 2:** Instruction focuses on using informal language to describe relative positions and the similarities or differences between figures when comparing and sorting

First Grade

In First Grade, students will recognize figures by their defining attributes as this will help them sort figures based on attributes rather than orientation, color, or size.

(MA.2.GR.1.1)

In First Grade, students will use their understanding of the various attributes to sketch a two-dimensional figure.

(MA.2.GR.1.2)

Instructional Strategies:

MA.K.GR.1.1

The purpose of this benchmark is to help students identify specific two- and three-dimensional figures and to make connections between the figures. (MTR.2.1, MTR.5.1)

- It is not the expectation of this benchmark to make distinctions between two- and three-dimensional figures.
- Instruction focuses on using a variety of figures including different orientations, such as scalene, isosceles and equilateral triangles, to build the understanding of triangles. (There is no expectation that students learn these terms, but it is important they recognize various types of triangles.) (MTR.2.1)
- Instruction for rectangles and squares includes their similarities and differences, and the relationship that all squares are rectangles, but not all rectangles are squares. (MTR.5.1)
- Instruction may use manipulatives and other concrete objects to develop student understanding.

MA.K.GR.1.2

The purpose of this benchmark is for students to build on their understanding of classification of two-dimensional figures by finding similarities and differences between shapes. (MTR.5.1)

- Instruction includes opportunities for students to sort images based on various criteria, such as same number of sides, and figures with all straight sides. (MTR.2.1, MTR.5.1)
- Instruction includes helping students describe objects based on relative positions. Relative position refers to students identifying left/right, in front of/behind, apart and above/below. When comparing figures students should understand that relative position can change even though the other features of the figures stay the same
- Instruction includes figures of various sizes and orientations, and may include figures that are not triangles, circles, rectangles or squares. (MTR.2.1)
- Instruction includes examples of squares when discussing rectangles.
- Right angles are technically not addressed until grade 4, but it is appropriate to discuss "square corners" and corners that are not square in an informal way in Kindergarten.

Key Vocabulary (may not be comprehensive)
items in bold can be found in the K-5 Glossary

Circles **Cones** **Cubes** **Cylinders**
Rectangles **Spheres** **Squares**
Triangles Side vertex/vertices
corner square above behind
below beside in front of next to

Common Misconceptions:

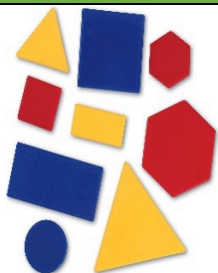
MA.K.GR.1.1

- Students may only recognize figures in a specific orientation or angle distribution (i.e., recognizing isosceles triangles but not scalene)
- Students may not recognize that a square is also a rectangle.
- Students may sort objects by size when asked to sort by shape.
 - For example, students may place large circles with large triangles, or separate large triangles and small triangles.

MA.K.GR.1.2

- Students may not understand that all squares are also classified as rectangles; however, only specific rectangles (with sides that are the same length) are also classified as squares

Suggested Manipulatives





Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 5-1 Skill: Triangles	Success Criteria: <ul style="list-style-type: none"> I can identify and name a triangle I can describe a triangle 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> Lesson 5-1 to 5-5 Formative Assessment: <ul style="list-style-type: none"> Work Together (during a lesson) Exit Ticket (at the end of a lesson) Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Math Probe: Triangles			
Lesson 5-2 Skill: Rectangles	Success Criteria: <ul style="list-style-type: none"> I can identify and name a rectangle I can describe a rectangle 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	
Lesson 5-3 Skill: Squares	Success Criteria: <ul style="list-style-type: none"> I can identify and name a square I can describe a square 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	
Lesson 5-4 Skill: Circles	Success Criteria: <ul style="list-style-type: none"> I can identify and name a circle I can describe a circle 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	
Lesson 5-5 Skill: Position of 2-Dimensional Shapes	Success Criteria: <ul style="list-style-type: none"> I can identify and name a flat shape I can describe the relative position of flat shapes 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	

Unit 6: Understanding Addition

District Formative Unit Assessment:
Unit 6 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.1

Develop an understanding for counting using objects in a set.

MA.K.AR.1

Represent and solve addition problems with sums between 0 and 10 and subtraction problems using related facts.

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<p>1) Uses counting and matching strategies to find which is more, less than, or equal to 10.</p> <p>2) Explores quantities up to eight using objects, fingers, and dramatic play to solve real-world joining and separating problems.</p>	<p>MA.K.NSO.3.1 Explore addition of two whole numbers from 0 to 10, and related subtraction facts.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes objects, fingers, drawings, number lines and equations. ▪ Clarification 2: Instruction focuses on the connection that addition is “putting together” or “counting on” and that subtraction is “taking apart” or “taking from.” Refer to Situations Involving Operations with Numbers (Appendix A). ▪ Clarification 3: Within this benchmark, it is the expectation that one problem can be represented in multiple ways and understanding how the different representations are related to each other. <p>MA.K.AR.1.3 Solve addition and subtraction real-world problems using objects, drawings or equations to represent the problem.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes understanding the context of the problem, as well as the quantities within the problem. ▪ Clarification 2: Students are not expected to independently read word problems. ▪ Clarification 3: Addition and subtraction are limited to sums within 10 and related subtraction facts. Refer to Situations Involving Operations with Numbers (Appendix A). <p>MA.K.AR.2.1 Explain why addition or subtraction equations are true using objects or drawings.</p> <ul style="list-style-type: none"> ○ <i>Example:</i> The equation $7 = 9 - 2$ can be represented with cupcakes to show that it is true by crossing out two of the nine cupcakes. ▪ Clarification 1: Instruction focuses on the understanding of the equal sign. ▪ Clarification 2: Problem types are limited to an equation with two or three terms. The sum or difference can be on either side of the equal sign. ▪ Clarification 3: Addition and subtraction are limited to sums within 20 and related subtraction facts. 	<p><i>In First Grade</i>, students will continue through exploration and reliability towards efficiency and eventually automaticity. (MA.1.NSO.2.1)</p> <p><i>In First Grade</i>, students will recognize the relationship between addition and subtraction and to use the relationship as a possible strategy (i.e., if $12 + 3$ is 15, then $15 - 3$ is 12.) (MA.1.NSO.2.2)</p> <p><i>In First Grade</i>, students will start to apply their understanding of mathematical concepts as they critically apply their knowledge in visualizing and deciphering word problems. (MA.1.AR.1.2)</p> <p><i>In First Grade</i>, students will get thinking about the relationships between addition and subtraction. (MA.1.AR.2.1)</p>

Instructional Strategies:

MA.K.NSO.3.1

The purpose of this benchmark is to begin building strategies for addition and subtraction using skills developed through previous benchmarks; such as counting forwards and backwards, counting objects and using number lines. Procedural reliability with these same addition and subtraction facts is expected in MA.K.NSO.3.2, and automaticity is to be achieved in grade 1 (MA.1.NSO.2.1).

- Instruction encourages students to use and explore various strategies as they begin to discover which strategies are best for them and best for given situations. (MTR.5.1, MTR.2.1)
 - Strategies include the use of manipulatives; the use of fingers, counting both sets separately and combining or removing, counting on and counting back, and using the relationship between addition and subtraction.
- Instruction includes the use of manipulatives and pictorial representations. · Instruction includes multiple representations of expressions and equations. (MTR.2.1)
 - For example, $3 + 7 = \underline{\quad}$ and $\underline{\quad} = 3 + 7$
- Instruction includes examples of all four situations for addition and subtraction as described in Appendix A.
- Instruction includes the use of context to provide a purpose for adding or subtracting, and to develop conceptual understanding for addition and subtraction. (MTR.7.1)

MA.K.AR.1.3

The purpose of this benchmark is to allow students to continue to flexibly discover various sums as they work towards procedural reliability in Kindergarten, and automaticity in grade 1. This benchmark allows students the opportunity to deepen understanding of addition and subtraction by connecting the concepts to real-world situations. Though this should not be the first exposure to contextual addition and subtraction problems, this benchmark provides the opportunity for making it explicit. (MTR.7.1)

- Instruction includes the relationship between addition and subtraction, providing opportunities for discovering subtraction facts that are related to addition facts. (MTR.5.1)
- Instruction includes opportunities for the use of various strategies and for students to collaborate and share strategies with each other. (MTR.2.1, MTR.4.1)
- Items or explanations including equations as strategies may help students begin to understand the meaning of the equal sign.

MA.K.AR.2.1

The purpose of this benchmark is to provide explicit opportunities for students to deepen understanding by justifying their solutions and explaining strategies they have chosen, as well as developing an understanding of the equal sign. (MTR.6.1, MTR.4.1)

- Instruction may present equations in different forms, such as $a + b = c$ or $c = a + b$ (MTR.2.1)
- Instruction focuses on understanding and supporting, not only identifying whether or not an equation is true.
- Instruction helps students understand that the equal sign does not mean to compute, but relates quantities to one another.
- Instruction includes the use of context to provide a purpose for adding or subtracting, and to support and scaffold student drawings. (MTR.7.1)

Key Vocabulary (may not be comprehensive)
items in bold can be found in the K-5 Glossary

Equation
Expression
Number Line
Equal Sign
 add
 in all
 join
 sum (total)

Common Misconceptions:

MA.K.NSO.3.1

- Students may confuse addition situations with subtraction situations based on “cue” or “key” words.
- For example, in the word problem “Steve has 7 crayons. Steve has 3 more crayons than Joane. How many crayons does Joane have?” the word “more” may make students think to add, though the context is actually subtraction.
 - Students may think there is only one correct way of solving a problem. Many problems can be solved by using addition or subtraction.
 - After mastering one addition or subtraction situation students may feel that there are no others to learn.

MA.K.AR.1.3

- Students may develop the assumption that the minuend must always be larger. Though students will not explore negative numbers until grade 6, students should not be taught a rule that will expire.
- Students may not yet have an understanding of the equal sign when attempting to use equations as a strategy (see MA.K.AR.2.1).

MA.K.AR.2.1

- Students may think that “equals” just means to compute, and may not recognize equations and expressions represented in non-standard ways, such as with pictures or manipulatives.



Suggested Manipulatives



Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 6-1 Skill: Represent and Solve Add to Problems	Success Criteria: <ul style="list-style-type: none"> I can show add to problems. I can explain how to show add to problems. 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> Lesson 6-1 to 6-6 Formative Assessment: <ul style="list-style-type: none"> Work Together (during a lesson) Exit Ticket (at the end of a lesson) Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Lesson 6-2 Skill: Represent and Solve More Add To Problems	Success Criteria: <ul style="list-style-type: none"> I can show add to problems with objects and equations. I can explain how to show add to problems with objects and equations. 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 6-3 Skill: Represent and Solve Put Together Problems	Success Criteria: <ul style="list-style-type: none"> I can show putting together two parts to find the total. I can explain how to put together two parts to find the total. 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 6-4 Skill: Represent and Solve Addition Problems	Success Criteria: <ul style="list-style-type: none"> I can solve addition word problems using objects or drawings. I can explain how to use objects or drawings to solve addition word problems. 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) 	

Math Probe: Addition Stories

Lesson 6-5 Skill: Represent and Solve More Addition Problems	Success Criteria: <ul style="list-style-type: none"> I can represent and solve addition word problems. I can explain how to represent and solve addition word problems. 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 6-6 Skill: Explore the Equal Sign	Success Criteria: <ul style="list-style-type: none"> I can explain the meaning of the equal sign. I can use the equal sign to write an equation in different ways. 	Proficiency Scale: <ul style="list-style-type: none"> Understand the Equal Sign (MA.K.AR.2) 	

Unit 7: Understanding Subtraction

District Formative Unit Assessment:
Unit 7 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.3

Develop an understanding of addition and subtraction operations with one-digit whole numbers.

MA.K.AR.1

Represent and solve addition problems with sums between 0 and 10 and subtraction problems using related facts.

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<p>1) Begin to demonstrate how to compose and decompose (build and take apart) sets up to eight using objects, fingers, and acting out.</p> <p>2) Explores quantities up to eight using objects, fingers, and dramatic play to solve real-world joining and separating problems.</p>	<p>MA.NSO.3.1 Explore addition of two whole numbers from 0-10, and related subtraction facts.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes objects, fingers, drawings, number lines and equations. ▪ Clarification 2: Instruction focuses on the connection that addition is “putting together” or “counting on” and that subtraction is “taking apart” or “taking from.” Refer to Situations Involving Operations with Numbers (Appendix A). ▪ Clarification 3: Within this benchmark, it is the expectation that one problem can be represented in multiple ways and understanding how the different representations are related to each other <p>MA.K.AR.1.3 Solve addition and subtraction real-world problems using objects, drawings, or equation to represent the problem.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes creating a ten using manipulatives, number lines, models and drawings. 	<p><i>In First Grade</i>, students will continue through exploration and reliability towards efficiency and eventually automaticity. (MA.1.NSO.2.1)</p> <p><i>In First Grade</i>, students will recognize the relationship between addition and subtraction and to use the relationship as a possible strategy (i.e., if $12 + 3$ is 15, then $15 - 3$ is 12.) (MA.1.NSO.2.2)</p> <p><i>In First Grade</i>, students will start to apply their understanding of mathematical concepts as they critically apply their knowledge in visualizing and deciphering word problems. (MA.1.AR.1.2)</p>

Instructional Strategies:

MA.K.NSO.3.1

The purpose of this benchmark is to begin building strategies for addition and subtraction using skills developed through previous benchmarks; such as counting forwards and backwards, counting objects and using number lines. Procedural reliability with these same addition and subtraction facts is expected in MA.K.NSO.3.2, and automaticity is to be achieved in grade 1 (MA.1.NSO.2.1).

- Instruction encourages students to use and explore various strategies as they begin to discover which strategies are best for them and best for given situations. (MTR.5.1, MTR.2.1)
 - Strategies include the use of manipulatives; the use of fingers, counting both sets separately and combining or removing, counting on and counting back, and using the relationship between addition and subtraction.
- Instruction includes the use of manipulatives and pictorial representations. · Instruction includes multiple representations of expressions and equations. (MTR.2.1)
 - For example, $3 + 7 = \underline{\quad}$ and $\underline{\quad} = 3 + 7$
- Instruction includes examples of all four situations for addition and subtraction as described in Appendix A.

- Instruction includes the use of context to provide a purpose for adding or subtracting, and to develop conceptual understanding for addition and subtraction. (MTR.7.1)

MA.K.AR.1.3

The purpose of this benchmark is to allow students to continue to flexibly discover various sums as they work towards procedural reliability in Kindergarten, and automaticity in grade 1. This benchmark allows students the opportunity to deepen understanding of addition and subtraction by connecting the concepts to real-world situations. Though this should not be the first exposure to contextual addition and subtraction problems, this benchmark provides the opportunity for making it explicit. (MTR.7.1)

- Instruction includes the relationship between addition and subtraction, providing opportunities for discovering subtraction facts that are related to addition facts. (MTR.5.1)
- Instruction includes opportunities for the use of various strategies and for students to collaborate and share strategies with each other. (MTR.2.1, MTR.4.1)
- Items or explanations including equations as strategies may help students begin to understand the meaning of the equal sign.

MA.K.AR.2.1

The purpose of this benchmark is to provide explicit opportunities for students to deepen understanding by justifying their solutions and explaining strategies they have chosen, as well as developing an understanding of the equal sign. (MTR.6.1, MTR.4.1)

- Instruction may present equations in different forms, such as $a + b = c$ or $c = a + b$ (MTR.2.1)
- Instruction focuses on understanding and supporting, not only identifying whether or not an equation is true.
- Instruction helps students understand that the equal sign does not mean to compute, but relates quantities to one another.
- Instruction includes the use of context to provide a purpose for adding or subtracting, and to support and scaffold student drawings. (MTR.7.1)

Key Vocabulary (may not be comprehensive)
items in bold can be found in the K-5 Glossary

Equation

Expression

Number Line

Equal Sign

difference

subtract

minus

subtraction sign

Common Misconceptions:

MA.K.NSO.3.1

Students may confuse addition situations with subtraction situations based on “cue” or “key” words.

- For example, in the word problem “Steve has 7 crayons. Steve has 3 more crayons than Joane. How many crayons does Joane have?” the word “more” may make students think to add, though the context is actually subtraction.

- Students may think there is only one correct way of solving a problem. Many problems can be solved by using addition or subtraction.
- After mastering one addition or subtraction situation students may feel that there are no others to learn.

MA.K.AR.1.3

- Students may develop the assumption that the minuend must always be larger. Though students will not explore negative numbers until grade 6, students should not be taught a rule that will expire.
- Students may not yet have an understanding of the equal sign when attempting to use equations as a strategy (see MA.K.AR.2.1).

Suggested Manipulatives





Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 7-1 Skill: Represent Take Apart Problems	Success Criteria: <ul style="list-style-type: none"> I can represent take apart problems I can explain how to represent take apart problems 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) Understand Addition and Subtraction to 10 (NSO.3) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> Lesson 7-1 to 7-5 Formative Assessment: <ul style="list-style-type: none"> Work Together (during a lesson) Exit Ticket (at the end of a lesson) Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Lesson 7-2 Skill: Represent and Solve Take from Problems	Success Criteria: <ul style="list-style-type: none"> I can represent and solve take from problems. I can explain how to represent and solve take from problems. 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 7-3 Skill: Represent and Solve More Take from Problems	Success Criteria: <ul style="list-style-type: none"> I can represent and solve take from problems I can explain how to represent and solve take from problems 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) Understand Addition and Subtraction to 10 (NSO.3) 	
Lesson 7-4 Skill: Represent and Solve Subtraction Problems	Success Criteria: <ul style="list-style-type: none"> I can represent and solve subtraction problems I can explain how to represent and solve subtraction problems 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 7-5 Skill: Represent and Solve Addition and Subtraction Problems	Success Criteria: <ul style="list-style-type: none"> I can represent and solve addition and subtraction problems I can explain how to represent and solve addition and subtraction problems 	Proficiency Scale: <ul style="list-style-type: none"> Understand Addition and Subtraction to 10 (MA.K.AR.1) Understand Addition and Subtraction to 10 (NSO.3) 	
Math Probe: Representing Addition and Subtraction			

Unit 8: Addition and Subtraction Strategies

District Formative Unit Assessment:
Unit 8 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.3

Develop an understanding of addition and subtraction operations with one-digit whole numbers.

MA.K.AR.1

Represent and solve addition problems with sums between 0 and 10 and subtraction problems using related facts.

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<p>1) Begin to demonstrate how to compose and decompose (build and take apart) sets up to eight using objects, fingers, and acting out.</p> <p>2) Explores quantities up to eight using objects, fingers, and dramatic play to solve real-world joining and separating problems.</p>	<p><u>MA.NSO.3.1</u> Explore addition of two whole numbers from 0-10, and related subtraction facts.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes objects, fingers, drawings, number lines and equations. ▪ Clarification 2: Instruction focuses on the connection that addition is “putting together” or “counting on” and that subtraction is “taking apart” or “taking from.” Refer to Situations Involving Operations with Numbers (Appendix A). ▪ Clarification 3: Within this benchmark, it is the expectation that one problem can be represented in multiple ways and understanding how the different representations are related to each other <p><u>MA.K.NSO.3.2</u> Add two one-digit whole numbers with sums from 0 to 10 and subtract using related facts with procedural reliability.</p> <ul style="list-style-type: none"> ○ Example: The sum $2 + 7$ can be found by counting on, using fingers or by “jumps” on the number line. ○ Example: The numbers 3, 5 and 8 make a fact family (number bonds). It can be represented as 5 and 3 make 8; 3 and 5 make 8; 8 take away 5 is 3; and 8 take away 3 is 5. ▪ Clarification 1: Instruction focuses on helping a student choose a method they can use reliably. <p><u>MA.K.AR.1.2</u> Given a number from 0 to 10, find the different ways it can be represented as the sum of two numbers.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes the exploration of finding possible pairs to make a sum using manipulatives, objects, drawings and expressions; and understanding how the different representations are related to each other 	<p><i>In First Grade</i>, students will continue through exploration and reliability towards efficiency and eventually automaticity. (MA.1.NSO.2.1)</p> <p><i>In First Grade</i>, students will recognize the relationship between addition and subtraction and to use the relationship as a possible strategy (i.e., if $12 + 3$ is 15, then $15 - 3$ is 12.) (MA.1.NSO.2.2)</p> <p><i>In First Grade</i>, students will explore addition and think when it comes to adding three numbers together such as rearranging addends, looking for doubles, making a ten, etc. (MA.1.AR.1.1)</p>

Instructional Strategies:

MA.K.NSO.3.1

The purpose of this benchmark is to begin building strategies for addition and subtraction using skills developed through previous benchmarks; such as counting forwards and backwards, counting objects and using number lines. Procedural reliability with these same addition and subtraction facts is expected in MA.K.NSO.3.2, and automaticity is to be achieved in grade 1 (MA.1.NSO.2.1).

- Instruction encourages students to use and explore various strategies as they begin to discover which strategies are best for them and best for given situations. *(MTR.5.1, MTR.2.1)*
- Strategies include the use of manipulatives; the use of fingers, counting both sets separately and combining or removing, counting on and counting back, and using the relationship between addition and subtraction.
- Instruction includes the use of manipulatives and pictorial representations.
- Instruction includes multiple representations of expressions and equations. *(MTR.2.1)*
 - For example, $3+7=$ __ and __= $3+7$.
- Instruction includes examples of all four situations for addition and subtraction as described in Appendix A.
- Instruction includes the use of context to provide a purpose for adding or subtracting, and to develop conceptual understanding for addition and subtraction. *(MTR.7.1)*

MA.K.NSO.3.2

The purpose of this benchmark is to build upon the exploration of MA.K.NSO.3.1 and provide students with opportunities to become more efficient in their selection and use of strategies. The goal is not to be fluent with addition and subtraction, but rather to build the foundation for fluency in later grades. *(MTR.3.1)*

- Instruction includes the use of manipulatives and pictorial representations.
- Instruction allows students to continue exploring various strategies for addition and subtraction, discovering strategies that allow them to become more efficient. *(MTR.2.1)*
- Instruction includes the use of discussions where students share strategies with one another. *(MTR.4.1)*
- Though the first expectation for procedural fluency with addition and subtraction is not until Grade 2, instruction allows students to become more efficient through choosing appropriate strategies. *(MTR.3.1)*
 - For example, students moving from combining then counting sets to counting on.
- Instruction includes the use of the commutative property (not by name) as a strategy for adding. This is connected to the Cardinality Principle – the total number remains the same after rearrangement. *(MTR.5.1)*
 - For example, allow students to discover that $7+2=9$ and $2+7=9$ to help develop the understanding of the commutative property.
- Instruction includes the use of context to provide a purpose for adding or subtracting, and to develop conceptual understanding for addition and subtraction. *(MTR.7.1)*

MA.K.AR.1.2

The purpose of this benchmark is to explore addition and lay a foundation for fluency in later grades. This benchmark provides the foundation for the strategy of making a 10 that can be used as the scale of addition increases in later grades. *(MTR.5.1)*

- Instruction allows students to flexibly discover addends that make 10 using strategies and manipulatives. Strategies and manipulatives include addition and subtraction facts, counting with fingers, ten frames, number lines, models and drawings. *(MTR.2.1)*
- Instruction includes the use of the commutative property (not by name) as a strategy for adding.
 - For example, allow students to discover that $7+3=10$ and $3+7=10$ to build their understanding and extending it to find new sums. If a student knows $4+6$ they now also know $6+4$. *(MTR.5.1)*
- Instruction allows for students to develop verbal explanations as they learn to justify and explain their thinking. *(MTR.4.1)*
- Instruction includes making a connection to related subtraction facts.
 - For example, saying that the number you add to 3 to find 10 is 7 is the same as $10-3=7$.

Key Vocabulary

(may not be comprehensive) items in bold can be found in the K-5 Glossary

Equation Expression Number Line

count on
count back
decompose
compose
false
true

Common Misconceptions:

MA.K.NSO.3.1

Students may confuse addition situations with subtraction situations based on “cue” or “key” words.

- For example, in the word problem “Steve has 7 crayons. Steve has 3 more crayons than Joane. How many crayons does Joane have?” the word “more” may make students think to add, though the context is actually subtraction.
- Students may think there is only one correct way of solving a problem. Many problems can be solved by using addition or subtraction.
- After mastering one addition or subtraction situation students may feel that there are no others to learn.

MA.K.NSO.3.2

The purpose of this benchmark is to build upon the exploration of MA.K.NSO.3.1 and provide students with opportunities to become more efficient in their selection and use of strategies. The goal is not to be fluent with addition and subtraction, but rather to build the foundation for fluency in later grades. (MTR.3.1)

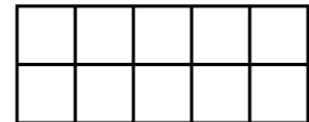
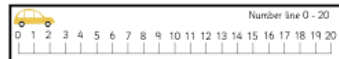
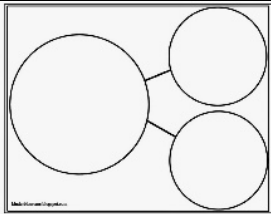
- Instruction includes the use of manipulatives and pictorial representations.
- Instruction allows students to continue exploring various strategies for addition and subtraction, discovering strategies that allow them to become more efficient. (MTR.2.1)
- Instruction includes the use of discussions where students share strategies with one another. (MTR.4.1)
- Though the first expectation for procedural fluency with addition and subtraction is not until Grade 2, instruction allows students to become more efficient through choosing appropriate strategies. (MTR.3.1)
 - For example, students moving from combining then counting sets to counting on.
- Instruction includes the use of the commutative property (not by name) as a strategy for adding. This is connected to the Cardinality Principle – the total number remains the same after rearrangement. (MTR.5.1)
 - For example, allow students to discover that $7+2=9$ and $2+7=9$ to help develop the understanding of the commutative property.
- Instruction includes the use of context to provide a purpose for adding or subtracting, and to develop conceptual understanding for addition and subtraction. (MTR.7.1)

MA.K.AR.1.2

Students may not connect pairs of addends through the commutative property. Though there is no expectation that students name the commutative property, they should begin to discover the connections and patterns and recognize that if $a+b=10$, then $b+a= 10$.

- Students may not recognize that multiple pairs of addends represent the same sum.
- Students may not recognize that the two numbers don't have to be different.
 - For example, if the given number is 8 a student may not think to represent it as $4+4$.
 -

Suggested Manipulatives





Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 8-1 Skill: Add within 10	Success Criteria: <ul style="list-style-type: none"> ▪ I can solve addition equations within 10. ▪ I can explain how to solve addition equations within 10. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (NSO.3) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> ▪ Lesson 8-1 to 8-10 Formative Assessment: <ul style="list-style-type: none"> ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Lesson 8-2 Skill: Subtraction within 10	Success Criteria: <ul style="list-style-type: none"> ▪ I can solve subtraction equations within 10 ▪ I can explain how to solve subtraction equations within 10 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (NSO.3) 	
Lesson 8-3 Skill: Ways to Decompose Numbers to 5	Success Criteria: <ul style="list-style-type: none"> ▪ I can decompose numbers to 5 in different ways. ▪ I can explain how to decompose numbers to 5 in different ways. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 8-4 Skill: Ways to make 6 and 7	Success Criteria: <ul style="list-style-type: none"> ▪ I can make 6 and 7 in different ways ▪ I can explain how to make 6 and 7 in different ways. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (NSO.3) 	
Math Probe: Representing Addition and Subtraction			
Lesson 8-5 Skill: Ways to Decompose 6 and 7	Success Criteria: <ul style="list-style-type: none"> ▪ I can decompose 6 and 7 in different ways. ▪ I can explain how to decompose 6 and 7 in different ways. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 8-6 Skill Ways to make 8 and 9	Success Criteria: <ul style="list-style-type: none"> ▪ I can make 8 and 9 in different ways. ▪ I can explain how to make 8 and 9 in different ways. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (NSO.3) 	
Lesson 8-7 Skill Ways to decompose 8 and 9	Success Criteria: <ul style="list-style-type: none"> ▪ I can decompose 8 and 9 in different ways. ▪ I can explain how to decompose 8 and 9 in different ways. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 8-8 Skill Ways to Make 10	Success Criteria: <ul style="list-style-type: none"> ▪ I can make 10 in different ways. ▪ I can find different number combinations for 10. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (MA.K.AR.1) ▪ Understand Addition and Subtraction to 10 (NSO.3) 	
Lesson 8-9 Skill Ways to Decompose 10	Success Criteria: <ul style="list-style-type: none"> ▪ I can decompose 10 in different ways. ▪ I can explain how to decompose 10 in different ways. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand Addition and Subtraction to 10 (MA.K.AR.1) 	
Lesson 8-10 Skill True Equations	Success Criteria: <ul style="list-style-type: none"> ▪ I can determine if an addition or subtraction equation is true or false. ▪ I can explain what makes an addition or subtraction equation true or false. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Understand the Equal Sign (MA.K.AR.2) 	



Unit 9: Numbers 11 to 15

District Formative Unit Assessment: Unit 9 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.1

Develop an understanding for counting using objects in a set

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<ol style="list-style-type: none"> 1) Subitizes (immediately recognizes without counting) up to five objects 2) Counts and identifies the number sequence "1 to 31" 3) Demonstrates one-to-one correspondence when counting objects placed in a row (one to 15 and beyond) 4) Identifies the last number spoken tells "how many" up to 10 (cardinality) 5) Constructs and counts sets of objects (one to 10 and beyond) 6) Uses counting and matching strategies to find which is more, less than or equal to 10. 7) Reads and writes some numerals one to 10 using appropriate activities. 	<p>MA.NSO.1.1 Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction focuses on developing an understanding of cardinality and one-to-one correspondence. ▪ Clarification 2: Instruction includes counting objects and pictures presented in a line, rectangular array, circle or scattered arrangement. Objects presented in a scattered arrangement are limited to 10. ▪ Clarification 3: Within this benchmark, the expectation is not to write the number in word form. <p>MA.K.NSO.1.2 Given a number from 0 to 20, count out that many objects.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes giving a number verbally or with a written numeral. <p>MA.K.NSO.2.2 Represent whole numbers from 10 to 20, using a unit of ten and a group of ones, with objects, drawings and expressions or equations.</p> <p>MA.K.NSO.2.3 Locate, order and compare numbers from 0 to 20 using the number line and terms less than, equal to or greater than.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Within this benchmark, the expectation is not to use the relational symbols =, > or 	<p><u>In First Grade</u>, students will interact with patterns found in counting. (MA.1.NSO.1.1)</p> <p><u>In First Grade</u>, students will understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3. (MA.1.NSO.1.2)</p> <p><u>In First Grade</u>, students will recognize the relationship between addition and subtraction and use that relationship as a possible strategy (i.e., if $12 + 3$ is 15, then $15 - 3$ is 12). (MA.1.NSO.2.2)</p> <p><u>In First Grade</u>, students will focus on place value and patterns that are found in numbers. (MA.1.NSO.2.3)</p>

Instructional Strategies:

MA.K.NSO.1.1

The purpose of this benchmark is to help students develop an understanding of cardinality: the principle that the last number when counted in a set represents the total number within the set, and that the number of objects in a set remains the same regardless of the arrangement of the set. Additionally, this benchmark allows students to begin recognizing and writing numerals.

- Instruction includes the use of manipulatives, pictorial representations and real-world contexts to provide a purpose for counting. (MTR.2.1, MTR.7.1)
- Instruction includes symbolic representation of numbers 0 – 20. (MTR.7.1)

MA.K.NSO.1.2

The purpose of this benchmark is to help students further develop the concept that counting gives the number of objects in a set and to reinforce the counting sequence. Students should count out a given number of objects, and if the counted set is rearranged or moved, students should restate the number of objects without counting.

- Instruction includes the use of manipulatives and pictorial representations.
- Instruction may use ten-frames or similar organizers to help students organize their counting. (MTR.5.1)
- Instruction includes context to provide a purpose for counting. (MTR.7.1)

MA.K.NSO.2.2

The purpose of this benchmark is to help students build the foundation of place value. By decomposing and viewing a number as its 10s and 1s students can begin to use strategies for adding and subtracting in later benchmarks and grade levels as the scale increases.

- Instruction helps students develop the meaning of numbers beyond the conventional names.
- Instruction focuses on multiple ways to represent numbers. (MTR.2.1)
- Instructions build the foundation for expanded form and decomposing numbers, which can be used as a strategy for operations later. (MTR.5.1)

MA.K.NSO.2.3

The purpose of this benchmark is to build on knowledge from comparing in MA.K.NSO.1.4 and to introduce the number line. This benchmark will deepen student understanding of the relationship between numbers, as well as provide the foundation for the number line as a strategy for operations later on.

- Instruction includes varied orientations and ranges of the number line.
 - For example, given number lines can be horizontal, vertical, starting at 0, starting at another number, include blanks or an open number line. (MTR.5.1)
- Instruction includes making a connection to measurement when comparing numbers on a number line, which will help prepare students for using rulers in later grades.

Key Vocabulary

(may not be comprehensive) **items in bold can be found in the K-5 Glossary**

ten
eleven
twelve
thirteen
fourteen
fifteen
order

Common Misconceptions:

MA.K.NSO.1.1

- Students may inaccurately report the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged (i.e., conservation of cardinality).
- Students may recount the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged.
- Students may recount a group of objects when asked “how many,” rather than reporting the last number counted.
- Students may not be systematic in their counting.
 - For example, a student may double count or skip numbers.

MA.K.NSO.1.2

- Students may skip or repeat numbers when counting out objects.
 - For example, a student may say “14, 15, 17.”
- Students may lose track of which objects have been counted

<p>cardinality principle natural number whole number equation expression equal sign number line</p>	<p>MA.K.NSO.2.2</p> <ul style="list-style-type: none"> Students may attach too much meaning to certain number names. <ul style="list-style-type: none"> Example: sixteen linguistically makes sense as six and teen, or six and ten; while eleven and twelve do not have linguistic cues. Students may think there is only one way to represent numbers with tens and ones. <p>MA.K.NSO.2.3</p> <ul style="list-style-type: none"> Students may assume that all number lines start at 0 or 1. When looking at number lines with hash marks, students may number the spaces between the hash marks instead of the hash marks.
--	--

Suggested Manipulatives



Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

<p>Lesson 9-1 Skill: Represent 1 Ten</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> I can bundle a group of 10 ones. I can explain that 10 ones are the same as 1 ten. 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> Counting & Comparing Objects (MA.K.NSO.1) Recite & Represent Number Sequence (MA.K.NSO.2) 	<p>Resources:</p> <p>McGraw Hill Reveal</p> <ul style="list-style-type: none"> Lesson 9-1 to 9-8 <p>Formative Assessment:</p> <ul style="list-style-type: none"> Work Together (during a lesson) Exit Ticket (at the end of a lesson) Math probe (during a unit) <p>Additional Resources:</p> <p>See Grade K BIG-M document for an instructional task(s) and item(s).</p>
<p>Lesson 9-2 Skill: Represent 11, 12, and 13</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> I can represent 11,12, and 13. I can explain how to represent 11,12, and 13. 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> Counting & Comparing Objects (MA.K.NSO.1) 	
<p>Lesson 9-3 Skill: Make 11,12, and 13</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> I can make groups of 11,12, and 13 objects. I can explain how to make groups of 11,12, and 13 objects. 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> Recite & Represent Number Sequence (MA.K.NSO.2) 	
<p>Lesson 9-4 Skill: Decompose 11,12, and 13</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> I can decompose groups of 11,12, and 13 objects. I can explain how to decompose groups of 11,12, and 13 objects. 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> Recite & Represent Number Sequence (MA.K.NSO.2) 	
<p>Lesson 9-5 Skill: Represent 14 and 15</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> I can represent 14 and 15. I can explain how to represent 14 and 15. 	<p>Proficiency Scale:</p> <ul style="list-style-type: none"> Counting & Comparing Objects (MA.K.NSO.1) 	
<p>Math Probe: Counting Counters</p>			

Lesson 9-6 Skill: Make 14 and 15	Success Criteria: <ul style="list-style-type: none"> ▪ I can make groups of 14 and 15 objects. ▪ I can explain how to make groups of 14 and 15 objects. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Lesson 9-7 Skill: Decompose 14 and 15	Success Criteria: <ul style="list-style-type: none"> ▪ I can decompose groups of 14 and 15 objects. ▪ I can explain how to decompose groups of 14 and 15 objects. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	NOTES
Lesson 9-8 Skill: Compare and Order Numbers to 15	Success Criteria: <ul style="list-style-type: none"> ▪ I can locate and order numbers to 15 on a number line. ▪ I can compare numbers to 15 on a number line using the terms greater than, less than, and equal to.. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	

Unit 10: Numbers 16 to 20

District Formative Unit Assessment: Unit 10 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.1

Develop an understanding for counting using objects in a set

MA.K.NSO.2

Recite number names sequentially within 100 and develop an understanding for place value

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<ol style="list-style-type: none"> 1) Subitizes (immediately recognizes without counting) up to five objects 2) Counts and identifies the number sequence "1 to 31" 3) Demonstrates one-to-one correspondence when counting objects placed in a row (one to 15 and beyond) 4) Identifies the last number spoken tells "how many" up to 10 (cardinality) 5) Constructs and counts sets of objects (one to 10 and beyond) 6) Uses counting and matching strategies to find which is more, less than or equal to 10. 7) Reads and writes some numerals one to 10 using appropriate activities. 	<p><u>MA.NSO.1.1</u> Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction focuses on developing an understanding of cardinality and one-to-one correspondence. ▪ Clarification 2: Instruction includes counting objects and pictures presented in a line, rectangular array, circle or scattered arrangement. Objects presented in a scattered arrangement are limited to 10. ▪ Clarification 3: Within this benchmark, the expectation is not to write the number in word form. <p><u>MA.K.NSO.1.2</u> Given a number from 0 to 20, count out that many objects.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes giving a number verbally or with a written numeral. <p><u>MA.K.NSO.2.2</u> Represent whole numbers from 10 to 20, using a unit of ten and a group of ones, with objects, drawings and expressions or equations.</p> <p><u>MA.K.NSO.2.3</u> Locate, order and compare numbers from 0 to 20 using the number line and terms less than, equal to or greater than.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Within this benchmark, the expectation is not to use the relational symbols =, > or 	<p><u>In First Grade</u>, students will interact with patterns found in counting. (MA.1.NSO.1.1)</p> <p><u>In First Grade</u>, students will understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3. (MA.1.NSO.1.2)</p> <p><u>In First Grade</u>, students will recognize the relationship between addition and subtraction and use that relationship as a possible strategy (i.e., if $12 + 3$ is 15, then $15 - 3$ is 12). (MA.1.NSO.2.2)</p> <p><u>In First Grade</u>, students will focus on place value and patterns that are found in numbers. (MA.1.NSO.2.3)</p>

Instructional Strategies:

MA.K.NSO.1.1

The purpose of this benchmark is to help students develop an understanding of cardinality: the principle that the last number when counted in a set represents the total number within the set, and that the number of objects in a set remains the same regardless of the arrangement of the set. Additionally, this benchmark allows students to begin recognizing and writing numerals.

- Instruction includes the use of manipulatives, pictorial representations and real-world contexts to provide a purpose for counting. (MTR.2.1, MTR.7.1)
- Instruction includes symbolic representation of numbers 0 – 20. (MTR.7.1)

MA.K.NSO.1.2

The purpose of this benchmark is to help students further develop the concept that counting gives the number of objects in a set and to reinforce the counting sequence. Students should count out a given number of objects, and if the counted set is rearranged or moved, students should restate the number of objects without counting.

- Instruction includes the use of manipulatives and pictorial representations.
- Instruction may use ten-frames or similar organizers to help students organize their counting. (MTR.5.1)
- Instruction includes context to provide a purpose for counting. (MTR.7.1)

MA.K.NSO.2.2

The purpose of this benchmark is to help students build the foundation of place value. By decomposing and viewing a number as its 10s and 1s students can begin to use strategies for adding and subtracting in later benchmarks and grade levels as the scale increases.

- Instruction helps students develop the meaning of numbers beyond the conventional names.
- Instruction focuses on multiple ways to represent numbers. (MTR.2.1)
- Instructions build the foundation for expanded form and decomposing numbers, which can be used as a strategy for operations later. (MTR.5.1)

MA.K.NSO.2.3

The purpose of this benchmark is to build on knowledge from comparing in MA.K.NSO.1.4 and to introduce the number line. This benchmark will deepen student understanding of the relationship between numbers, as well as provide the foundation for the number line as a strategy for operations later on.

- Instruction includes varied orientations and ranges of the number line.
 - For example, given number lines can be horizontal, vertical, starting at 0, starting at another number, include blanks or an open number line. (MTR.5.1)
- Instruction includes making a connection to measurement when comparing numbers on a number line, which will help prepare students for using rulers in later grades.

Key Vocabulary

(may not be comprehensive) **items in bold can be found in the K-5 Glossary**

Sixteen
seventeen
eighteen
nineteen
twenty
order

Common Misconceptions:

MA.K.NSO.1.1

- Students may inaccurately report the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged (i.e., conservation of cardinality).
- Students may recount the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged.
- Students may recount a group of objects when asked “how many,” rather than reporting the last number counted.
- Students may not be systematic in their counting.
 - For example, a student may double count or skip numbers.

MA.K.NSO.1.2

- Students may skip or repeat numbers when counting out objects.
 - For example, a student may say “14, 15, 17.”
- Students may lose track of which objects have been counted

cardinality principle natural number whole number equation expression equal sign number line	<p>MA.K.NSO.2.2</p> <ul style="list-style-type: none"> ▪ Students may attach too much meaning to certain number names. <ul style="list-style-type: none"> ○ Example: sixteen linguistically makes sense as six and teen, or six and ten; while eleven and twelve do not have linguistic cues. ▪ Students may think there is only one way to represent numbers with tens and ones. <p>MA.K.NSO.2.3</p> <ul style="list-style-type: none"> ▪ Students may assume that all number lines start at 0 or 1. ▪ When looking at number lines with hash marks, students may number the spaces between the hash marks instead of the hash marks.
---	--

Suggested Manipulatives



Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*
 Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 10-1 Skill: Represent 16 and 17	Success Criteria: <ul style="list-style-type: none"> ▪ I can represent 16 and 17 ▪ I can explain how to represent 16 and 17 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> ▪ Lesson 10-1 to 10-8 Formative Assessment: <ul style="list-style-type: none"> ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Math Probe: How Many Counters?			
Lesson 10-2 Skill: Make 16 and 17	Success Criteria: <ul style="list-style-type: none"> ▪ I can make groups of 16 and 17 objects ▪ I can explain how to make groups of 16 and 17 objects 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Lesson 10-3 Skill: Decompose 16 and 17	Success Criteria: <ul style="list-style-type: none"> ▪ I can decompose groups of 16 and 17 objects ▪ I can explain how to decompose groups of 16 and 17 objects 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Lesson 10-4 Skill: Represent 18 and 19	Success Criteria: <ul style="list-style-type: none"> ▪ I can represent 18 and 19 ▪ I can explain how to represent 18 and 19 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	
Lesson 10-5 Skill: Make 18 and 19	Success Criteria: <ul style="list-style-type: none"> ▪ I can make groups of 18 and 19 ▪ I can explain how to make groups of 18 and 19 objects 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	

Lesson 10-6 Skill: Decompose 18 and 19	Success Criteria: <ul style="list-style-type: none"> ▪ I can decompose groups of 18 and 19 objects ▪ I can explain how to decompose groups of 18 and 19 objects 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	NOTES
Lesson 10-7 Skill: Represent, make and decompose 20	Success Criteria: <ul style="list-style-type: none"> ▪ I can represent, make, and decompose groups of 20 objects ▪ I can explain how to represent, make, and decompose groups of 20 objects 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Lesson 10-8 Skill: Compare and order numbers to 20	Success Criteria: <ul style="list-style-type: none"> ▪ I can locate and order numbers to 20 on a number line ▪ I can compare numbers to 20 on a number line using the terms greater than, less than, and equal to 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	

Unit 11: 3-Dimensional Shapes

District Formative Unit Assessment:
Unit 11 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.GR.1

Identify, compare and compose two- and three-dimensional figures.

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<ol style="list-style-type: none"> 1) Recognize and names two-dimensional shapes (circles, square, triangle and rectangle) of different size and orientation. 2) Describes, sorts and classifies two- and three-dimensional shapes using some attributes such as size, sides and other properties (e.g., vertices) 3) Creates two-dimensional shapes using other shapes (e.g., putting two squares together to make a rectangle.) 4) Constructs with three-dimensional shapes in the environment through play (e.g., building castles in the construction area) 	<p>MA.K.GR.1.1</p> <ul style="list-style-type: none"> ▪ Identify two- and three-dimensional figures regardless of their size or orientation. Figures are limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders Benchmark Clarification 1: Instruction includes a wide variety of circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders. ▪ Clarification 2: Instruction includes a variety of non-examples that lack one or more defining attributes. ▪ Clarification 3: Two-dimensional figures can be either filled, outlined or both. 	<p><u>In First Grade</u>, students will recognize figures by their defining attributes as this will help them sort figures based on attributes rather than orientation, color, or size. (MA.1.GR.1.1)</p>

Instructional Strategies:

The purpose of this benchmark is to help students identify specific two- and three-dimensional figures, and to make connections between the figures. (MTR.2.1, MTR.5.1)

- It is not the expectation of this benchmark to make distinctions between two- and three-dimensional figures.
- Instruction focuses on using a variety of figures including different orientations, such as scalene, isosceles and equilateral triangles, to build the understanding of triangles. (There is no expectation that students learn these terms, but it is important they recognize various types of triangles.) (MTR.2.1)
- Instruction for rectangles and squares includes their similarities and differences, and the relationship that all squares are rectangles, but not all rectangles are squares. (MTR.5.1)
- Instruction may use manipulatives and other concrete objects to develop student understanding.

Key Vocabulary (may not be comprehensive) **items in bold can be found in the K-5 Glossary**

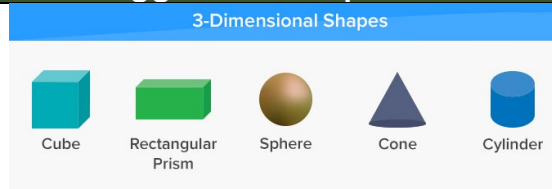
2-dimensional shape 3-dimensional shape flat shape solid shape
 cube face rounded surface sphere base cylinder apex
 cone **circle** **cylinders** **rectangles** **squares** **triangle**

Common Misconceptions:

- Students may only recognize figures in a specific orientation or angle distribution (i.e., recognizing isosceles triangles but not scalene).
- Students may not recognize that a square is also a rectangle.
- Students may sort objects by size when asked to sort by shape.
 - For example, students may place large circles with large triangles, or separate large triangles and small triangles.



Suggested Manipulatives



Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 11-1 Skill: 2-Dimensional and 3-Dimensional Shapes	Success Criteria: <ul style="list-style-type: none"> ▪ I can tell if a shape is flat or solid. ▪ I can tell the difference between flat shapes and solid shapes. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> ▪ Lesson 11-1 to 11-6
Math Probe: Flat Shape or Solid Shape?			
Lesson 11-2 Skill: Cubes	Success Criteria: <ul style="list-style-type: none"> ▪ I can identify a cube. ▪ I can describe a cube. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	Formative Assessment: <ul style="list-style-type: none"> ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Lesson 11-3 Skill: Spheres	Success Criteria: <ul style="list-style-type: none"> ▪ I can identify and name a sphere. ▪ I can describe a sphere. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	
Lesson 11-4 Skill: Cylinders	Success Criteria: <ul style="list-style-type: none"> ▪ I can identify and name a cylinder ▪ I can describe a cylinder 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	
Lesson 11-5 Skill: Cones	Success Criteria: <ul style="list-style-type: none"> ▪ I can identify and name a cone. ▪ I can describe a cone. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	
Lesson 11-6 Skill: Describe Solids	Success Criteria: <ul style="list-style-type: none"> ▪ I can identify and name a solid shape. ▪ I can describe the location of solid shapes. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare 2-D and 3-D Shapes (MA.K.GR.1) 	
			NOTES

Unit 12: Count to 100

District Formative Unit Assessment: Unit 12 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.NSO.1

Develop an understanding for counting using objects in a set

MA.K.NSO.2

Recite number names sequentially within 100 and develop an understanding for place value

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards	Kindergarten	First Grade
<ol style="list-style-type: none"> 1) Subitizes (immediately recognizes without counting) up to five objects 2) Counts and identifies the number sequence "1 to 31" 3) Demonstrates one-to-one correspondence when counting objects placed in a row (one to 15 and beyond) 4) Identifies the last number spoken tells "how many" up to 10 (cardinality) 5) Constructs and counts sets of objects (one to 10 and beyond) 6) Uses counting and matching strategies to find which is more, less than or equal to 10. 7) Reads and writes some numerals one to 10 using appropriate activities. 	<p><u>MA.NSO.1.1</u> Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction focuses on developing an understanding of cardinality and one-to-one correspondence. ▪ Clarification 2: Instruction includes counting objects and pictures presented in a line, rectangular array, circle or scattered arrangement. Objects presented in a scattered arrangement are limited to 10. ▪ Clarification 3: Within this benchmark, the expectation is not to write the number in word form. <p><u>MA.K.NSO.1.2</u> Given a number from 0 to 20, count out that many objects.</p> <ul style="list-style-type: none"> ▪ Clarification 1: Instruction includes giving a number verbally or with a written numeral. 	<p><u>In First Grade</u>, students will interact with patterns found in counting. (MA.1.NSO.1.1)</p> <p><u>In First Grade</u>, students will understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3. (MA.1.NSO.1.2)</p> <p><u>In First Grade</u>, students will continue their exploration and reliability towards efficiency and eventually automaticity. (MA.1.NSO.2.1)</p>

Instructional Strategies:

MA.K.NSO.1.1

The purpose of this benchmark is to help students develop an understanding of cardinality: the principle that the last number when counted in a set represents the total number within the set, and that the number of objects in a set remains the same regardless of the arrangement of the set. Additionally, this benchmark allows students to begin recognizing and writing numerals.

- Instruction includes the use of manipulatives, pictorial representations and real-world contexts to provide a purpose for counting. (MTR.2.1, MTR.7.1)
- Instruction includes symbolic representation of numbers 0 – 20. (MTR.7.1)

MA.K.NSO.1.2

The purpose of this benchmark is to help students further develop the concept that counting gives the number of objects in a set and to reinforce the counting sequence. Students should count out a given number of objects, and if the counted set is rearranged or moved, students should restate the number of objects without counting.

- Instruction includes the use of manipulatives and pictorial representations.
- Instruction may use ten-frames or similar organizers to help students organize their counting. (MTR.5.1)
- Instruction includes context to provide a purpose for counting. (MTR.7.1)

MA.K.NSO.2.1

The purpose of this benchmark is for students to continue through exploration and reliability towards efficiency and eventually automaticity. In Kindergarten, students added two one-digit numbers with sums from 0 – 10 and they subtracted by using related facts with procedural reliability. Instruction for Kindergarten focused first on exploring to build understanding, then students focused on selecting reliable methods.

- Instruction focuses on the fact that automaticity is usually the result of repetition and practice.
- Instruction of this benchmark should not be in isolation from other benchmarks that emphasize understanding.
- Instruction should not focus on speed or competition in the classroom.
- **The correct way to assess automaticity is to observe students within the instructional setting as they complete problems that involve addition and subtraction.** Even though such problems can typically be done without automaticity they will be done with less effort with automaticity.

Key Vocabulary

(may not be comprehensive)
items in bold can be found in the K-5 Glossary

**cardinality principle
 natural number
 whole number**

Common Misconceptions:

MA.K.NSO.1.1

- Students may inaccurately report the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged (i.e., conservation of cardinality).
- Students may recount the number of objects in a set that has been rearranged even though the number was accurately counted before the set was rearranged.
- Students may recount a group of objects when asked “how many,” rather than reporting the last number counted.
- Students may not be systematic in their counting.
 - For example, a student may double count or skip numbers.

MA.K.NSO.1.2

- Students may skip or repeat numbers when counting out objects.
 - For example, a student may say “14, 15, 17.”
- Students may lose track of which objects have been counted

MA.K.NSO.2.2

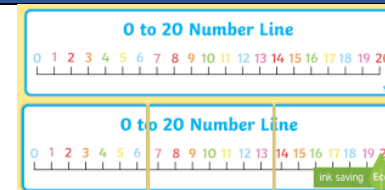
- Students may have difficulty moving from one group of tens to the next.
 - For example, knowing that 30 comes after 29. Students may have to recount by tens to determine the next ten when counting through to 100.
- Students may be confused by the different pattern of word names for the “teens.”



Suggested Manipulatives



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 12-1 Skill: Count 1s to 50	Success Criteria: <ul style="list-style-type: none"> ▪ I can count by 1s to 50 ▪ I can describe patterns when counting by 1s and 50 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> ▪ Lesson 12-1 to 12-6 Formative Assessment: <ul style="list-style-type: none"> ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Lesson 12-2 Skill: Count back by 1s within 20	Success Criteria: <ul style="list-style-type: none"> ▪ I can count backward by 1s from 20 ▪ I can describe patterns when counting backward by 1s from 20 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Lesson 12-3 Skill: Count by 1s to 100	Success Criteria: <ul style="list-style-type: none"> ▪ I can count by 1s to 100 ▪ I can describe patterns when counting by 1s to 100 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Math Probe: What Number Comes After?			
Lesson 12-4 Skill: Count by 10s to 100	Success Criteria: <ul style="list-style-type: none"> ▪ I can count by 10s to 100 ▪ I can describe patterns when counting by 10s to 100 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Lesson 12-5 Skill: Count from any number to 100	Success Criteria: <ul style="list-style-type: none"> ▪ I can count by 1s to 100, starting at any given number ▪ I can describe how to count by 1s to 100, starting at any number 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Recite & Represent Number Sequence (MA.K.NSO.2) 	
Lesson 12-6 Skill: Count to find out how many	Success Criteria: <ul style="list-style-type: none"> ▪ I can count to answer "how many?" about as many as 20 things ▪ I can describe how to count to answer "how many?" about as many as 20 things 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Counting & Comparing Objects (MA.K.NSO.1) 	

Unit 13: Analyze, Compare, and Compose Shapes

District Formative Unit Assessment:
Unit 13 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.GR.1

Identify, compare and compose two- and three-dimensional figures.

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards

- 1) Recognize and names two-dimensional shapes (circles, square, triangle and rectangle) of different size and orientation.
- 2) Describes, sorts and classifies two- and three-dimensional shapes using some attributes such as size, sides and other properties (e.g., vertices)
- 3) Creates two-dimensional shapes using other shapes (e.g., putting two squares together to make a rectangle.)
- 4) Constructs with three-dimensional shapes in the environment through play (e.g., building castles in the construction area)

Kindergarten

MA.K.GR.1.2

Compare two-dimensional figures based on their similarities, differences and positions. Sort two-dimensional figures based on their similarities and differences. Figures are limited to circles, triangles, rectangles and squares.

- Example: A triangle can be compared to a rectangle by stating that they both have straight sides, but a triangle has 3 sides and vertices, and a rectangle has 4 sides and vertices
- **Clarification 1:** Instruction includes exploring figures in a variety of sizes and orientations.
- **Clarification 2:** Instruction focuses on using informal language to describe relative positions and the similarities or differences between figures when comparing and sorting.

MA.K.GR.1.3

Compare three-dimensional figures based on their similarities, differences and positions. Sort three-dimensional figures based on their similarities and differences. Figures are limited to spheres, cubes, cones and cylinders.

- **Clarification 1:** Instruction includes exploring figures in a variety of sizes and orientations.
- **Clarification 2:** Instruction focuses on using informal language to describe relative positions and the similarities or differences between figures when comparing and sorting.

MA.K.GR.1.4

Find real-world objects that can be modeled by a given two- or three-dimensional figure. Figures are limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders.

MA.K.GR.1.5

Combine two-dimensional figures to form a given composite figure. Figures used to form a composite shape are limited to triangles, rectangles and squares.

- Example: Two triangles can be used to form a given rectangle.

Clarification 1: This benchmark is intended to develop the understanding of spatial relationships

First Grade

In First Grade, students will have an understanding of the various attributes to sketch a two-dimensional figure.
(MA.1.GR.1.2)

In First Grade, students will be working with spatial reasoning. Students will begin to see figures as compositions of other figures,
(MA.1.GR.1.3)

In First Grade, students will recognize that real-world objects can be modeled by two- and three-dimensional figures.
(MA.1.GR.1.4)

Instructional Strategies:

MA.K.GR.1.2

The purpose of this benchmark is for students to build on their understanding of classification of two-dimensional figures by finding similarities and differences between shapes. (MTR.5.1)

- Instruction includes opportunities for students to sort images based on various criteria, such as same number of sides, and figures with all straight sides. (MTR.2.1, MTR.5.1)
- Instruction includes helping students describe objects based on relative positions. Relative position refers to students identifying left/right, in front of/behind, apart and above/below. When comparing figures students should understand that relative position can change even though the other features of the figures stay the same.
- Instruction includes figures of various sizes and orientations, and may include figures that are not triangles, circles, rectangles or squares. (MTR.2.1)
- Instruction includes examples of squares when discussing rectangles.
- Right angles are technically not addressed until grade 4, but it is appropriate to discuss "square corners" and corners that are not square in an informal way in Kindergarten.

MA.K.GR.1.3

The purpose of this benchmark is for students to build on their understanding of classification of three-dimensional figures by finding similarities and differences between shapes.

- Instruction focuses on sorting and classifying three-dimensional figures.
- Instruction includes opportunities for students to sort figures based on various criteria, such as same number of faces and figures with all flat sides. (MTR.5.1)
- Instruction includes figures of various sizes and orientations, and may include nonstandard versions of figures as well. (MTR.2.1)
- Relative position refers to students identify

MA.K.GR.1.4

The purpose of this benchmark is to allow students an opportunity to apply understanding of classification and language they have learned regarding figures to the real world. (MTR.7.1)

- Instruction should include objects that may not be a perfect representation, but are approximate models for representing appropriate figures.
- Instruction should include bringing in additional items that are familiar and can be modeled by appropriate figures (cans of soup, Rubik's Cube, cones, etc.).

MA.K.GR.1.5

The purpose of this benchmark is to allow students opportunities to discover further connections and patterns with two-dimensional figures. Students should have an opportunity to investigate combining figures in a variety of sizes and orientations. (MTR.2.1, MTR.5.1)

- Instruction includes composite figures that may be named based on previous benchmarks, as well as those not included in previous benchmarks, though there is no expectation of a formal name for new composite shapes outside of previously named figures.
 - For example, a triangle and square forming a pentagon, may not need to be formally identified as a pentagon. Two triangles that form a rectangle can be formally identified as a rectangle.
- Exploring with figures of different sizes and orientations allows students to continue to develop an understanding of spatial reasoning (MTR.2.1).

Key Vocabulary (may not be comprehensive)
items in bold can be found in the K-5 Glossary

circle **rectangle**
square **triangle**
cones **cubes**
cylinders
spheres

Common Misconceptions:

MA.K.GR.1.2

Students may not understand that all squares are also classified as rectangles; however, only specific rectangles (with sides that are the same length) are also classified as squares.

- Students may sort figures separately because of orientation and/or size rather than the identified attributes of the figures.

MA.K.GR.1.3

- Students may sort figures separately because of orientation and size rather than the identified attributes of the figures.
- Students may inaccurately name and sort three-dimensional figures based on the names of their two-dimensional faces.

MA.K.GR.1.4

- In real life, many objects can be appropriately modeled with both two-dimensional and three-dimensional figures. For the purpose of this benchmark, do not struggle with this. Allow students flexibility and rely on their justifications. (MTR.4.1, MTR.6.1)

MA.K.GR.1.5

- Students may attempt to compose figures without regard to aligning sides or vertices. The overlap may cause difficulty in naming or describing the new composite figures.
- Students may avoid lining the edges of two figures if the sides aren't the same length.
 - For example, it could be appropriate to join several rectangles of various sizes to make a figure that looks like a building with towers.



Suggested Manipulatives



Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 13-1 Skill: Compare and Contrast 2-Dimensional Shapes	Success Criteria: <ul style="list-style-type: none"> I can explain how 2-dimensional shapes are alike and different I can compare and contrast 2-dimensional shapes using their defining attributes 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> Lesson 13-1 to 13-6 Formative Assessment: <ul style="list-style-type: none"> Work Together (during a lesson) Exit Ticket (at the end of a lesson) Math probe (during a unit) Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Lesson 13-2 Skill: Sort 2-Dimensional Shapes by Attributes	Success Criteria: <ul style="list-style-type: none"> I can sort 2-dimensional shapes by one attribute I can explain how to sort 2-dimensional shapes by one attribute 	Proficiency Scale: Identify & Compare 2-D and 3-D Shapes	
Math Probe: Which Shape Does Not Belong?			
Lesson 13-3 Skill: Compare and Contrast 3-Dimensional Shapes	Success Criteria: <ul style="list-style-type: none"> I can explain how 3-dimensional shapes are alike and different. I can compare and contrast 3-dimensional shapes using their defining attributes 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes 	
Lesson 13-4 Skill: Sort 3-Dimensional Shapes by Attributes	Success Criteria: <ul style="list-style-type: none"> I can sort 3-dimensional shapes by one attribute I can explain how to sort 3-dimensional shapes by one attribute. 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes 	
Lesson 13-5 Skill: Compose 2-Dimensional Shapes by Attributes	Success Criteria: <ul style="list-style-type: none"> I can use 2-dimensional shapes to form larger 2-dimensional shapes I can explain how to use shapes to form larger shapes 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes 	
Lesson 13-6 Skill: Model Shapes in the World	Success Criteria: <ul style="list-style-type: none"> I can identify 2-dimensional shapes I see in the world I can identify 3-dimensional shapes I see in the world 	Proficiency Scale: <ul style="list-style-type: none"> Identify & Compare 2-D and 3-D Shapes 	

Unit 14: Compare Measurable Attributes

District Formative Unit Assessment:
Unit 14 Assessment A (online)

Scope and Sequence of the Benchmark

MA.K.M.1

Identify and compare measurable attributes of objects

Instructional Alignment for Benchmark(s) of Focus

Early Learning Developmental Standards

Kindergarten

MA.K.M.1.1

Identify the attributes of a single object that can be measured such as length, volume or weight.

- **Clarification 1:** Within this benchmark, measuring is not required.

MA.K.M.1.2

Directly compare two objects that have an attribute which can be measured in common. Express the comparison using language to describe the difference.

- **Clarification 1:** To directly compare length, objects are placed next to each other with one end of each object lined up to determine which one is longer.
- **Clarification 2:** Language to compare length includes short, shorter, long, longer, tall, taller, high or higher. Language to compare volume includes has more, has less, holds more, holds less, more full, less full, full, empty, takes up more space or takes up less space. Language to compare weight includes heavy, heavier, light, lighter, weighs more or weighs less.

MA.K.M.1.3

Express the length of an object, up to 20 units long, as a whole number of lengths by laying non-standard objects end to end with no gaps or overlaps.

Example: A piece of paper can be measured using paper clips.

- **Clarification 1:** Non-standard units of measurement are units that are not typically used, such as paper clips or colored tiles. To measure with non-standard units, students lay multiple copies of the same object end to end with no gaps or overlaps. The length is shown by the number of objects needed.

First Grade

In First Grade, students will estimate length and formally and accurately measure the length of objects using a ruler.

(MA.2.M.1.1)

In First Grade, students will explore transitivity. Transitivity is a relation between three elements. For example, if object A is longer than object B and object B is longer than object C, then object A must be longer than C as well.

(MA.2.M.1.2)

Instructional Strategies:

MA.K.M.1.1

The purpose of this benchmark is to develop an understanding for measurement and attributes that can be measured, without focusing on the value of the measurement. Through this benchmark students begin to develop related vocabulary they will also apply in later benchmarks and grade levels.

- Instruction includes students describing measurable attributes and using vocabulary such as tall, short, long, heavy and light. *(MTR.4.1)*
- Instruction includes the introduction of terms to compare measurable attributes, such as longer, shorter, heavier and lighter.
- Instruction includes concrete objects as well as images and context to describe measurable attributes. *(MTR.7.1)*
- The expectation of this benchmark is not to focus on numerical values of measurement by estimating or measuring, but to develop understanding of attributes that can be measured and vocabulary used to describe those attributes.

MA.K.M.1.2

The purpose of this benchmark is to continue to develop an understanding for attributes that can be measured, described and compared, not numerical measurement.

- Instruction includes comparing attributes such as length (including height), weight and capacity.
- There is no expectation of comparing numerical measurement, but to directly compare objects with one another. *(MTR.5.1)*
 - For example, the ladder is taller than the man.
- Instruction includes the development of vocabulary terms and phrases that can be used to describe and compare measurable attributes. *(MTR.4.1)*
- Instruction includes concrete objects as well as images and context to describe measurable attributes. *(MTR.7.1)*

MA.K.M.1.3

The purpose of this benchmark is to develop the foundation for measuring with given units. Though students will take measurements using non-standard units or objects, this will provide a foundation for standard units of measurement in later grades. *(MTR.5.1)*

- Instruction emphasizes the naming of units when recording or giving measurements.
 - For example, the pencil is 6 paperclips long.
- Instruction uses objects that can be measured in whole units, or close enough that there will be no misconceptions or errors related to rounding or estimating.
- Instruction includes concrete objects as well as images and context for students to measure. *(MTR.7.1)*
- Instruction includes students measuring an object using various non-standard units (erasers, paperclips or candy bars), comparing the results and seeing that when the unit is larger the number required is smaller. *(MTR.2.1)*

Key Vocabulary (may not be comprehensive)
items in bold can be found in the K-5 Glossary

capacity
 height
 length
 weight
 long (longer)
 short (shorter)
 high (higher)
 tall (taller)

heavy (heavier)
 light (lighter)
 weighs less
 weighs more
 empty
 full
 holds less
 holds more
 measure

Common Misconceptions:

MA.K.M.1.1

- Students may confuse volume with weight, or length with volume.
- Students may assume that there is only one way to describe attributes.
 - For example, one students may conclude that an object is short, heavy or long, while another may conclude the opposite. The students may assume that one of them has to be correct.

MA.K.M.1.2

- Students may incorrectly apply terms for comparing the attributes of objects.
- Students may assume that a larger object is also a heavier object.
- Students may assume that a taller container can hold more liquid.
- Students may confuse position with measurement, especially when dealing with height.

MA.K.M.1.3

- Students may leave gaps or overlaps between objects when measuring, leading to inaccurate results.
- Students may mix different size units in the same measurement.



Suggested Manipulatives

Connecting Cubes



- Cups of different sizes
- Objects to compare length, height, weight, and capacity

Instructional Skills Sequence

Optional: Readiness Diagnostic *How Ready Am I?*

Diagnose students' strengths and weaknesses with prerequisite concepts and skills for the upcoming unit.

Lesson 14-1 Skill: Describe Attributes of Objects	Success Criteria: <ul style="list-style-type: none"> ▪ I can describe objects using length, height, weight, and capacity ▪ I can explain different ways to describe the same object. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare Attributes of Objects; both Standard and Nonstandard (MA.K.M.1) 	Resources: McGraw Hill Reveal <ul style="list-style-type: none"> ▪ Lesson 14-1 to 14-7 Formative Assessment: <ul style="list-style-type: none"> ▪ Work Together (during a lesson) ▪ Exit Ticket (at the end of a lesson) ▪ Math probe (during a unit)
Lesson 14-2 Skill: Compare Lengths	Success Criteria: <ul style="list-style-type: none"> ▪ I can compare two objects by length ▪ I can describe an object as longer or shorter than another object 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare Attributes of Objects; both Standard and Nonstandard (MA.K.M.1) 	
Lesson 14-3 Skill: Compare Heights	Success Criteria: <ul style="list-style-type: none"> ▪ I can compare two objects by heights ▪ I can describe an object as taller or shorter than another object. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare Attributes of Objects; both Standard and Nonstandard (MA.K.M.1) 	
Math Probe: Comparing Objects			Additional Resources: See Grade K BIG-M document for an instructional task(s) and item(s).
Lesson 14-4 Skill: Measure Lengths of Objects	Success Criteria: <ul style="list-style-type: none"> ▪ I can measure an object using nonstandard units ▪ I can explain how to measure an object using nonstandard units. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare Attributes of Objects; both Standard and Nonstandard (MA.K.M.1) 	
Lesson 14-5 Skill: Measure More Lengths of Objects	Success Criteria: <ul style="list-style-type: none"> ▪ I can measure an object using nonstandard units ▪ I can explain how to measure an object using nonstandard units. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare Attributes of Objects; both Standard and Nonstandard (MA.K.M.1) 	
Lesson 14-6 Skill: Compare Weights	Success Criteria: <ul style="list-style-type: none"> ▪ I can compare two objects by weight ▪ I can describe an object as heavier or lighter than another object. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare Attributes of Objects; both Standard and Nonstandard (MA.K.M.1) 	
Lesson 14-7 Skill: Compare Capacities	Success Criteria: <ul style="list-style-type: none"> ▪ I can compare two objects by capacity ▪ I can describe an object as holding more or holding less than another object. 	Proficiency Scale: <ul style="list-style-type: none"> ▪ Identify & Compare Attributes of Objects; both Standard and Nonstandard (MA.K.M.1) 	