Course Title:	Content Area:	Grade Level:	Credit (if applicable)
PreK Mathematics	Mathematics	PreK	N/A

Course Description:

Students learn by doing math, solving problems in mathematical and real-world contexts, and constructing arguments using precise language. The Bristol mathematics curricula embeds this *learn-by-doing* philosophy by focusing on high expectations for all students and providing students with opportunities that build conceptual understanding, computational and procedural fluency, and problem solving through the use of a variety of strategies, tools, and technologies. The mathematics curriculum is responsive to the individual needs of students, while providing a structure tied to the Connecticut Early Learning and Development Standards (CT ELDS).

The *learn-by-doing* philosophy develops mathematically literate and productive students who can effectively and efficiently apply mathematics in their lives to make informed decisions about the world around them by doing math. To be mathematically literate, one must understand major mathematics concepts, possess computational facility, and have the ability to apply these understandings to situations in daily life. Making connections between mathematics and other disciplines is key to the appropriate application of mathematics skills and concepts to solve problems. The ability to read, discuss, and write within the discipline of mathematics is an integral skill that supports mathematical understanding, reasoning and communication. The opportunity to think critically and creatively to solve problems is important to deepen mathematical knowledge and foster innovation. A rich hands-on mathematical experience is essential to provide the foundational knowledge and skills that prepare students to be mathematically literate, productive citizens.

Aligned Core Resources:

Bridges in Mathematics (Scope and Sequences)

Connection to the BPS Vision of the Graduate

COMMUNICATION

- Articulates thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts
- Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions. Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)

CONTENT MASTERY

- Develop and draw from a baseline understanding of knowledge in academic disciplines from our Bristol curriculum

GOAL DIRECTED

- Set goals with tangible and intangible success criteria
- Persist to accomplish difficult tasks and to overcome academic and personal barriers to meet goals

CRITICAL THINKING AND PROBLEM SOLVING

- Transfer knowledge to other situations
-

Additional Course Information:	Link to Completed Equity Audit

Knowledge/Skill Dependent courses/prerequisites	
N/A	2023 PreK Math- Equity Curriculum Review

Standard Matrix

District Learning Expectations and Standards	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Jan.**	**Feb.**	**Mar.**	**Apr.**	**May**
Strand A: Early learning experiences will support children to understand counting and cardinality.									
Number Names (Major)									
M.60.1 Say or sign the number sequence up to at least 20	6	10	10	10	10	10+	10+	20	20+
Cardinality (Major)									
M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set	5	5	6	7	10	10	10	10	10+
M.60.3 Count out a set of objects up to five	5	5	6	6	Within 10	10	10	10	10
Written Numerals (Major)									
M.60.4 Recognize written numerals up to at least 10	N/A	N/A	4	5	6	8	10	10	10
Recognition of Quantity (Major)									

M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items	5	6	6	6	6	6	6	6	6
Comparison (Additional)									
M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same	5	5	6	6	Within 10	10	10	10	10
Strand B: Early learning experiences will support children to understand and describe relationships to solve problems (operations and algebraic thinking).									
Number Operations (Supporting)									
M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting)	5	6	N/A	6	5	6	6	10	10
M.60.8 Recognize and describe parts contained in larger numbers by composing number combinations up to at least five (e.g., recognize how many have been secretly taken away from a group of five objects) (Additional)	N/A	N/A	N/A	N/A	5	5	3, 4, 5, 6	3, 4, 5, 6	3, 4, 5, 6
Strand C: Early learning experiences will support children to understand the attributes and relative properties of objects (measurement and data).									
Measurement (Additional)									
M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter,	Size, weight	Length, weight	Size	length	length	Size, length, weight	N/A	length	duration

same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)									
M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools	Size, weight	Length, weight	Size	length	length	Size, length, weight	N/A	length	duration
Data (Supporting)									
M. 60.11 Represent data using a concrete object or picture graph according to one attribute	Graphing Our Apples	Which Book	Feely Shapes Graph	Summer or Winter?	Sorting object on minigraph mats	Teddy Bear Graph	N/A	N/A	Tub Toy Graph
Sorting and Classifying									
M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute	color	Color, shape, size, texture, type	Color, shape, size, sides, corners	use	Attributes with two categories	Same set in different ways	Same set in different ways	color	Same set in different ways
Stand D: Early Learning Experiences will support children to understand shapes and spatial relationships (geometry and spatial sense)									
Spatial Relationships									
M.60.13 Use relational vocabulary of proximity (e.g., beside, next to, between, above, below, over and under) to identify and describe the location of an object	N/A	N/A	Beside, behind, under, on top of, etc.	Beside, behind, under, on top of, etc.	Beside, behind, under, on top of, etc.	Beside, behind, under, on top of, etc.	N/A	N/A	N/A
Identifying Shapes									

M.60.14 Identify and describe a variety of 2-dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size	Recognize: Circle	Recognize: Square, Circle, Triangle, Rectangle	Recognize: Hexagon, Rhombus, Trapezoid Name: Square, Circle, Triangle, Rectangle	Recognize: Square, Circle, Triangle, Rectangle, Hexagon, Rhombus, Trapezoid Name: Square, Circle, Triangle, Rectangle, Hexagon, Rhombus, Trapezoid
Composing Shapes				
M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose	N/A	Pictures	Pictures, Larger Shapes	

Unit Links

If unit headings are formatted as a heading, then we can link a Table of Contents to better organize and provide faster access to each unit

Unit Title:

September

Relevant Standards: Bold indicates priority

Strand A

Number Names

- **M.60.1 Say or sign the number sequence up to at least 20**

Cardinality

- **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set**
- **M.60.3 Count out a set of objects up to five**

Recognition of Quantity

- **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items**

Comparison

- M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same

Strand B

Number Operations

- M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting)

Strand C

Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand the attributes and relative properties of objects?	Count to 5+ Sort objects by color Number sequence to 10 Count within 10

<table>
<tr><td>

- What skills and knowledge are needed to understand shapes and spatial relationships?

</td><td>

Subitize to 5
Match sets and numerals to 5
Compare objects by size
Compare sets by counting and matching

</td></tr>
<tr><td>Demonstration of Learning:</td><td>Pacing for Unit</td></tr>
<tr><td>

- Developmental Indicators for the Assessment of Learning 4th Edition
- Work Samples (Optional)

</td><td>

September- 4 Modules, 5 sessions per module

</td></tr>
<tr><td>Family Overview (link below)</td><td>Integration of Technology:</td></tr>
<tr><td>

September Unit

</td><td>

Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning

</td></tr>
<tr><td>Unit-specific Vocabulary:</td><td>Aligned Unit Materials, Resources, and Technology (beyond core resources):</td></tr>
<tr><td>

<table>
<tr><td>Colors: Red, green</td><td>Shapes: square, star, triangle, cube, trapezoid, hexagon, rhombus</td><td>round</td><td>Number words 1-10</td><td>half</td></tr>
<tr><td>month</td><td>day</td><td>pattern</td><td>today</td><td>September</td></tr>
<tr><td>sides</td><td>corners</td><td>birthday</td><td>count</td><td>sort</td></tr>
<tr><td>color</td><td>graph</td><td>column</td><td>more/less</td><td>count</td></tr>
<tr><td>long/short</td><td>up/down</td><td>big/little</td><td>larger/smaller</td><td>heavy/light</td></tr>
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Illustrative Mathematics Center Game - What's Behind My Back
Illustrative Mathematics Center Game - Shake and Spill
Illustrative Mathematics Center Game - Grab and Count
Illustrative Mathematics Center Game - Tower Build
Illustrative Mathematics Center Game - Subtraction Towers

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<tr><td>Opportunities for Interdisciplinary Connections:</td><td>Anticipated misconceptions:</td></tr>
<tr><td>

- Connections can be made to science through

</td><td>

- Some students may not understand that counting is a strategy to

</td></tr>
</table>

○ Apples ○ Life cycle • Connections can be made to literacy and language through ○ Read alouds ○ Theme related vocabulary • Connections can be made to creative art through ○ Apple art activities • Connections can be made to social studies through ○ Calendar activities	determine 'how many' and that the last number counted says how many. • Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names). • Some students may not organize the set of objects to avoid counting objects already counted. • Some students may have a mismatch between the oral words and the objects counted. • Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number.
Connections to Prior Units:	**Connections to Future Units:**
N/A	Students will build upon these skills each month.
Differentiation through Universal Design for Learning	
UDL Indicator	**Teacher Actions:**
Comprehension 3.1	• Anchor instruction by linking to and activating relevant prior knowledge (e.g., using visual imagery, concept anchoring, or concept mastery routines) • Pre-teach critical prerequisite concepts through demonstration or models
Supporting Multilingual/English Learners	
Related CELP standards:	**Learning Targets:**
K.1- Construct meaning from oral presentations and literary and informational text through grade appropriate listening, reading, and viewing. **K.2**- participate in grade appropriate oral and written exchanges of information, ideas, and analyses, responding to peer, audience, or reader comments and questions.	• I can identify key words within the number corner routine. • I can share my thinking by using yes/no and respond to wh- prompts.
Learning Target Success Criteria/ Assessment	**Resources**

I can share my mathematical thinking in the classroom. (Modules 1-4)

- ☐ I can share my thinking with the class
- ☐ I can turn and talk with a partner
- ☐ I can use a sentence to tell my partner what I am thinking
- ☐ I can explain how I solved

I can count to tell how many (Modules 1-4)

- ☐ I can move the objects into a line
- ☐ I can point to each object
- ☐ I can count slowly
- ☐ I can use the last number I said to tell how many

I can name and represent numbers to 5. (Module 1)

- ☐ I can connect a number symbol to its name
- ☐ I can show the number of objects that matches the number symbol

I can name, describe, and sort objects into categories. (Modules 1 & 2)

- ☐ I can sort by color
- ☐ I can sort by size
- ☐ I can sort by type

I can use 1:1 matching to solve problems. (Modules 1, 3-4)

- ☐ I can move the objects into a line
- ☐ I can point to each object
- ☐ I can count slowly

I can compare two sets of up to 5 objects.

- ☐ I can explain how two sets are the same
- ☐ I can explain how two sets are different
- ☐ I can show or explain which set has less
- ☐ I can show or explain which set has more

I can describe and compare objects.

- ☐ I can show or explain if an object is lighter, heavier or the same weight
- ☐ I can show or explain how objects are smaller, larger or the same size

I can subitize up to 5. (Modules 2-4)

- ☐ I can quickly recognize how many

Bridges

- Teacher's Manual Vol. 1
- Suggested Manipulatives
- Suggested Blackline Masters

Illustrative Mathematics Center Games

- *What's Behind My Back*
- *Shake and Spill*
- *Grab and Count*
- *Tower Build*
- *Subtraction Towers*

I can put shapes together to form new shapes. (Module 4) ☐ I can put two or more shapes together ☐ I can name the new shape	

Unit Title:
October
Relevant Standards: Bold indicates priority
<u>Strand A</u> Number Names ● **M.60.1 Say or sign the number sequence up to at least 20** Cardinality ● **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set** ● **M.60.3 Count out a set of objects up to five** Recognition of Quantity ● **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items** Comparison ● M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same **<u>Strand B</u>** Number Operations ● M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting) **<u>Strand C</u>** Measurement ● M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount) ● M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand the attributes and relative properties of objects? • What skills and knowledge are needed to understand shapes and spatial relationships?	Count to 5 and within 10 Read numerals to 5 Compare objects by length Sort objects by type and different attributes Identify shapes Match sets and numerals to 6 Compare sets by matching Subitize to 6
Demonstration of Learning:	**Pacing for Unit**
• PreK Math Individual Growth Interviews • Work Samples (Optional)	October - 4 Modules, 5 sessions per module
Family Overview (link below)	**Integration of Technology:**
October Unit	*Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning*
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Colors: Brown **Shapes:** hexagon big/little calendar/ day/month count	Illustrative Mathematics Center Game - What's Behind My Back Illustrative Mathematics Center Game - Shake and Spill Illustrative Mathematics Center Game - Grab and Count Illustrative Mathematics Center Game - Tower Build

Green Orange Red Yellow Orange blue	rhombus square trapezoid triangle			
small/medium/big	fewest	graph	heavy/light heavier/lighter	How many
line	match	pair	More than one	most
Next	Number words 0-10	October	One more	Ordinal numbers 1st-6th
pattern	round	today	week	yesterday
length/weight	long/longer than	same	short/shorter than	Balance scale

Illustrative Mathematics Center Game - Subtraction Towers

Opportunities for Interdisciplinary Connections:

- Connections can be made to science through
  - Pumpkins
  - Leaves
  - Life cycle
- Connections can be made to literacy and language through
  - Read alouds
  - Theme related vocabulary
- Connections can be made to creative art through
  - Pumpkin art activities
  - Leaf themed art activities
- Connections can be made to social studies through
  - Calendar activities

- **Anticipated misconceptions:**

- Some students may not understand that counting is a strategy to determine 'how many' and that the last number counted says how many.
- Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names).
- Some students may not organize the set of objects to avoid counting objects already counted.
- Some students may have a mismatch between the oral words and the objects counted.
- Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number.
- One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.

	 • Students may incorrectly use mathematical vocabulary when comparing objects. When comparing length, students may say bigger or smaller, instead of longer or shorter.
Connections to Prior Units:	**Connections to Future Units:**
Students will build upon the counting, subitizing, sorting and comparing skills from the September unit.	Students will build the foundation for the numeracy and patterning skills needed for the November unit.
Differentiation through Universal Design for Learning	
UDL Indicator	**Teacher Actions:**
Expression and Communication 5.3	• Provide scaffolds that can be gradually released with increasing independence and skills • Provide differentiated feedback (e.g., feedback that is accessible because it can be customized to individual learners)
Supporting Multilingual/English Learners	
Related CELP standards:	**Learning Targets:**
K.2- Participate in grade appropriate oral and written exchanges of information, ideas, and analyses, responding to peer, audience, or reader comments and questions.	• I can answer yes or no questions in relation to contexts for counting.

Learning Target Success Criteria/ Assessment	**Resources**
I can name and represent numbers to 5. (Module 1) ☐ I can connect a number symbol to its name ☐ I can show the number of objects that matches the number symbol I can share my mathematical thinking in the classroom. (Modules 1-4) ☐ I can share my thinking with the class ☐ I can turn and talk with a partner ☐ I can use a sentence to tell my partner what I am thinking ☐ I can explain how I solved I can count to tell how many. (Modules 1-4)	**Bridges** • Teacher's Manual Vol. 1 • Suggested Manipulatives • Suggested Blackline Masters **Illustrative Mathematics Center Games** • *What's Behind My Back* • *Shake and Spill* • *Grab and Count* • *Tower Build* • *Subtraction Towers*

- ☐ I can move the objects into a line
- ☐ I can point to each object
- ☐ I can count slowly
- ☐ I can use the last number I said to tell how many

I can name and describe objects. (Module 1)

- ☐ I can show or explain an attribute of an object

I can name, describe, and sort objects into categories. (Modules 1-2)

- ☐ I can sort by color
- ☐ I can sort by size
- ☐ I can sort by type

I can describe and compare three-dimensional shapes. (Module 1-2)

- ☐ I can show or explain if an object is round
- ☐ I can show or explain if an object is hard

I can use 1:1 matching to solve problems. (Modules 1, 3-4)

- ☐ I can move the objects into a line
- ☐ I can point to each object
- ☐ I can count slowly

I can compare and describe sets of objects. (Modules 2-4)

- ☐ I can show or explain if a set is less
- ☐ I can show or explain if a set is more
- ☐ I can show or explain if a set is equal

I can subitize up to 5. (Modules 2-4)

- ☐ I can quickly recognize how many are in a set

I can describe and compare objects. (Module 2)

- ☐ I can show or explain if an object is lighter, heavier or the same weight.
- ☐ I can show or explain how objects are shorter, longer or the same length

I can compare two sets of up to 5 objects. (Module 3)

- ☐ I can explain how two sets are the same
- ☐ I can explain how two sets are different
- ☐ I can show or explain which set has less
- ☐ I can show or explain which set has more

Unit Title:
November
Relevant Standards: Bold indicates priority

<u>Strand A</u>

Number Names

- **M.60.1 Say or sign the number sequence up to at least 20**

Cardinality

- **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set**
- **M.60.3 Count out a set of objects up to five**

Written Numerals

- **M.60.4 Recognize written numerals up to at least 10**

Recognition of Quantity

- **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items**

Comparison

- M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same

<u>Strand C</u>

Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

<u>Strand D</u>

Spatial Relationships

- **M.60.13 Use relational vocabulary of proximity (e.g., beside, next to, between, above, below, over, and under) to identify and describe the location of an object**

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand the attributes and relative properties of objects? • What skills and knowledge are needed to understand shapes and spatial relationships?	Count to 6 Compare objects by size Sort shapes by type Identify and describe shapes Understand positional words Subitize to 6 Read numerals to 6 Match sets and numerals to 5 Identify, name, describe, and draw shapes Sort objects by multiple attributes Write numerals to 4
Demonstration of Learning:	**Pacing for Unit**
• November Observation Checklist (Optional)	November - 4 Modules, 5 sessions per module
Family Overview (link below)	**Integration of Technology:**
November Unit	*Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning*
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**
Shapes Circle Hexagon Pentagon big/little calendar behind Color words	Illustrative Mathematics Center Game - What's Behind My Back Illustrative Mathematics Center Game - Shake and Spill Illustrative Mathematics Center Game - Grab and Count Illustrative Mathematics Center Game - Tower Build Illustrative Mathematics Center Game - Subtraction Towers

Rectangle Square Triangle Rhombus trapezoid				
corners	count	day	How many	large
length	line	match	month	more
More than one	next	November	Number words -6	pattern
repeat	shape	sides	small	straight
today	week	yesterday	curved	medium-sized
Number words 1-6	Position words (In, on, next to, inside, outside, and so on)	graph	Ordinal numbers 1st, 2nd	

Opportunities for Interdisciplinary Connections:

- Connections can be made to literacy and language through
  - Read alouds
  - Theme related vocabulary
- Connections can be made to creative art through
  - Shape related art activities
- Connections can be made to social studies through
  - Calendar activities
  - Shape Hunt throughout the school community

Anticipated misconceptions:

Some students may not understand that counting is a strategy to determine 'how many' and that the last number counted says how many.

Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names).

Some students may not organize the set of objects to avoid counting objects already counted.

Some students may have a mismatch between the oral words and the objects counted.

Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number.

	One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.  Students may incorrectly use mathematical vocabulary when comparing objects. When comparing length, students may say bigger or smaller, instead of longer or shorter.
Connections to Prior Units:	**Connections to Future Units:**
Students will build upon the numeracy and patterning skills from the October unit.	Students will build the foundation for the data and geometry skills needed for the December unit.

Differentiation through Universal Design for Learning	
UDL Indicator	**Teacher Actions:**

Recruiting Interest 7.1	• Provide learners with as much discretion and autonomy as possible by providing choices in such things as:
	  ○ The type of rewards or recognition available
	  ○ The tools used for information gathering or production
	  ○ The sequence or timing for completion of subcomponents of tasks
	• Allow learners to participate in the design of classroom activities and academic tasks
	• Involve learners, where and whenever possible, in setting their own personal academic and behavioral goals

Supporting Multilingual/English Learners	
Related CELP standards:	**Learning Targets:**
K.8- Determine the meaning of words and phrases in oral presentations and literary and informational text.	I can identify a square, circle, triangle and rectangle.

Learning Target Success Criteria/ Assessment	**Resources**
I can describe and compare objects. (Module 1-4) ☐ I can show or explain how objects are the same	**Bridges** • Teacher's Manual Vol. 1

- ☐ I can show or explain how objects are different
- ☐ I can show or explain how objects are smaller, larger or the same size

I can name, describe and compare shapes. (Module 1-4)
- ☐ I can identify a hexagon, rhombus and trapezoid
- ☐ I can identify and name a square, circle, triangle and rectangle

I can use positional language to describe objects in my world. (Module 1, 2 & 3)
- ☐ I can show or explain if an object is beside
- ☐ I can show or explain if an object is behind
- ☐ I can show or explain if an object is under
- ☐ I can show or explain if an object is on top of

I can count to tell how many. (Module 1, 2 & 4)
- ☐ I can move objects into a line
- ☐ I can point to each object
- ☐ I can count slowly
- ☐ I can use the last number I said to tell how many

I can compare two sets of up to 6 objects. (Module 1, 3 & 4)
- ☐ I can explain how two sets are the same
- ☐ I can explain how two sets are different
- ☐ I can show or explain which set has less
- ☐ I can show or explain which set has more

I can draw shapes. (Module 1, 2 & 4)
- ☐ I can draw a circle
- ☐ I can draw a triangle
- ☐ I can draw a square

I can sort objects by attributes. (Module 1 & 3)
- ☐ I can sort by color
- ☐ I can sort by shape
- ☐ I can sort by size
- ☐ I can sort by sides
- ☐ I can sort by corners

I can write numerals to 4. (Module 2 & 4)

- Suggested Manipulatives
- Suggested Blackline Masters

Illustrative Mathematics Center Games
- *What's Behind My Back*
- *Shake and Spill*
- *Grab and Count*
- *Tower Build*
- *Subtraction Towers*

☐ I can grip my pencil ☐ I can form the numbers 1-4 I can subitize up to 6. (Module 3) ☐ I can quickly recognize how many	

Unit Title:
December
Relevant Standards: Bold indicates priority
<u>Strand A</u> Number Names ● **M.60.1 Say or sign the number sequence up to at least 20** Cardinality ● **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set** ● **M.60.3 Count out a set of objects up to five** Written Numerals ● **M.60.4 Recognize written numerals up to at least 10** Recognition of Quantity ● **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items** Comparison ● M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same **<u>Strand B</u>** Number Operations ● M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting) ● M.60..8 Recognize and describe parts contained in larger numbers by composing number combinations up to at least five (e.g., recognize how many have been secretly taken away from a group of five objects)

Strand C

Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Spatial Relationships

- **M.60.13 Use relational vocabulary of proximity (e.g., beside, next to, between, above, below, over, and under) to identify and describe the location of an object**

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand and describe relationships to solve problems? • What skills and knowledge are needed to understand the attributes and relative properties of objects? • What skills and knowledge are needed to understand shapes and spatial relationships?	Count to 7 Count within 10 Add within 4 pictures Subtract 1 or 2 from quantities within 10 using objects Identify and describe shapes Subitize to 6 Read numerals to 7 Read and write numerals to 5 Compare sets to 5 Identify and name shapes Compare sets by matching Compare objects by length Sort objects Match sets and numerals to 7 Sort objects by function

Demonstration of Learning:	**Pacing for Unit**
• December Observation Checklist (Optional)	December - 4 Modules, 5 sessions per module
Family Overview (link below)	**Integration of Technology:**
December Unit	*Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning*
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**

add	backward	Colors: Black blue	calendar	cold
corners	Count	Days of the week	daytime	December
forward	graph	Shapes: hexagon Rhombus Square Trapezoid triangle	How many	hot
less	lines	match	month	more
More than one	next	nighttime	Number words 0-10	Ordinal numbers 1st-4th
plus	predict	repeat	sides	summer
temperature	thermometer	today	winter	after
around	before	shape	straight	Too short/too long
compare	equal	graph	How many	longer/longer than

Illustrative Mathematics Center Game - What's Behind My Back
Illustrative Mathematics Center Game - Shake and Spill
Illustrative Mathematics Center Game - Grab and Count
Illustrative Mathematics Center Game - Tower Build
Illustrative Mathematics Center Game - Subtraction Towers

more	most	row	same/same length	shorter/shorter than

Opportunities for Interdisciplinary Connections:	**Anticipated misconceptions:**

• Connections can be made to science through
  ○ Snowflakes
  ○ Water Cycle
• Connections can be made to literacy and language through
  ○ Read alouds
  ○ Theme related vocabulary
• Connections can be made to creative art through
  ○ Snowflake art activities
• Connections can be made to social studies through
  ○ Calendar activities
	Some students may not understand that counting is a strategy to determine 'how many' and that the last number counted says how many.
	
	Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names).
	
	Some students may not organize the set of objects to avoid counting objects already counted.
	
	Some students may have a mismatch between the oral words and the objects counted.
	
	Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number.
	
	One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.
	 
	
	Students may incorrectly use mathematical vocabulary when comparing objects. When comparing length, students may say bigger or smaller, instead of longer or shorter.
	
	Students may count all objects when joining groups instead of knowing the amount of one group and counting on the amount of the second group to find the total.
	
	Students may incorrectly think that subtraction is commutative, i.e. 8-5=5-8.

Connections to Prior Units:	**Connections to Future Units:**

Students will build upon the data and geometry skills from the November unit.	Students will continue to build the subitizing and sorting skills needed in the January unit.

Differentiation through Universal Design for Learning	
UDL Indicator	**Teacher Actions:**
Comprehension 3.2	• Highlight or emphasize key elements in text, graphics, diagrams, formulas • Use multiple examples and non-examples to emphasize critical features • Use cues and prompts to draw attention to critical features • Highlight previously learned skills that can be used to solve unfamiliar problems

Supporting Multilingual/English Learners	
Related CELP standards:	**Learning Targets:**
K.2- Participate in grade appropriate oral and written exchanges of information, ideas, and analyses, responding to peer, audience, or reader comments and questions.	I can participate in short conversations to solve counting problems.

Learning Target Success Criteria/ Assessment	**Resources**
I can name, describe and compare shapes. (Module 1) ☐ I can identify a hexagon, rhombus and trapezoid ☐ I can identify and name a square, circle, triangle and rectangle I can draw shapes. (Module 1) ☐ I can draw a circle ☐ I can draw a square I can represent and solve addition and subtraction problems up to 6 in many ways. (Module 1) ☐ I can show how I put together to solve ☐ I can show how I take away to solve I can describe and compare objects. (Module 1 & 3) ☐ I can show or explain how objects are the same ☐ I can show or explain how objects are different ☐ I can show or explain how objects are shorter, longer or the same length	**Bridges** • Teacher's Manual Vol. 1 • Suggested Manipulatives • Suggested Blackline Masters **Illustrative Mathematics Center Games** • *What's Behind My Back* • *Shake and Spill* • *Grab and Count* • *Tower Build* • *Subtraction Towers*

I can count to tell how many. (Module 1-4) ☐ I can move objects into a line ☐ I can point to each object ☐ I can count slowly I can use the last number I said to tell how many I can subitize up to 6. (Module 2 & 4) ☐ I can quickly recognize how many I can write numerals to 5. (Module 2 & 4) ☐ I can grip my pencil ☐ I can form the numbers 1-5 I can compare two sets of up to 6 objects. (Module 3) ☐ I can explain how two sets are the same ☐ I can explain how two sets are different ☐ I can show or explain which set has less ☐ I can show or explain which set has more I can sort objects by attributes. (Module 3) ☐ I can sort by how we use an object	

Unit Title:
January
Relevant Standards: Bold indicates priority
<u>Strand A</u> Number Names • **M.60.1 Say or sign the number sequence up to at least 20** Cardinality • **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set** • **M.60.3 Count out a set of objects up to five**

Written Numerals

- **M.60.4 Recognize written numerals up to at least 10**

Recognition of Quantity

- **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items**

Comparison

- M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same

Strand B

Number Operations

- M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting)
- M.60..8 Recognize and describe parts contained in larger numbers by composing number combinations up to at least five (e.g., recognize how many have been secretly taken away from a group of five objects)

Strand C

Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Spatial Relationships

- **M.60.13 Use relational vocabulary of proximity (e.g., beside, next to, between, above, below, over, and under) to identify and describe the location of an object**

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

<table>
<tr><th>Essential Question(s):</th><th>Enduring Understanding(s):</th></tr>
<tr><td>

- What skills and knowledge are needed to understand counting and cardinality?
- What skills and knowledge are needed to understand and describe relationships to solve problems?
- What skills and knowledge are needed to understand the attributes and relative properties of objects?
- What skills and knowledge are needed to understand shapes and spatial relationships?

</td><td>Count to 10
Read numerals to 6
Write numerals to 6
Match sets and numerals to 8
Add 1 within 5
Subitize to 6
Read and write numerals within 10
Match sets and numerals to 8
Compare sets to 10
Sort objects by color
Identify, name, and draw shapes
Count within 10
Compare sets by matching</td></tr>
<tr><th>Demonstration of Learning:</th><th>Pacing for Unit</th></tr>
<tr><td>

- PreK Math Individual Growth Interviews
- January Observation Checklist (Optional)

</td><td>January - 4 Modules, 5 sessions per module</td></tr>
<tr><th>Family Overview (link below)</th><th>Integration of Technology:</th></tr>
<tr><td>January Unit</td><td>Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning</td></tr>
<tr><th>Unit-specific Vocabulary:</th><th>Aligned Unit Materials, Resources, and Technology (beyond core resources):</th></tr>
<tr><td>

alike	behind	calendar	Color words	count
Days of the week	different	fewer/less	graph	How many
January	line	match	month	more
More than one	next	number	Number words 1-10	pair
pattern	predict	rectangle-shaped	repeat	round

</td><td>Illustrative Mathematics Center Game - What's Behind My Back
Illustrative Mathematics Center Game - Shake and Spill
Illustrative Mathematics Center Game - Grab and Count
Illustrative Mathematics Center Game - Tower Build
Illustrative Mathematics Center Game - Subtraction Towers</td></tr>
</table>

same	sort	square	today	triangle-shapes
yesterday	add	circle	Ordinal numbers 1st-6th	plus
column	first	equal	less	same/equal

Opportunities for Interdisciplinary Connections:

- Connections can be made to science through
  - Snow melting science experiments
- Connections can be made to literacy and language through
  - Read alouds
  - Theme related vocabulary
- Connections can be made to creative art through
  - Winter theme art projects
- Connections can be made to social studies through
  - Calendar activities

Anticipated misconceptions:

Some students may not understand that counting is a strategy to determine 'how many' and that the last number counted says how many.

Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names).

Some students may not organize the set of objects to avoid counting objects already counted.

Some students may have a mismatch between the oral words and the objects counted.

Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number.

One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.

Students may incorrectly use mathematical vocabulary when comparing objects. When comparing length, students may say bigger or smaller, instead of longer or shorter.

Students may count all objects when joining groups instead of knowing the amount of one group and counting on the amount of the second group to find the total.

	Students may incorrectly think that subtraction is commutative, i.e. 8-5=5-8.
Connections to Prior Units:	**Connections to Future Units:**
Students will build upon the subitizing and sorting skills from the December unit.	Students will build the foundation for interval counting, adding and subtracting one, and pairing skills needed for the February unit.

Differentiation through Universal Design for Learning

UDL Indicator	**Teacher Actions:**
Comprehension 3.3 January	• Give explicit prompts for each step in a sequential process • Provide options for organizational methods and approaches • Provide interactive models that guide exploration and new understandings • Introduce graduated scaffolds that support information processing strategies • Provide multiple entry points to a lesson and optional pathways through content (e.g., exploring big ideas through dramatic works, arts and literature, film and media) • Progressively release information (e.g., sequential highlighting) • Remove unnecessary distractions unless they are essential to the instructional goal

Supporting Multilingual/English Learners

Related CELP standards:	**Learning Targets:**
K.9- Create clear and coherent grade appropriate speech and text.	I can use first, next, after that and last to solve addition problems.

Learning Target Success Criteria/ Assessment	**Resources**
I can represent and solve addition and subtraction problems up to 6 in many ways. (Module 1) ☐ I can show how I put together to solve ☐ I can show how I take away to solve I can count to tell how many. (Module 1-4) ☐ I can move objects into a line ☐ I can point to each object ☐ I can count slowly ☐ I can use the last number I said to tell how many I can name, describe and compare shapes (Module 1 & 3)	**Bridges** • Teacher's Manual Vol. 1 • Suggested Manipulatives • Suggested Blackline Masters **Illustrative Mathematics Center Games** • *What's Behind My Back* • *Shake and Spill* • *Grab and Count* • *Tower Build* • *Subtraction Towers*

☐ I can identify a circle, square, triangle and rectangle ☐ I can identify a hexagon, rhombus and trapezoid ☐ I can name a square, circle, triangle and rectangle ☐ I can name a hexagon, rhombus and trapezoid I can use positional language to describe objects in my world. (Module 2) ☐ I can show or explain if an object is beside ☐ I can show or explain if an object is behind ☐ I can show or explain if an object is under ☐ I can show or explain if an object is on top of I can subitize up to 6. (Modules 2-4) ☐ I can quickly recognize how many I can write numerals to 6. (Module 2 & 3) ☐ I can grip my pencil ☐ I can form the numbers 1-6. I can describe and compare objects. (Module 2 & 3) ☐ I can show or explain how objects are the same ☐ I can show or explain how objects are different ☐ I can show or explain how objects are shorter, longer or the same length I can sort objects by attributes. (Module 3) ☐ I can sort objects into two categories. I can draw shapes. (Module 3) ☐ I can draw a circle ☐ I can draw a square I can compare two sets within 10 objects. (Module 3 & 4) ☐ I can explain how two sets are the same ☐ I can explain how two sets are different ☐ I can show or explain which set has less ☐ I can show or explain which set has more	

Unit Title:

February

Relevant Standards: Bold indicates priority

Strand A

Number Names

- **M.60.1 Say or sign the number sequence up to at least 20**

Cardinality

- **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set**
- **M.60.3 Count out a set of objects up to five**

Written Numerals

- **M.60.4 Recognize written numerals up to at least 10**

Recognition of Quantity

- **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items**

Comparison

- M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same

Strand B

Number Operations

- M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting)
- M.60..8 Recognize and describe parts contained in larger numbers by composing number combinations up to at least five (e.g., recognize how many have been secretly taken away from a group of five objects)

Strand C

Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Spatial Relationships

- **M.60.13 Use relational vocabulary of proximity (e.g., beside, next to, between, above, below, over, and under) to identify and describe the location of an object**

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand and describe relationships to solve problems? • What skills and knowledge are needed to understand the attributes and relative properties of objects? • What skills and knowledge are needed to understand shapes and spatial relationships?	Count to 10+ Add 1 within 10 Generate combinations for 5 Understand and use positional words Subitize to 6 Read numerals to 10 Write numerals to 6 Match sets and numerals to 10 Compare sets to 10 Add, subtract within 6 using objects, pictures, fingers Count within 20 Compare sets by matching Sort objects by two or more different attributes
Demonstration of Learning:	**Pacing for Unit**
• February Observation Checklist (Optional)	February - 4 Modules, 5 sessions per module
Family Overview (link below)	**Integration of Technology:**
February Unit	*Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning*
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**

A few	above	add	alike	backward
behind	below	beside	Color words	count
Days of the week	doubles	February	forward	How many
In back of	In front of	Inside	less/fewer	line
match	month	more	next	Numbers words 1-20
On top of	outside	pair	partner	pattern
plus	predict	repeat	same	today
underneath	yesterday	Belong together	circle	column
different	graph	plus	Position/location words	sort

Illustrative Mathematics Center Game - What's Behind My Back
Illustrative Mathematics Center Game - Shake and Spill
Illustrative Mathematics Center Game - Grab and Count
Illustrative Mathematics Center Game - Tower Build
Illustrative Mathematics Center Game - Subtraction Towers

Opportunities for Interdisciplinary Connections:

- Connections can be made to science through
  - Bear related science experiments
- Connections can be made to literacy and language through
  - Read alouds
  - Theme related vocabulary
- Connections can be made to creative art through
  - Bear theme art projects
- Connections can be made to social studies through
  - Calendar activities

Anticipated misconceptions:

Some students may not understand that counting is a strategy to determine 'how many' and that the last number counted says how many.

Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names).

Some students may not organize the set of objects to avoid counting objects already counted.

Some students may have a mismatch between the oral words and the objects counted.

Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number.

	One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.  Students may incorrectly use mathematical vocabulary when comparing objects. When comparing length, students may say bigger or smaller, instead of longer or shorter. Students may count all objects when joining groups instead of knowing the amount of one group and counting on the amount of the second group to find the total. Students may incorrectly think that subtraction is commutative, i.e. 8-5=5-8.
Connections to Prior Units:	**Connections to Future Units:**
Students will build upon the interval counting, adding and subtracting one, and pairing skills from the January unit.	Students will build the foundation for the counting sequence, adding and subtracting skills needed for the March unit.
Differentiation through Universal Design for Learning	
UDL Indicator	**Teacher Actions:**
Expression and Communication 5.1	• Use physical manipulatives (e.g., blocks/shapes, 3D models, two color counters)
Supporting Multilingual/English Learners	
Related CELP standards:	**Learning Targets:**
K.8- Determine the meaning of words and phrases in oral presentations and literary and informational text.	I can identify and use vocabulary such as count, how many and match to help me solve.
Learning Target Success Criteria/ Assessment	**Resources**
I can name, describe and compare shapes . (Module 1) ☐ I can identify a circle, square, triangle and rectangle	**Bridges** • Teacher's Manual Vol. 1

- ☐ I can identify a hexagon, rhombus and trapezoid
- ☐ I can name a square, circle, triangle and rectangle
- ☐ I can name a hexagon, rhombus and trapezoid

I can draw shapes. (Module 1)
- ☐ I can draw a circle
- ☐ I can draw a triangle
- ☐ I can draw a square

I can count to tell how many. (Module 1-4)
- ☐ I can move objects into a line
- ☐ I can point to each object
- ☐ I can count slowly
- ☐ I can use the last number I said to tell how many

I can use positional language to describe objects in my world. (Module 1 & 3)
- ☐ I can show or explain if an object is beside
- ☐ I can show or explain if an object is behind
- ☐ I can show or explain if an object is under
- ☐ I can show or explain if an object is on top of

I can subitize up to 6. (Module 2 & 3)
- ☐ I can quickly recognize how many

I can describe and compare objects. (Module 2 & 3)
- ☐ I can show or explain how objects are the same
- ☐ I can show or explain how objects are different
- ☐ I can show or explain if an object is lighter, heavier or the same weight.
- ☐ I can show or explain how objects are shorter, longer or the same length

I can represent and solve addition and subtraction problems up to 6 in many ways. (Module 2 & 4)
- ☐ I can show how I put together to solve
- ☐ I can show how I take away to solve

I can write numerals to 8. (Module 3)
- ☐ I can grip my pencil
- ☐ I can form the numbers 1-8

I can compare two sets of up to 10 objects. (Module 3)
- ☐ I can explain how two sets are the same

- Suggested Manipulatives
- Suggested Blackline Masters

Illustrative Mathematics Center Games
- *What's Behind My Back*
- *Shake and Spill*
- *Grab and Count*
- *Tower Build*
- *Subtraction Towers*

☐ I can explain how two sets are different ☐ I can show or explain which set has less ☐ I can show or explain which set has more I can sort objects by attributes. (Module 4) ☐ I can sort the same set in different ways	

Unit Title:
March
Relevant Standards: Bold indicates priority

<u>Strand A</u>

Number Names

- **M.60.1 Say or sign the number sequence up to at least 20**

Cardinality

- **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set**
- **M.60.3 Count out a set of objects up to five**

Written Numerals

- **M.60.4 Recognize written numerals up to at least 10**

Recognition of Quantity

- **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items**

Comparison

- M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same

<u>Strand B</u>

Number Operations

- M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting)
- M.60..8 Recognize and describe parts contained in larger numbers by composing number combinations up to at least five (e.g., recognize how many have been secretly taken away from a group of five objects)

Strand C

Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand and describe relationships to solve problems? • What skills and knowledge are needed to understand the attributes and relative properties of objects? • What skills and knowledge are needed to understand shapes and spatial relationships?	Count to 10+ Read numerals to 10 Subitize to 6 Read and write numerals to 10 Match sets and numerals to 10 Compare sets to 10 Add within 6 using pictures, fingers Identify and name shapes Count within 20 Add within 6 using objects Generate combinations within 6 using objects Subtract 1 within 6 using objects Add 1,2, or 3 within 10 by counting on Sort objects by two or more different attributes Identify and name shapes
Demonstration of Learning:	**Pacing for Unit**

- March Observation Checklist (Optional)

March

Family Overview (link below)

March Unit

Integration of Technology:

Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning

Unit-specific Vocabulary:

add	after	backward	behind	big/little
Colors: Blue, yellow, red	shapes: Circle, hexagon, oval, rectangle, square, trapezoid, triangle, half-circle, rhombus	count	Days of the week	forward
yesterday	subtract	How many	line	many
March	match	month	Number sentence	Number words 1-20
next	doubles	pattern	Plus	predict
less/fewer	more	repeat	total	size
sort	tomorrow	Tally marks	thin/thick	today

Aligned Unit Materials, Resources, and Technology (beyond core resources):

Illustrative Mathematics Center Game - What's Behind My Back
Illustrative Mathematics Center Game - Shake and Spill
Illustrative Mathematics Center Game - Grab and Count
Illustrative Mathematics Center Game - Tower Build
Illustrative Mathematics Center Game - Subtraction Towers

Opportunities for Interdisciplinary Connections:

- Connections can be made to science through
  - Making, testing, and predicting different structures through shapes
- Connections can be made to literacy and language through
  - Read alouds
  - Theme related vocabulary

Anticipated misconceptions:

Some students may not understand that counting is a strategy to determine 'how many' and that the last number counted says how many.

Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names).

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<tr><td>

- Connections can be made to creative art through
  - Shape theme art projects
- Connections can be made to social studies through
  - Calendar activities

</td><td>

Some students may not organize the set of objects to avoid counting objects already counted.

Some students may have a mismatch between the oral words and the objects counted.

Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number.

One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.

Students may incorrectly use mathematical vocabulary when comparing objects. When comparing length, students may say bigger or smaller, instead of longer or shorter.

Students may count all objects when joining groups instead of knowing the amount of one group and counting on the amount of the second group to find the total.

Students may incorrectly think that subtraction is commutative, i.e. 8-5=5-8.

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<tr><td>Connections to Prior Units:</td><td>Connections to Future Units:</td></tr>
<tr><td>Students will build upon the counting sequence, adding and subtracting skills from the February unit.</td><td>Students will build the foundation for the conceptual subitizing and addition notation skills needed for the April unit.</td></tr>
<tr><td colspan="2">Differentiation through Universal Design for Learning</td></tr>
<tr><td>UDL Indicator</td><td>Teacher Actions:</td></tr>
<tr><td>Comprehension 3.2</td><td>

- Highlight or emphasize key elements in text, graphics, diagrams, formulas
- Use multiple examples and non-examples to emphasize critical features
- Use cues and prompts to draw attention to critical features
- Highlight previously learned skills that can be used to solve unfamiliar problems

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<tr><td colspan="2">Supporting Multilingual/English Learners</td></tr>
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Related CELP standards:	**Learning Targets:**
K.8- Determine the meaning of words and phrases in oral presentations and literary and informational text.	I can identify a hexagon, rhombus, and trapezoid.

Learning Target Success Criteria/ Assessment	**Resources**
I can sort objects by attributes. (Module 1) ☐ I can sort the same set in different ways I can count to tell how many. (Module 1-4) ☐ I can move objects into a line ☐ I can point to each object ☐ I can count slowly ☐ I can use the last number I said to tell how many I can name, describe and compare shapes . (Module 1, 2 & 4) ☐ I can identify a circle, square, triangle and rectangle ☐ I can identify a hexagon, rhombus and trapezoid ☐ I can name a square, circle, triangle and rectangle ☐ I can name a hexagon, rhombus and trapezoid I can compare two sets of up to 10 objects. (Module 2 & 3) ☐ I can explain how two sets are the same ☐ I can explain how two sets are different ☐ I can show or explain which set has less ☐ I can show or explain which set has more I can subitize up to 6. (Module 2-4) ☐ I can quickly recognize how many I can write numerals to 10. (Module 2 & 4) ☐ I can grip my pencil ☐ I can form the numbers 1-10. I can represent and solve addition and subtraction problems up to 6 in many ways. (Module 4) ☐ I can show how I put together to solve	**Bridges** • Teacher's Manual Vol. 1 • Suggested Manipulatives • Suggested Blackline Masters **Illustrative Mathematics Center Games** • *What's Behind My Back* • *Shake and Spill* • *Grab and Count* • *Tower Build* • *Subtraction Towers*

☐ I can show how I take away to solve	

Unit Title:
April
Relevant Standards: Bold indicates priority
<u>Strand A</u> Number Names ● **M.60.1 Say or sign the number sequence up to at least 20** Cardinality ● **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set** ● **M.60.3 Count out a set of objects up to five** Written Numerals ● **M.60.4 Recognize written numerals up to at least 10** Recognition of Quantity ● **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items** Comparison ● M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same **<u>Strand B</u>** Number Operations ● M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting) ● M.60..8 Recognize and describe parts contained in larger numbers by composing number combinations up to at least five (e.g., recognize how many have been secretly taken away from a group of five objects) **<u>Strand C</u>** Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand and describe relationships to solve problems? • What skills and knowledge are needed to understand the attributes and relative properties of objects? • What skills and knowledge are needed to understand shapes and spatial relationships?	Count to 10 Count within 20 Subitize to 6 Read numerals to 10 Write numerals to 6 Subtract 1 within 10 using objects Generate combinations for 5 Match sets and numerals to 10 Identify and name shapes Compose with shapes
Demonstration of Learning:	**Pacing for Unit**
• April Observation Checklist (Optional)	April - 4 Modules, 5 sessions per module
Family Overview (link below)	**Integration of Technology:**
April Unit	*Intentionally aligned use of digital tools and resources to support acquisition of content, researching, organizing and communicating learning*
Unit-specific Vocabulary:	**Aligned Unit Materials, Resources, and Technology (beyond core resources):**

April	add	after	before	big/large
Color words	count	Days of the week	doubles	How many
less/fewer	light	line	more	More than 1
month	next	Number words 1-10	pattern	predict
repeat	same	small/little	symmetry	symmetrical
today	tomorrow	yesterday	Shapes: circle, rhombus,square, trapezoid, triangle, hexagon	distance
How many	long/longer	match	measure	Ordinal numbers 1st-6th
short/shorter	add	count	plus	

Illustrative Mathematics Center Game - What's Behind My Back
Illustrative Mathematics Center Game - Shake and Spill
Illustrative Mathematics Center Game - Grab and Count
Illustrative Mathematics Center Game - Tower Build
Illustrative Mathematics Center Game - Subtraction Towers

Opportunities for Interdisciplinary Connections:

- Connections can be made to science through
  - Observing and describing symmetry in nature
- Connections can be made to literacy and language through
  - Read alouds
  - Theme related vocabulary
- Connections can be made to creative art through
  - Symmetrical and theme based art projects
- Connections can be made to social studies through
  - Calendar activities

Anticipated misconceptions:

Some students may not understand that counting is a strategy to determine 'how many' and that the last number counted says how many.

Some students may have a mismatch between the oral words and the objects counted (eg, matches objects to syllables, omits certain number names).

Some students may not organize the set of objects to avoid counting objects already counted.

Some students may have a mismatch between the oral words and the objects counted.

	Students may look at objects and focus on their size, arrangement, or area when making comparisons between groups rather than the number. One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.  Students may incorrectly use mathematical vocabulary when comparing objects. When comparing length, students may say bigger or smaller, instead of longer or shorter. Students may count all objects when joining groups instead of knowing the amount of one group and counting on the amount of the second group to find the total. Students may incorrectly think that subtraction is commutative, i.e. 8-5=5-8.
Connections to Prior Units:	**Connections to Future Units:**
Students will build upon the conceptual subitizing and addition notation skills from the March unit.	Students will build the foundation for the addition strategies used in the May unit.
Differentiation through Universal Design for Learning	
UDL Indicator	**Teacher Actions:**
Comprehension 3.3	• Give explicit prompts for each step in a sequential process • Provide options for organizational methods and approaches (tables and algorithms for processing mathematical operations) • Provide interactive models that guide exploration and new understandings • Introduce graduated scaffolds that support information processing strategies • Provide multiple entry points to a lesson and optional pathways through content (e.g., exploring big ideas through dramatic works, arts and literature, film and media) • "Chunk" information into smaller elements • Progressively release information (e.g., sequential highlighting) • Remove unnecessary distractions unless they are essential to the instructional goal
Supporting Multilingual/English Learners	

Related CELP standards:	**Learning Targets:**
K.9- Create clear and coherent grade appropriate speech and text.	I can use numbers and pictures to put objects in order.

Learning Target Success Criteria/ Assessment	**Resources**
I can represent and solve addition and subtraction problems up to 10 in many ways. (Module 1) ☐ I can show how I put together to solve ☐ I can show how I take away to solve I can write numerals to 10. (Module 1 & 2) ☐ I can grip my pencil ☐ I can form the numbers 1-10. I can subitize up to 6. (Module 1-3) ☐ I can quickly recognize how many I can count to tell how many. (Module 1-4) ☐ I can move objects into a line ☐ I can point to each object ☐ I can count slowly ☐ I can use the last number I said to tell how many I can name, describe and compare shapes . (Module 2) ☐ I can identify a circle, square, triangle and rectangle ☐ I can identify a hexagon, rhombus and trapezoid ☐ I can name a square, circle, triangle and rectangle ☐ I can name a hexagon, rhombus and trapezoid I can compare two sets of up to 10 objects. (Module 3) ☐ I can explain how two sets are the same ☐ I can explain how two sets are different ☐ I can show or explain which set has less ☐ I can show or explain which set has more I can describe and compare objects. (Module 3) ☐ I can show or explain how objects are shorter, longer or the same length	**Bridges** • Teacher's Manual Vol. 1 • Suggested Manipulatives • Suggested Blackline Masters **Illustrative Mathematics Center Games** • *What's Behind My Back* • *Shake and Spill* • *Grab and Count* • *Tower Build* • *Subtraction Towers*

I can sort objects by attributes. (optional free choice center- Bug Scavenger Hunt)	

Unit Title:
May
Relevant Standards: Bold indicates priority

<u>Strand A</u>

Number Names

- **M.60.1 Say or sign the number sequence up to at least 20**

Cardinality

- **M.60.2 Count up to 10 objects using one-to-one correspondence, regardless of configuration, using the number name of the last object counted to represent the total number of objects in a set**
- **M.60.3 Count out a set of objects up to five**

Written Numerals

- **M.60.4 Recognize written numerals up to at least 10**

Recognition of Quantity

- **M.60.5 Quickly recognize and name, without counting, the number of objects in collections of up to at least five items**

Comparison

- M.60.6 Compare sets of up to 10 objects using a visual matching or counting strategy and describing the comparison as more, less than or the same

<u>Strand B</u>

Number Operations

- M.60.7 Use real-world situations and concrete objects to model and solve addition (e.g., putting together) and subtraction (e.g., taking away) problems up through five (Supporting)
- M.60..8 Recognize and describe parts contained in larger numbers by composing number combinations up to at least five (e.g., recognize how many have been secretly taken away from a group of five objects)

<u>Strand C</u>

Measurement

- M.60.9 Compare the measurable attributes of two or more objects (e.g., length, weight and capacity) and describe the comparison using appropriate vocabulary (e.g., longer, shorter, same length, heavier, lighter, same weight, holds more, holds less, holds the same amount)
- M.60.10 Begin to **use strategies** to determine measurable attributes (e.g., length or capacity of objects). May use comparison, standard or non-standard measurement tools

Sorting and Classifying

- **M.60.12 Sort and classify a set of objects on the basis of one attribute independently and describe the sorting rule. Can re-sort and classify the same set of objects based on a different attribute**

Strand D

Identifying Shapes

- **M.60.14 Identify and describe a variety of 2- dimensional and 3- dimensional shapes with mathematical names (e.g., ball/sphere, box/rectangular prism, can/cylinder) regardless of orientation and size**

Composing Shapes

M.60.15 Complete a shape puzzle or a new figure by putting multiple shapes together with purpose

Essential Question(s):	**Enduring Understanding(s):**
• What skills and knowledge are needed to understand counting and cardinality? • What skills and knowledge are needed to understand and describe relationships to solve problems? • What skills and knowledge are needed to understand the attributes and relative properties of objects? • What skills and knowledge are needed to understand shapes and spatial relationships?	Count within 20 Add and subtract using pictures, fingers, and numbers Subitize to 4 Write numerals to 4 Match sets and numerals to 10 Compare sets to 10 Read numerals to 10+ Generate combinations for 4 Add and subtract using objects Add quantities to 6 within 16 by counting on Sort objects by two or more different attributes
Demonstration of Learning:	**Pacing for Unit**
• Developmental Indicators for the Assessment of Learning 4th Edition • PreK Math Individual Growth Interviews • May Observation Checklist (Optional)	May - 4 Modules, 5 sessions per module
Family Overview (link below)	**Integration of Technology:**
May Unit	*Intentionally aligned use of digital tools and resources to support acquisition of*

content, researching, organizing and communicating learning

Unit-specific Vocabulary:

add/plus	backward	behind	clear	count
Count on	Days of the week	dry/wet	experiment	float
forward	group/groups	heavy/light	How many	less/fewer
line	May	month	more	next
Number words 1-20	pattern	predict/prediction	Repeat	same
sink	sort	subtract/take away	today	tomorrow
yesterday	addition/plus sign	Shapes: trapezoid, triangle, half-circle, Circle, rectangle	Belong together	column
different	graph	more	plus	subtract/take away sign

Aligned Unit Materials, Resources, and Technology (beyond core resources):

Illustrative Mathematics Center Game - What's Behind My Back
Illustrative Mathematics Center Game - Shake and Spill
Illustrative Mathematics Center Game - Grab and Count
Illustrative Mathematics Center Game - Tower Build
Illustrative Mathematics Center Game - Subtraction Towers

Opportunities for Interdisciplinary Connections:

- Connections can be made to science through
  - Sink and Float activities and water based experiments
- Connections can be made to literacy and language through
  - Read alouds
  - Theme related vocabulary
- Connections can be made to creative art through
  - Watercolor painting
- Connections can be made to social studies through

Anticipated misconceptions:

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Some students may not organize the set of objects to avoid counting objects already counted.

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- Calendar activities

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One of the most common misconceptions in geometry is the belief that orientation, size, or color are tied to shape identification. Students may see the first of the figures below as a triangle, but claim to not know the name of the second or third.

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<tr><td>Connections to Prior Units:</td><td>Connections to Future Units:</td></tr>
<tr><td>Students will build upon the addition strategies used in the April unit.</td><td>Within the final unit of the school year, students are building the foundational skills and knowledge to prepare for kindergarten:
understand counting and cardinality
understand and describe relationships to solve problems
understand the attributes and relative properties of objects
understand shapes and spatial relationships</td></tr>
<tr><td colspan="2">Differentiation through Universal Design for Learning</td></tr>
<tr><td>UDL Indicator</td><td>Teacher Actions:</td></tr>
<tr><td>Perception 1.3</td><td>Use touch equivalents (tactile graphics or objects of reference) for key visuals that represent concepts
Provide physical objects and spatial models to convey perspective or interaction
Provide auditory cues for key concepts and transitions in visual information</td></tr>
<tr><td colspan="2">Supporting Multilingual/English Learners</td></tr>
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Related CELP standards:	**Learning Targets:**
K.9- Create clear and coherent grade appropriate speech and text.	I can use numbers and pictures to describe the interaction of objects.

Lesson Sequence **Learning Target** **Success Criteria/** **Assessment**	**Resources**
I can count to tell how many. (Module 1-4) ☐ I can move objects into a line ☐ I can point to each object ☐ I can count slowly ☐ I can use the last number I said to tell how many I can represent and solve addition and subtraction problems up to 10 in many ways. (Module 1, 2 & 4) ☐ I can show how I put together to solve ☐ I can show how I take away to solve I can subitize up to 6. (Module 2) ☐ I can quickly recognize how many I can write numerals to 10. (Module 2) ☐ I can grip my pencil ☐ I can form the numbers 1-10. I can name, describe and compare shapes . (Module 2) ☐ I can identify a circle, square, triangle and rectangle ☐ I can identify a hexagon, rhombus and trapezoid ☐ I can name a square, circle, triangle and rectangle ☐ I can name a hexagon, rhombus and trapezoid I can compare two sets of up to 10 objects. (Module 2-4) ☐ I can explain how two sets are the same ☐ I can explain how two sets are different ☐ I can show or explain which set has less ☐ I can show or explain which set has more I can sort objects by attributes. (Module 4)	**Bridges** • Teacher's Manual Vol. 1 • Suggested Manipulatives • Suggested Blackline Masters **Illustrative Mathematics Center Games** • *What's Behind My Back* • *Shake and Spill* • *Grab and Count* • *Tower Build* • *Subtraction Towers*

☐ I can sort the same set in different ways I can describe and compare objects. (optional free choice center- Sinkers) ☐ I can show or explain how objects move slower or faster	