Tunkhannock Area School District
Kindergarten Mathematics
Curriculum Map 2014

Quarter 1

Targeted Standard(s):

Domain

K. G Geometry
K. MD Measurement and Data
K. CC Counting and Cardinality

PA Core Standards

CC.2.4.K.A.1 Describe and compare measurable attributes of objects.
CC.2.3.K.A.1 Identify and describe two- and three-dimensional shapes.
CC.2.3K.A.4 Classify objects and count the number of objects in each category.
CC.2.3.K.A.2 Analyze, compare, create, and compose two- and three-dimensional shapes.
CC.2.1.K.A.1 Know number names and write and recite the count sequence.
CC.2.1K.A.2 Apply one-to one correspondence to count the number of objects.
CC.2.1.K.A.3 Apply the concept of magnitude to compare numbers and quantities.
CC.2.4.K.A.4 Classify objects and count the number of objects.

Enduring Understandings:

- Describe and compare measurable attributes.
- Identify and describe shapes (squares, circles, triangles, rectangles).
- Compare numbers.
- Describe and compare measurable attributes.
- Classify objects and count the number of objects in each category.
- Know number names and the count sequence.

Overview

In this unit, students will:

- Recognize, name, build, draw, compare, and sort simple two- and three-dimensional shapes, describe attributes and parts of two- and three-dimensional shapes, group objects according to common properties, investigate and predict the results of putting together and taking apart simple two- and three-dimensional shapes, describe, name, and interpret relative positions in space and apply ideas about relative position, create mental images of geometric shapes using spatial memory and spatial visualization;
- Recognize and represent shapes from different perspectives, recognize geometric shapes in the environment, create and extend patterns, investigate and predict the results of putting together and taking apart two and three-dimensional shapes, pose information questions, collect data and organize and display results using objects, pictures and picture graphs.

Essential Questions:

1. What do we look at when you try to identify a shape?
2. How do we combine shapes to make different shapes?
3. How are quadrilaterals and triangles different?
4. How are shapes alike and different?
5. How can a shape be described?
6. How can shapes be sorted?
7. How can we describe directions (which way), distance (how far), location (where), and representation (what objects)?
8. How can we describe location in our everyday life?
9. How can we describe the location or position of an object or shape?
10. How can we describe shapes in our everyday lives?
11. How can we organize information?
12. How can we sort objects?
13. How can we use words that describe location in our everyday life?
14. How can you describe triangles?
15. How do direction words help us find a shape or place?
16. How do shapes fit together and come apart?
17. How do we describe and identify patterns?
18. How do we use shapes in school?
19. What are attributes or properties of a shape or shapes?
20. What happens when you change a shape's position and orientation (slides, flips, and turns)?
21. What is a pattern?
22. What is a shape?
23. What is an attribute?
24. What is the difference between a 2-dimensional and 3-dimensional shape?
25. What makes shapes different from each other?
26. What shapes can we see in our world?
27. Where can we find shapes in the real world?
28. How do we sort this group of objects?
29. How can we sort them a different way?
30. How do we know which number is larger (smaller)?

CONCEPTS/SKILLS TO MAINTAIN

Although many students may have attended pre-school prior to entering kindergarten, this is the first year of school for some students. For that reason, no concepts/skills to maintain will be listed at this time. It is expected that teachers will differentiate to accommodate those students that may enter kindergarten with prior knowledge.

SELECTED TERMS AND SYMBOLS

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- Teachers should present these concepts to students with models and real life examples in discussions with students. Students should understand the concepts involved and be able to recognize and/or demonstrate them with words, models, pictures, or numbers.
- How can we describe directions (which way), distance (how far), location (where), and representation (what objects)?
- How can we describe location in our everyday life?
- How can we describe the location or position of an object or shape?
- How can we describe shapes in our everyday lives?
- How can we organize information?
- How can we sort objects?
- How can we use words that describe location in our everyday life?
- How can you describe triangles?
- How do direction words help us find a shape or place?
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- What are attributes or properties of a shape or shapes?
- What happens when you change a shape's position and orientation (slides, flips, and turns)?
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• above • attribute • behind • below • beside • circle • classify • compose • cone • cube	• cylinder • describe • in front of • inside • left • property • next to • number • numeral • outside	• rectangle • right • set • sphere • square • triangle

Core Content/Objectives		Instructional Actions	
Concepts What students will know	**Competencies** What students will be able to do	**Activities and Websites**	**Assessment/ Evaluation** How learning will be assessed
I. Compare Attributes and Sort Objects A. Compare and Sort by Color **(CC.2.4.K.A.1)** B. Compare and Sort by Shape **(CC2.3.K.A.1)**	**I. Compare Attributes and Sort Objects** A. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. B. Describe measurable attributes of objects, such as length or weight. Describe several measurable	A. http://www.ideasforpreschoolers.com/colors.php http://www.prekinders.com/math-sorting/ B. http://www.mensaforkids.org/lessons/shapes/mfklessons-shapes-all.pdf http://www.ideasforpreschoolers.com/shapes.php	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric

C. Compare and Sort by Size **(CC.2.3.K.A.1)**	attributes of a single object. C. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.	C. http://www.ideasforpreschoolers.com/size.php http://www.ixl.com/math/kindergarten/long-short http://www.ixl.com/math/kindergarten/tall-short http://www.ixl.com/math/kindergarten/holds-more-less http://www.ixl.com/math/kindergarten/compare-size-weight-capacity http://www.prekinders.com/sizes-measurement/	Chapter pretest Chapter test Cumulative review/unit test Online assessment
D. Sort by Kind **(CC.2.4.K.A.4)**	D. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	D. http://pbskids.org/lab/activity/shoesorting/ http://www.iteachwithtechnology.com/2011/01/sorting-and-classifying-objects.html	
E. Sort by Own Rule **(CC.2.4.K.A.1)**	E. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.	E. http://www.kindergarten-lessons.com/kindergarten-sorting-games.html Tangrams: http://www.abcteach.com/directory/subjects-math-geometry-tangrams-3955-2-1 http://ideas.gstboces.org/programs/tangrams/printables.cfm http://www.squidoo.com/tangram-activities	
II. Positional Concepts A. Top, Middle, Bottom **(CC.2.3.K.A.2)**	**II. Positional Concepts** A. Describe objects in the environment using names of	A. http://www.ixl.com/math/kindergarten/top-middle-and-bottom	

	shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	http://www.squidoo.com/how-to-teach-top-middle-and-bottom#module122016301 http://www.gryphonhouse.com/activities/activityDetail.asp?ID=856&CatID=3	
B. Before, Between, After **(CC.2.3.K.A.1)**	B. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	B. http://www.ixl.com/math/kindergarten/before-after-and-between-up-to-20 http://www.kidsknowit.com/free-educational-worksheets/worksheets.php?worksheet=Before_After	
C. Inside, Outside **(CC.2.3.K.A.1)**	C. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	C. Book- Inside, Outside, Upside Down (The Berenstain Bears Bright & Early) by Stan Berenstain, Jan Berenstain http://www.tlsbooks.com/bearinsideoutside.pdf http://www.tlsbooks.com/conceptworksheet3.pdf	
D. Left and Right **(CC.2.3.K.A.2)**	D. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	D. http://www.kidslearningstation.com/left-right/ http://www.ixl.com/math/kindergarten/left-middle-and-right http://www.juliabettencourt.com/printables/puzzles/giftpassinggames.pdf	
III. Comparing Sets, Data and Graphing A. Comparing Sets, Data and Graphing **(CC.2.1.K.A.1)** **(CC.2.1.K.A.2)** **(CC.2.1.K.A.3**)	**III. Comparing Sets, Data and Graphing** A. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	A. http://www.prekinders.com/more-less/ http://math.kid-smart.net/kindergarten/morefewerequal	

B. More **(CC.2.1.K.A.1)**	B. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	B. See A	
C. Fewer **(CC.2.4.K.A.1)** **(CC.2.4.K.A.4)**	C. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count	C. See A	
D. Sort and Graph **(CC.2.1.K.A.1)** **(CC.2.1.K.A.2)** **(CC.2.1.K.A.3)** **(CC.2.4.K.A.4)**	D. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.	D. http://www.ixl.com/math/kindergarten/making-graphs http://www.education.com/worksheets/kindergarten/graphing-data/	
E. Make A Real Graph	E. Classify objects into given	E. http://www.education.com/worksheets/kindergarten/g	

(CC.2.3.K.A.2)	categories; count the numbers of objects in each category and sort the categories by count.	raphing-data/	
F. Pictographs **(CC.2.3.K.A.2)**	F. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.	F. http://www.prekinders.com/fish-cracker-activities/ http://www.superteacherworksheets.com/pictograph.html	
G. Problem Solving: Use A Graph		G. http://www.greatschools.org/worksheets-activities/5824-reading-bar-graphs-and-pictographs.gs	
IV. Number Concepts	**IV. Number Concepts**		
A. Represent, Read, and Write Whole Numbers 0-5 ***(CC.2.1.K.A.1)*** ***(CC.2.1.K.A.2)***	A. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects) Understand the relationship between numbers and quantities; connect counting to cardinality.	A. http://www.tlsbooks.com/pdf/counttraceprintnumbersdn.pdf http://shared.confessionsofahomeschooler.com/math/K41-20handwriting.pdf http://www.scholastic.com/teachers/top-teaching/2013/03/counting-and-cardinality-kindergarten-meeting-common-core https://www.teachingchannel.org/videos/kindergarten-counting-cardinality-lesson	
B. Use Concrete Objects to Count, Order and Group Numbers 0-5 ***(CC.2.1.K.A.3)*** ***(CC.2.4.K.A.4)***	B. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.	B. http://www.harcourtschool.com/activity/counting_objects/ http://www.mathworksheetsland.com/k/objectsto20/ip2.pdf http://www.mathworksheetsland.com/k/objectsto20/ip7.pdf http://www.softschools.com/counting/games/ http://www.softschools.com/counting/games/	

C. *Predict and Record Outcomes* **(CC.2.1.K.A.3)**	Understand that each successive number name refers to a quantity that is one larger.	C. http://www.ixl.com/math/kindergarten/more-or-less-likely http://mathcentral.uregina.ca/RR/database/RR.09.97/loewen1.html http://www.brainpopjr.com/math/data/basicprobability/grownups.weml	

Materials/Resources/Technology

Quarter 2

Targeted Standard(s):

Domain

K.G Geometry
K. CC Counting and Cardinality
K.NBT Number and Operations in Base Ten
K.MD Measurement and Data

PA Core Standards

CC.2.3.K.A.1 Identify and describe two-and three-dimensional shapes.
CC.2.3.K.A.2 Analyze, compare, create, and compose two-and three-dimensional shapes.
CC.2.1.K.A.1 Know number names and write and recite the count sequence.
CC.2.1.K.A.2 Apply one-to one correspondence to count the number of objects.
CC.2.1.K.A.3 Apply the concept of magnitude to compare numbers and quantities.
CC.2.1.K.B.1 Use place value to compose and decompose numbers within 19.
CC.2.4. K.A.1 Describe and compare measurable attributes of objects.
CC.2.4.K.A.4 Classify objects and count the number of objects in each category.

Enduring Understandings:

- Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
- Know number names and the count sequence.
- Count to tell the number of objects.
- Work with numbers 11–19 to gain foundations for place value.
- A number's place affects its value.
- Counting tells how many things are in a set.
- The last number word, when counting, names the quantity for that set.
- Counting objects in a different order does not change the quantity.
- Each successive number name refers to a quantity that is one larger.
- A number can be represented by a set of objects and then by a numeral.
- Sets of objects can be compared to determine more than, fewer than or equal.
- Numbers are related to each other through a variety of number relationships. For example, 6 is one more than 5 and 4 less than 10, is composed of 3 and 3 as well as 4 and 2, and can be recognized quickly in patterned arrangements of dots.
- The numbers 5 and 10 are benchmark numbers. (Is a number closer to 5 or 10? How close?)
- Describe and compare measurable attributes, number properties.
- Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- Count with understanding and recognize "how many" in a set of objects.

- Develop a sense of whole numbers and represent and use them in flexible ways.
- Develop understanding of the relative magnitude and position of whole numbers.
- Use multiple models to develop initial understandings of the base-ten number system.
- Connect number words and numerals to the quantities they represent, using various physical models and representation
- Counting tells how many things are in a set.
- The last number word, when counting, names the quantity in a set.
- A number can be represented by a set of objects, then by a word, and finally by a numeral.
- Numbers are related to each other through a variety of relationships. For example, 6 is one more than 5, and is 4 less than 10.
- Counting can be a way to gather information.
- Attributes can be compared
- Comparing attributes produces a number called a measure.
- Selecting appropriate units to measure attributes.
- Comparing length, weight, capacity, and height of objects is important.
- Objects can be classified into categories
- The number of objects in a category is called a set
- A set can be counted
- Categories can be sorted according to the number of objects in the sets
- Information can be organized and recorded

Essential Questions:

1. How can numbers be represented?
2. How can we record what we count?
3. How can we show numbers in different ways?
4. How can you know an amount without counting each object?
5. How do we know if a number is more or less than another number?
6. How do we use counting in our everyday lives?
7. How do we use numbers every day?
8. How does putting things in order keep things organized?
9. How many ways can I group objects using cardinal and ordinal numbers?
10. What do numbers mean to us?
11. What is a numeral?
12. What is the difference between “more” and “less”?
13. Why are numbers important?
14. Why do we need to be able to count forwards and backwards?
15. Why do we need to be able to count objects?
16. Why do we need to be able to put things in order?

17. Why do we need to be able to read ordinal numbers?
18. What attributes of an object can be measured?
19. How can I compare 2 objects by their size?
20. What does it mean to measure something?
21. Does how I measure matter?
22. In what ways can I measure an object?
23. How are things alike and different?
24. What categories can I create from the identified attributes in these objects?
25. Is there more than one way to sort an object?

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• zero • order • number Line • forward • backward • count • counting-On • compare • digits • number • weight	• numeral • less than • more than/Greater than • model • number • numeral • ones • pair • quantity • same • organize	• sequence • set • capacity • category • classify • heavier • height • length • lighter • longer • shorter • taller

Core Content/Objectives		**Instructional Actions**	
Concepts	**Competencies**	**Activities and Websites**	**Assessment**
The teacher will introduce the concept of numbers to	No skills are assessed this time, but teacher may differentiate instruction for students		The teacher will introduce correct formation of

each student as if each student has not attended any formal teaching prior to kindergarten.	coming with prior knowledge.		numbers.
I. Geometry A. Identify and Sort Plane Shapes **(CC.2.3.K.A.1)** **(CC.2.3.K.A.2)** B. Identify and Sort Solid Shapes **(CC.2.3.K.A.1)** C. Problem Solving **(CC.2.3.K.A.1)** **(CC.2.3.K.A.2)**	**I. Geometry** A. Correctly name shapes regardless of their orientations or overall size. Identify shapes as two-dimensional (lying in a plane, "flat") or three dimensional ("solid"). B. Correctly name shapes regardless of their orientations or overall size. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). C. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. Compose simple shapes to form	A. http://www.primaryresources.co.uk/online/online_downloads.htm http://www.primaryresources.co.uk/maths/mathsE3.htm B. http://www.teachingideas.co.uk/maths/contents_shape.htm http://www.k6-geometric-shapes.com/shape-worksheets.html C. http://www.mathsisfun.com/geometry/vertices-faces-edges.html http://www.teachingideas.co.uk/maths/feelybagshapes.htm http://www.teachingideas.co.uk/maths/making3dshapes.htm http://www.teachingideas.co.uk/maths/files/cubenets.pdf http://www.ixl.com/math/kindergarten/relate-planar-and-solid-figures http://www.ixl.com/math/kindergarten/count-sides-and-corners	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test Online assessment

	larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?" Limit category	http://www.ixl.com/math/kindergarten	
II. Number Concepts A. Represent, Read and Write Whole Numbers 6-12 **(CC.2.1.K.A.1) (CC.2.1.K.A.2)** B. Use Concrete Objects to Count, Order and Group Numbers 6-12 **(CC.2.1.K.A.3)**	**II. Number Concepts** A. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects) B. Understand the relationship between numbers and quantities; connect counting to cardinality. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. Understand that each successive number name refers to a quantity that is one larger. Count to answer "how many?" questions about as many as 20	A. http://www.tlsbooks.com/pdf/counttraceprintnumbersdn.pdf http://shared.confessionsofahomeschooler.com/math/K41-20handwriting.pdf http://www.scholastic.com/teachers/top-teaching/2013/03/counting-and-cardinality-kindergarten-meeting-common-core https://www.teachingchannel.org/videos/kindergarten-counting-cardinality-lesson B. http://www.harcourtschool.com/activity/counting_objects/ http://www.mathworksheetsland.com/k/objectsto20/ip2.pdf http://www.mathworksheetsland.com/k/objectsto20/ip7.pdf http://www.softschools.com/counting/games/ http://www.softschools.com/counting/games/	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test Online assessment

	things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.		
C. Place Value **(CC.2.1.K.B.1)**	C. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	C. http://www.ixl.com/math/kindergarten/more-or-less-likely http://mathcentral.uregina.ca/RR/database/RR.09.97/loewen1.html http://www.brainpopjr.com/math/data/basicprobability/grownups.weml	
III. Measurement	**III. Measurement**		
A. Length **(CC.2.4.K.A.1)** **(CC.2.4.K.A.4)**	A. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.	A. http://bridges1.mathlearningcenter.org/media/Bridges_GrK_OnlineSupplement/BKSUP-D1_MeasureLength_0709.pdf http://www.ehow.com/info_7892058_activities-kindergarten-recognize-length.html http://www.ixl.com/math/kindergarten/long-and-short http://www.ixl.com/math/kindergarten/tall-and-short http://kindergarten-network.wikispaces.com/file/view/Ladybug+Msmt+K.pdf	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test
a. Compare Length	a. Describe measurable attributes		

b. Order Length c. Measure Length d. Estimate and Measure Length	of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. d. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.	http://pbskids.org/curiousgeorge/games/how_tall/how_tall.html http://pbskids.org/clifford/games/measuring_up.html http://www.sesamestreet.org/games#media/game_1d5fc163-c225-42da-bb59-75e763ba038f http://blackboard.aacps.org/portal/tconnect/_elem/Math09/K-2CCSS/Kindergarten/kmdata.htm	Online assessment
B. Weight **(CC.2.4.K.A.1)**	B. Describe measurable attributes of objects, such as length or weight.	B. http://www.ixl.com/math/kindergarten/light-and-heavy	Written/oral response to

(CC.2.4.K.A.4) a. Order by Weight b. Measure by Weight	Describe several measurable attributes of a single object. F. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. a. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. b. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects	http://www.ixl.com/math/kindergarten/compare-size-weight-and-capacity http://blackboard.aacps.org/portal/tconnect/_elem/Math09/K-2CCSS/Kindergarten/kmdata.htm	open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test Online assessment

	with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.		
c. Estimate and Measure Weight	c. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.		
C. Capacity	C. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe	C. http://www.ixl.com/math/kindergarten/holds-more-or-less http://www.ehow.com/info_7912128_activities-measuring-capacity-kindergarten.html	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test

a. Compare Capacity b. Order Capacity	the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. a. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. b. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child		Chapter pretest Chapter test Cumulative review/unit test Online assessment

c. Measure Capacity	as taller/shorter. c. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.		
d. Estimate and Measure Capacity	d. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.		

Materials/Resources/Technology

Quarter 3

Targeted Standard(s):

Domain

K.OA Operations and Algebraic Thinking
K.CC Counting and Cardinality

PA Core Standards

CC.2.1.K.A.1 Know number names and write and recite the count sequence.
CC.2.1.K.A.2 Apply one-to one correspondence to count the number of objects.
CC.2.1.K.A.3 Apply the concept of magnitude to compare numbers and quantities.
CC.2.1.K.B.1 Use place value to compose and decompose numbers within 19.
CC.2.2. K.A.1 Extend the concepts of putting together and taking apart to add and subtract within 10.

Enduring Understandings:

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
- Know number names and the count sequence.
- Addition and subtraction problems are placed in four basic categories: *Joining* problems, *Separating* problems, *Part-Part Whole* problems, and *Comparing* problems.
- A joining problem involves three quantities involves: the starting amount, the change amount, and the resulting amount.
- A *separating* problem involves three quantities; the starting amount, the change amount (the amount being removed), and the resulting amount; however, the starting amount is the largest amount with the change amount being removed which leaves the resulting amount.
- *Part-Part-Whole* problems involve three quantities: two parts that are combined into one whole
- *Compare* problems involve the comparison between two different quantities. The third quantity does not actually exist but is the difference between the two quantities. When one quantity is compared to another, the first quantity is either more than, less than, or equal to the second quantity.
- Problems can be solved in different ways.
- Problems can be modeled using objects, pictures, and words.
- Various combinations of numbers can be used to represent the same quantity.

Overview

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

For numbers 0 – 10, Kindergarten students choose, combine, and apply strategies for answering quantitative questions. This includes quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away. Objects, pictures, actions, and explanations are used to solve problems and represent thinking. Although CCGPS states, ***"Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required",*** please note that it is not until First Grade when "Understand the meaning of the equal sign" is an expectation.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms

students should learn to use with increasing precision with this cluster are: **join, add, separate, subtract, and, same amount as, equal, less, more, compose, decompose.**

Essential Questions:

1. How do we know which number is larger (smaller)?
2. What happens when I take a group of numbers (objects) apart or put them together?
3. Does the order of addends change the sum?
4. How can I compare one quantity to another?
5. How can I find the total when I put two quantities together?
6. How can I find what is left over when I take one quantity away from another?
7. How can I represent and solve problems using objects, pictures, words and numbers?
8. How can I use different combinations of numbers to represent the same quantity?
9. How can I use models to represent addition?
10. How can I use models to represent subtraction?
11. How can using benchmark numbers help me when adding or subtracting?
12. How do you know when your answer makes sense?
13. What happens when I decompose a quantity?
14. What happens when I join quantities together?
15. What happens when sets are joined or separated?
16. What happens when some objects are taken away from a set of objects?
17. Why is it important that I can build the number combinations for the number 5? 10?

CONCEPTS/SKILLS TO MAINTAIN

Although many students may have attended pre-school prior to entering kindergarten, this is the first year of school for some students. For that reason, no concepts/skills to maintain will be listed at this time. It is expected that teachers will differentiate to accommodate those students that may enter kindergarten with prior knowledge.

SELECTED TERMS AND SYMBOLS

The following terms and symbols are often misunderstood. These concepts are not an inclusive list and should not be taught in isolation. However, due to evidence of frequent difficulty and misunderstanding associated with these concepts, instructors should pay particular attention to them and how their students are able to explain and apply them.

The definitions below are for **teacher reference only** and are not to be memorized by students. Teachers should first present these concepts to students with models and real life examples. Students should understand the concepts involved and be able to recognize and/or use them with words, models,

pictures, or numbers.

- combine
- compose
- separate
- decompose
- compare
- quantity

Core Content/Objectives		Instructional Actions	
Concepts What students will know	**Competencies** What students will be able to do	**Activities**	**Assessment** How learning will be assessed
I. Addition A. Model Addition **(CC.2.1.K.A.1)** **(CC.2.1.K.A.2)** **(CC.2.1.K.A.3)** **(CC.2.1.K.B.1)** **(CC.2.2.K.A.1)** B. Add 1 to Numbers 0-9	**I. Addition** A. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), and acting out situations, verbal explanations, expressions, or equations. B. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	Addition: http://www.ixl.com/math/kindergarten/addition-with-pictures-sums-up-to-5 http://www.ixl.com/math/kindergarten/add-two-numbers-sums-up-to-5 http://www.ixl.com/math/kindergarten/addition-sentences-sums-up-to-5 http://www.ixl.com/math/kindergarten/ways-to-make-a-number-sums-up-to-5 http://www.ixl.com/math/kindergarten/addition-word-problems-sums-up-to-5 http://www.ixl.com/math/kindergarten/addition-with-pictures-sums-up-to-10 http://www.ixl.com/math/kindergarten/add-two-numbers-sums-up-to-10 http://www.ixl.com/math/kindergarten/addition-sentences-sums-up-to-10	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test Online assessment

C. Practice Addition	C. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	http://www.ixl.com/math/kindergarten/ways-to-make-a-number-sums-up-to-10 http://www.ixl.com/math/kindergarten/addition-word-problems-sums-up-to-10 http://www.ixl.com/math/kindergarten/addition-sentences-sums-equal-to-10 http://www.gynzy.com/en/filter/mathematics/Addition_and_subtraction http://www.kidslearningstation.com/math/addition/adding-worksheets.asp http://mathworksheetwizard.com/kindergarten/addition-subtraction.html http://creeksidelearning.com/2012/09/25/hands-on-math-learning-for-kindergarten-and-first-grade/ http://members.learningplanet.com/act/count/free.asp http://www.worksheetworks.com/math/numbers/skip-counting.html http://www.ixl.com/math/kindergarten/skip-count-by-twos http://www.ixl.com/math/kindergarten/skip-count-by-fives	**TEACHER REFLECTION QUESTIONS** • Are students able to rote count accurately? • Are students able to count dots with one-to-one corresponde
D. Adding Doubles	D. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or		

	equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	http://www.ixl.com/math/kindergarten/skip-count-by-tens http://www.ixl.com/math/kindergarten/skip-count-by-twos-fives-and-tens	nce? • Are students able to subitize? • Are students able to compare quantities to determine more, less, or same?
E. Draw Addition Picture	E. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	(Check Addition and Subtraction folder)	Are students able to line cards up in a specific order (least to greatest – forward counting sequence or greatest to least – backward counting sequence)?
F. Problem Solving G. Skip Counting by 2's, 5's, 10's	F. Fluently add and subtract within 5. G. Count to 100 by ones and by tens. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	Five Frames: http://illuminations.nctm.org/ActivityDetail.aspx?ID=74 Ten Frames: http://illuminations.nctm.org/ActivityDetail.aspx?ID=75	

II. Subtraction A. Model Subtraction **(CC.2.1.K.A.1)** **(CC.2.1.K.A.2)** **(CC.2.1.K.A.3)** **(CC.2.1.K.B.1)** **(CC.2.2.K.A.1)** B. Subtract 1 from Numbers 1-10 C. Subtract 2 from Numbers 2-10	**II. Subtraction** A. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), and acting out situations, verbal explanations, expressions, or equations. B. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). C. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps),and acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within	Subtraction: http://www.ixl.com/math/kindergarten/subtract-with-pictures-numbers-up-to-5 http://www.ixl.com/math/kindergarten/subtraction-numbers-up-to-5 http://www.ixl.com/math/kindergarten/subtraction-sentences-numbers-up-to-5 http://www.ixl.com/math/kindergarten/subtraction-word-problems-numbers-up-to-5 http://www.ixl.com/math/kindergarten/subtract-with-pictures-numbers-up-to-10 http://www.ixl.com/math/kindergarten/subtraction-numbers-up-to-9 http://www.ixl.com/math/kindergarten/subtraction-sentences-numbers-up-to-10 http://www.ixl.com/math/kindergarten/subtraction-word-problems-numbers-up-to-9 http://www.gynzy.com/en/filter/mathematics/Addition_and_subtraction http://www.kidslearningstation.com/math/subtraction-worksheets.asp http://mathworksheetwizard.com/kindergarten/addition-subtraction.html Math Games: Fruit Shoot Addition http://www.sheppardsoftware.com/mathgames/	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test Online assessment

	10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	fruitshoot/fruitshoot_addition.htm Math Games: Balloon Pop Addition (ADVANCED) http://www.sheppardsoftware.com/mathgames/numberballoons/NumberBalloons_add_level1.htm	
D. Practice Subtraction	D. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), and acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	Brainie http://www.coolmath-games.com/0-brainie/index.html	
E. Problem Solving F. Relate Addition and Subtraction	E. Fluently add and subtract within 5. F. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract		

G. Choose an Operation Addition or Subtraction	within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). G. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).		

Materials/Resources/Technology

STRATEGIES FOR TEACHING AND LEARNING

Provide contextual situations for addition and subtraction that relate to the everyday lives of kindergarteners. A variety of situations can be found in children's literature books. Students then model the addition and subtraction using a variety of representations such as drawings, sounds, acting out situations, verbal explanations and numerical expressions. Manipulatives, like two-color counters, clothespins on hangers, connecting cubes, and stickers can also be used for modeling these operations. Kindergarten students should see addition and subtraction equations written by the teacher. Although students might have a difficult time at first, teachers should encourage them to try writing the equations. Students' writing of equations in Kindergarten is

encouraged, but it is not required.

Create written addition or subtraction problems with sums and differences less than or equal to 10 using the numbers 0 to 10. It is important to use a problem context that is relevant to kindergarteners. After the teacher reads the problem, students choose their own method to model the problem and find a solution. Students discuss their solution strategies while the teacher represents the situation with an equation written under the problem. The equation should be written by listing the numbers and symbols for the unknown quantities in the order that follows the meaning of the situation. The teacher and students should use the words *equal* and *is the same as* interchangeably.

Have students decompose numbers less than or equal to 5 during a variety of experiences to promote their fluency with sums and differences less than or equal to 5 that result from using the numbers 0 to 5. For example, ask students to use different models to decompose 5 and record their work with drawings or equations. Next, have students decompose 6, 7, 8, 9, and 10 in a similar fashion. As they come to understand the role and meaning of arithmetic operations in number systems, students gain computational fluency, using efficient and accurate methods for computing.

The teacher can use scaffolding to teach students who show a need for more help with counting. For instance, ask students to build a tower of 5 using 2 green and 3 blue linking cubes while you discuss composing and decomposing 5. Have them identify and compare other ways to make a tower of 5. Repeat the activity for towers of 6 through 10. Help students use counting as they explore ways to compose 6 through 10.

COMMON MISCONCEPTIONS

Students may over-generalize the vocabulary in word problems and think that certain words indicate solution strategies that must be used to find an answer. They might think that the word *more* always means to add and the words *take away* or *left* always means to subtract. When students use the words *take away* to refer to subtraction and its symbol, teachers need to repeat students' ideas using the words *minus, subtract, or find the difference between*. For example, students use addition to solve this Take From/Start Unknown problem: Seth took the 8 stickers he no longer wanted and gave them to Anna. Now Seth has 11 stickers *left*. How many stickers did Seth have to begin with?

If students progress from working with manipulatives to writing numerical expressions and equations, they skip using pictorial thinking. **Students will then be more likely to use finger counting and rote memorization for work with addition and subtraction.** Counting forward builds to the concept of addition while counting back leads to the concept of subtraction. However, counting is an inefficient strategy. **Teachers need to provide instructional experiences so that students progress from the concrete level, to the pictorial level, then to the abstract level when learning mathematics.**

EVIDENCE OF LEARNING

Students should be able to demonstrate the following competencies:

- Represent the combining of two sets
- Model and understand the concept of part-part whole addition
- Represent the difference between two sets
- Model problem situations using objects, pictures, words and numbers
- Represent number combinations up to 10
- Count one-to-one in counting order to 20
- Recognize number relationship to benchmark numbers of 5 and 10
- Group objects by 5's and 10's
- Identify numerical patterns
- Understand and model number relationships

- Identify more, less and equal to when comparing sets
- Model multiple representations of the same number
- Solve addition and subtraction word problems
- Decompose numbers less than or equal to 10
- Understand the relationship 0-10 number relationships

TASKS

The following tasks represent the level of depth, rigor, and complexity expected of all Kindergarteners. These tasks or a task of similar depth and rigor should be used to demonstrate evidence of learning.	Tasks that build up to the learning task.
Scaffolding Task	
Constructing Task	Constructing understanding through deep/rich contextualized problem solving tasks.
Practice Task	Tasks that provide students opportunities to practice skills and concepts.
Culminating Task	Designed to require students to use several concepts learned during the unit to answer a new or unique situation. Allows students to give evidence of their own understanding toward the mastery of the standard and requires them to extend their chain of mathematical reasoning.
Formative Assessment Lesson (FAL)	Lessons that support teachers in formative assessment which both reveal and develop students' understanding of key mathematical ideas and applications. These lessons enable teachers and students to monitor in more detail their progress towards the targets of the standards.

Quarter 4

Targeted Standard(s):

Domain

K. CC Counting and Cardinality

K.NBT Number and Operations in Base Ten

PA Core Standards

CC.2.1.K.A.1 Know number names and write and recite the count sequence.

CC.2.1.K.A.2 Apply one-to one correspondence to count the number of objects.

CC.2.1.K.A.3 Apply the concept of magnitude to compare numbers and quantities.

CC.2.1.K.B.1 Use place value to compose and decompose numbers within 19.

CC.2.2.K.A.1 Extend the concepts of putting together and taking apart to add and subtract within 10.

Enduring Understandings

- Know number names and the count sequence.
- Compare Numbers.
- Work with numbers 11–19 to gain foundations for place value.
- Count to tell the number of objects.
- Addition and subtraction problems are placed in four basic categories: *Joining* problems, *Separating* problems, *Part-Part Whole* problems, and *Comparing* problems.
- A joining problem involves three quantities: the starting amount, the change amount, and the resulting amount.
- A *separating* problem involves three quantities; the starting amount, the change amount (the amount being removed), and the resulting amount; however, the starting amount is the largest amount with the change amount being removed which leaves the resulting amount.
- *Part-Part-Whole* problems involve three quantities: two parts that are combined into one whole.
- *Compare* problems involve the comparison between two different quantities. The third quantity does not actually exist but is the difference between the two quantities. When one quantity is compared to another, the first quantity is either more than, less than, or equal to the second quantity.
- Problems can be solved in different ways.
- Problems can be modeled using objects, pictures, and words.
- Various combinations of numbers can be used to represent the same quantity.

OVERVIEW

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

For numbers 0 – 10, Kindergarten students choose, combine, and apply strategies for answering quantitative questions. This includes quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away. Objects, pictures, actions, and explanations are used to solve problems and represent

thinking. Although CCGPS states, *"Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten in encouraged, but it is not required"*, please note that it is not until First Grade that "Understand the meaning of the equal sign" is an expectation. Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: join, add, separate, subtract, and, same amount as, equal, less, more, compose, and decompose.

- Fluency with basic addition and subtraction number combinations is a goal for the pre-K–2nd grade years. By *fluency* the National Council of Teachers of Mathematics states that students are able to compute efficiently and accurately with single-digit numbers. Teachers can help students increase their understanding and skill in single-digit addition and subtraction by providing tasks that (*a*) help them develop the relationships within subtraction and addition combinations and (*b*) elicit counting on for addition, and counting up for subtraction and unknown-addend situations. Teachers should also encourage students to share the strategies they develop in class discussions. Students can develop and refine strategies as they hear other students' descriptions of their thinking about number combinations (NCTM, 2012).

CRITICAL AREA

The Critical Areas are designed to bring focus to the standards at each grade by describing the big ideas that educators can use to build their curriculum and to guide instruction. Representing, relating, and operating on whole numbers, initially with sets of objects. Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as 5 + 2 = 7 and 7 – 2 = 5. *(Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.)* Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

Essential Questions:

1. What happens when I take a group of numbers (objects) apart or put them together?
2. How do we know which number is larger (smaller)?
3. Why is counting important?
4. When do we use counting skills in everyday life?
5. How can you know a quantity without counting each object?
6. How do we sort this group of objects?
7. How can we sort them a different way?
8. Can patterns be found in numbers?
9. Can you describe the patterns you find?
10. How are the number patterns the same or different?
11. What is a pattern and where can you find patterns?
12. Does the order of addends change the sum?
13. How can I prove that groups are equal?

14. How can I find the total when I put two quantities together?
15. How can I find what is left over when I take one quantity away from another?
16. How can I solve and represent problems using objects, pictures, words and numbers?
17. How can I use different combinations of numbers to represent the same quantity?
18. How can strategies help us solve problems?
19. How can you model a math problem with objects or pictures?
20. How do you know when your answer makes sense?
21. What happens when I decompose a quantity?
22. What happens when I join quantities together?
23. What happens when some objects are taken away from a set of objects?
24. What is a number relationship? How can they help me?
25. What is a strategy?
26. What is the difference between addition and subtraction?
27. Why do we use mathematical symbols?
28. Why is it important that I can build the number combinations for the number 5? 10?

SELECTED TERMS AND SYMBOLS

The following terms and symbols are often misunderstood. These concepts are not an inclusive list and should not be taught in isolation. However, due to evidence of frequent difficulty and misunderstanding associated with these concepts, instructors should pay particular attention to them and how their students are able to explain and apply them.

The terms below are for **teacher reference only and are not to be memorized by students**. Teachers should present these concepts to students with models and real life examples. Students should understand the concepts involved and be able to recognize and/or demonstrate them with words, models, pictures, or numbers.

- combine
- count
- digits
- efficient
- equal
- estimate
- greater
- less
- more

Core Content/Objectives		Instructional Actions	
Concepts What students will know	**Competencies** What students will be able to do	**Activities**	**Assessment/Evaluation** How learning will be assessed
I. Number Concepts A. Represent and Read Whole Numbers 10-20 **(CC.2.1.K.A.1)** B. Use Concrete Objects to Count , Order and Group Numbers 10-20 **(CC.2.1.K.A.2)** **(CC.2.1.K.A.3)** C. Problem Solving **(CC.2.2.K.A.1)** D. Counting E. Place Value **(CC.2.1.K.B.1)**	**I. Number Concepts** A. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects) B. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects) Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. D. Count to 100 by ones and by tens. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). E. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or	Ten flashing fireflies	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test Online assessment

	decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.		
II. Number Concepts A. Represent and Read Whole Numbers 20-30 **(CC. 2.1.K.A.1)** **(CC.2.1.K.A.2)** B. Use Concrete Objects to Count, Order and Group Numbers 20-30 **(CC.2.1.K.A.3)** C. Problem Solving D. Counting **(CC.2.1.K.A.2)** E. Place Value **(CC.2.1.K.B.1)**	**II. Number Concepts** A. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects) B. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects) Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. D. Count to 100 by ones and by tens. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). E. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are	ARRRH Addition Early Math bugabaloo shoes (has addition signs)https://www.georgiastandards.org/Common-Core/Common%20Core%20Frameworks/CCGPS_Math_K_Unit6FrameworkSE.pdf Math games pop up addition https://www.georgiastandards.org/Common-Core/Common%20Core%20Framorks/CCGPS_Math_K_Unit6FrameworkSE.p	Written/oral response to open ended questions Informal assessment/observation Performance assessment/rubric Inventory test Chapter pretest Chapter test Cumulative review/unit test Online assessment

* Review and Expand Upon Topics Discussed in Quarter 1, Quarter 2, and Quarter 3.	composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.		

Materials/Resources/Technology

TASK DESCRIPTIONS

Scaffolding Task	Tasks that build up to the learning task.
Constructing Task	Constructing understanding through deep/rich contextualized problem solving tasks.
Practice Task	Tasks that provide students opportunities to practice skills and concepts.
Culminating Task	Designed to require students to use several concepts learned during the unit to answer a new or unique situation. Allows students to give evidence of their own understanding toward the mastery of the standard and requires them to extend their reasoning. • addends • addition • combinations • combine • compare • compose • decompose • difference • equal • number relationships • numeric pattern • quantity • separate • strategies • subtraction • sum • symbols