Overview	Standards for Mathematical Content	Unit Focus	Standards for Mathematical Practice
Unit 1 **Connecting Counting to Cardinality**	● K.CC.A.1* ● K.CC.A.3* ● K.CC.B.4 ● K.CC.B.5* ● K.OA.A.1* ● K.MD.B.3* ● K.G.A.1	● Know number names and the count sequence to 10 ● Count to tell the number of objects ● Understand addition as putting together and adding to and understand subtraction as taking apart and taking from ● Identify and describe shapes	MP.1 Make sense of problems and persevere in solving them.
Unit 1: **Suggested Open Educational Resources**	K.CC.A.1 Counting Circles K.CC.A.1 Choral Counting K.CC.A.3 Number TIC TAC TOE K.CC.B.4 Counting Mat K.CC.B.5 Finding Equal Groups K.OA.A.1 Ten Frame Addition K.MD.B.3 Sort and Count 1		MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics.
Unit 2 **Counting, Addition & Subtraction**	● K.CC.A.1* ● K.CC.A.2 ● K.CC.A.3* ● K.OA.A.1* ● K.OA.A.2 ● K.CC.B.5* ● K.CC.C.6 ● K.CC.C.7 ● K.OA.A.5*	● Know number names and the count sequence to 50 ● Understand addition as putting together and adding to understand subtraction as taking apart and taking from ● Count to tell the number of objects ● Compare numbers	MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.
Unit 2: **Suggested Open Educational Resources**	K.CC.A.1 Choral Counting K.CC.A.2 Start-Stop Counting K.CC.A.3 Assessing Writing Numbers K.OA.A.2 Dice Addition 2 K.OA.A.2 What's Missing? K.CC.B.5 Finding Equal Groups K.CC.C.6 Which number is greater? Which number is less? How do you know? K.CC.C.7 Guess the Marbles in the Bag		MP.8 Look for and express regularity in repeated reasoning.

	K.OA.A.5 Many Ways to Do Addition 1		
Unit 3 **Place Value & Measurement**	● K.CC.A.1* ● K.MD.A.1 ● K.MD.A.2 ● K.MD.B.3* ● K.G.A.2 ● K.G.A.3 ● K.OA.A.3 ● K.OA.A.4 ● K.NBT.A.1* ● K.OA.A.5*	● Know number names and the count sequence to 70 ● Describe and compare measurable attributes ● Classify and count the number of objects in categories ● Identify and describe shapes ● Understand addition as putting together and adding to understand subtraction as taking apart and taking from ● Work with numbers 11-19 to gain foundations for place value	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others.
Unit 3: **Suggested Open Educational Resources**	K.CC.A.1 Assessing Counting Sequences Part 1 K.MD.A.1 Which is heavier? K.MD.A.2 Which is Longer? K.MD.B.3 Sort and Count 2 K.OA.A.3 Shake and Spill K.OA.A.3 Pick Two K.NBT.A.1 What Makes a Teen Number K.OA.A.5 My Book of Five		MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.
Unit 4 **Place Value & Geometric Shapes**	● K.CC.A.1* ● K.OA.A.5* ● K.G.B.4 ● K.G.B.5 ● K.G.B.6 ● K.NBT.A.1*	● Know number names and the count sequence to 100 ● Fluently add and subtract within 5 ● Analyze, compare, create, and compose shapes ● Work with numbers 11-19 to gain foundations for place value	MP.6 Attend to precision. MP.7 Look for and make use of structure.
Unit 4: **Suggested Open Educational Resources**	K.CC.A.1 Counting by Tens K.G.B.4 Alike or Different Game K.NBT.A.1 What Makes a Teen Number		MP.8 Look for and express regularity in repeated reasoning.

21st Century Life and Careers Career Awareness, Exploration, and Preparation	9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals. 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community
CRP Standards	CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP11. Use technology to enhance productivity.
ELA Standards	RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.4. With prompting and support, ask and answer questions about unknown words in a text. W.K.8. With guidance and support, recall information from experiences or gather information from provided sources to answer a question. SL.K.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
Technology Standards	8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums) 8.1.2.C.1 Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media. 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.

Unit 1 Kindergarten – Connecting counting to cardinality		
Content Standards	**Suggested Standards for Mathematical Practice**	**Transfer**
● K.CC.A.1. http://www.corestandards.org/Math/Content/K/CC/A/1/Count to 100 by ones and by tens. *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Number names and the count sequence up to 10 Students are able to: ● count orally by ones up to 10. Learning Goal 1: Count by ones up to 10.
● K.CC.A.3. 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). *(benchmarked)	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): ● Represent the number of objects with a numeral. Students are able to: ● write numbers from 0 to 10. Learning Goal 2: Represent the number of objects with a written numeral up to 10.
● K.CC.B.4. http://www.corestandards.org/Math/Content/K/CC/B/4/Understand the relationship between numbers and quantities; connect counting to cardinality. K.CC.B.4a.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. K.CC.B.4b.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. K.CC.B.4c.Understand that each successive number name refers to a quantity that is one larger.	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Objects can be counted in any order. Each object is counted once (one-to-one correspondence). ● The next number name in counting is always one greater than the previous number. ● The last number name said tells the number of objects counted. Students are able to: ● say number names in the standard order. ● pair each object with one number name (one-to-one correspondence). ● count to tell the number of objects. ● count objects arranged in any order. ● identify the last number named as the number of objects counted. Learning Goal 3: Assign an ascending number name for each object in a group. Learning Goal 4: State the last number named as the number of counted objects in the set. Learning Goal 5: Identify the next number name in counting as one greater than the previous number.
● K.CC.B.5. http://www.corestandards.org/M	MP.2 Reason abstractly and quantitatively.	Concept(s): No new concept(s) introduced Students are able to:

Key: Major Clusters | Supporting | Additional Clusters | * Benchmarked Standard

[ath/Content/K/CC/B/5/](#)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. *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	● count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration. ● count to tell the number of objects when asked *how many?* questions . ● given a number from 1-10, count out that many object. Learning Goal 6: Answer *how many?* questions about groups of <u>up to 10</u> objects when arranged in a line, rectangular array or circle. Learning Goal 7: Answer *how many?* questions about groups of <u>up to 5</u> when arranged in a scattered configuration.
● K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. *(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Understand addition as putting together and adding to. ● Understand subtraction as taking apart and taking from. Students are able to: ● create addition events with objects (up to 10). ● create addition events with drawings and sounds (up to 10). ● create addition events by acting out situations and with verbal explanations. Learning Goal 8: Create addition events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations for sums <u>up to 10.</u>
● K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count *(benchmarked)	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): ● Objects can be sorted based on their properties. Students will be able to: ● sort objects into categories Learning Goal 9: Classify objects into given categories and count the objects in each category (up to 10 objects)
● K.G.A.1. 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, and next to.	MP.7 Look for and make use of structure.	Concept(s): ● Shapes have names. ● Positional words (above, below, besides, in front of, behind, next to) Students will be able to: ● name shapes in order to describe objects in the environment. ● use terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to* in order to describe relative positions of objects. Learning Goal 10: 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.
District/School Formative Assessment Plan		**District/School Summative Assessment Plan**

● Teacher-Created Assessments ● Homework ● Classwork ● UDL's ● whiteboard activities ● IXL ● Problem of the Day ● Exit Ticket	● Chapter Tests ● Unit Tests ● EdConnect Assessments

Focus Mathematical Concepts

Vocabulary	Instruction and Pacing	
zero, one, two, three, four, five, six, seven, eight, nine, ten, order, count, how many, number, greater, more than, added, less than, take away, left, number story, manipulatives, objects, order, group, set, join, in all, above, below, beside, in front of, and next to	Pretest	1 day
	Count, orally, up to 10	1 week
	Write numbers up to 10	1 week
	Count objects, saying number names in standard order	1 week
	Count, to answer "how many", up to 20 objects	1 week
	Create addition events with objects up to 10	1 week
	Create subtraction events with objects up to 10	1 week
	Sort and classify objects up to 10	2 weeks
	Relative positions of objects (beside, below, next to etc)	1 week

ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
● Numbers have names and we can use them to count objects. ● Number names allow us to count in order and tell us how many objects are in groups. ● The last number counted in a sequence represents the number of objects in a set. ● Adding is putting together and making more; subtracting is taking groups apart and making less. ● Forming numbers correctly is useful in representing the quantity counted.	● Why do we count? ● What do the names of numbers mean? ● How can we accurately count and keep track of quantities up to 10? ● What happens when we combine groups and what happens when we take groups apart?

Differentiation and Accommodations	District/School Primary and Supplementary Resources
● Provide graphic organizers ● Provide additional examples and opportunities for additional problems	● Go Math!! ● IXL

for repetition ● Provide tutoring opportunities ● Provide retesting opportunities after remediation (up to teacher and district discretion) ● Teach for mastery not test ● Teaching concepts in different modalities ● Adjust pace and homework assignments	● Teacher created materials

Instructional Strategies
Fairfield Township School recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson: ● Communicating with students   ● Using questioning and discussion techniques   ● Engaging students in learning   ● Using assessment in instruction   ● Demonstrating Flexibility and Responsiveness

Common Misconceptions	Proper Conceptions
● Students lose track of what they are counting ● Students have difficulty identifying the correct numeral after counting a set ● The same number can look different depending on the manipulative ● Students recite and count going beyond the actual number ● Zero means nothing	● Mark or separate items being counted ● Continually say and write numbers 1-5 when counting objects ● Larger or smaller manipulatives can show the same amount ● Count and recite out loud one object at a time ● Zero is an empty set

Performance Task

Small group-Teacher uses dot cards from 0 to 10. Teacher can prepare number lines by writing 1 to 10 on sentence strips.

Part 1- Put cards face down. Students will flip over cards and say the number.

Part 2- Students will place numbers in order on the sentence strip from 0 to 10.

Instruct students- Your friend mixed up all the cards. Your goal is to put them in order. Your job as a Math Master is to say the number and put the number correctly on the number line. The challenge involves you to make sure your numbers are in order from 0 to 10. You will create a number line in order from 0 to 10 and glue them down so your friend will not lose their cards again.

Rubric

3-Students will have all numbers correct in order from 0 to 10.

2-Students will have 6, 7, or 8 numbers in the correct spot.

1-Students will have 3, 4, or 5 numbers in the correct spot.

0-Students will have 0, 1, or 2 numbers in the correct spot.

Unit 2 Kindergarten – Counting, addition, and subtraction		
Content Standards	**Suggested Mathematical Practices**	**Transfer**
● K.CC.A.1. http://www.corestandards.org/ Math/Content/K/CC/A/1/Count to 100 by ones and by tens.*(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Number names and the count sequence up to 50 Students are able to: ● count orally by ones <u>up to 50.</u> ● count orally by tens <u>up to 50.</u>

		Learning Goal 1: Count <u>to 50</u> by ones and by tens.
● K.CC.A.2. http://www.corestandards.org/Math/Content/K/CC/A/2/Count forward beginning from a given number within the known sequence (instead of having to begin at 1).		Concept(s): No new concept(s) introduced Students will be able to: ● count orally by ones <u>up to 50</u>, beginning at any number. Learning Goal 2: ● Count forward <u>up to 50</u> starting from numbers other than one.
● K.CC.A.3. 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).*(benchmarked)	MP. 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): ● The number of objects can be represented by a numeral. Students are able to: ● write numbers from <u>0 to 20.</u> Learning Goal 3: Represent a number of objects with a written numeral <u>0 to 20.</u>
● K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. *(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP. 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Understand addition as putting together and adding to. ● Understand subtraction as taking apart and taking from. Students are able to: ● create subtraction and addition events with objects (up to 10). ● create subtraction and addition events with drawings and sounds (up to 10). ● create subtraction and addition events by acting out situations and with verbal explanations. Learning Goal 4: Create addition and subtraction events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations (<u>up to 10</u>).
● K.OA.A.2. http://www.corestandards.org/Math/Content/K/OA/A/2/Solve addition and subtraction word problems, and add and subtract within 10, *e.g., by using objects or drawings to represent the problem.*	MP.1 Make sense of problems and persevere in solving them. MP. 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	Concept(s): No new concept(s) introduced Students will be able to: ● use objects and drawings to represent addition and subtraction. ● add and subtract within 10. Learning Goal 5: Use objects or drawings to represent and solve addition and subtraction word problems (within 10).
● K.CC.B.5. http://www.corestandards.org/	MP.2 Reason abstractly and quantitatively.	Concept(s): No new concept(s) introduced Students are able to:

[Math/Content/K/CC/B/5/](#)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. *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	• count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration. • count to tell the number of objects when asked "how many?" questions. • given a number from 1-20, count out that many object. Learning Goal 6: Answer *how many?* questions about groups of up to 20 objects when arranged in a line, rectangular array or circle. Learning Goal 7: Answer *how many?* questions about groups of up to 10 when arranged in a scattered configuration .
• K.CC.C.6. 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.*	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Different groups can have different numbers of objects. • Numbers of objects can be compared using phrases such as *greater than*, *less than* and *equal to.* Students will be able to: • compare the number of objects (up to 10) in two groups. • identify whether the number of objects in one group is greater than, less than, or equal to to the number of objects in another group. Learning Goal 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (groups of up to 10 objects).
• K.CC.C.7. [http://www.corestandards.org/Math/Content/K/CC/C/7/](#)Compare two numbers between 1 and 10 presented as written numerals.	MP.2 Reason abstractly and quantitatively.	Concept(s): • Number names and the count sequence • The next number name in counting is always one greater than the previous number. • Count to tell the number of objects. Students will be able to: • compare numbers (up to 10) written as numerals. Learning Goal 9: Compare numbers (up to 10) written as numerals.
• K.OA.A.5. Demonstrate fluency for addition and subtraction within 5. [http://www.corestandards.org/Math/Content/K/OA/A/5/](#) (by the end of Kindergarten). *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students will be able to: • add within 5 with accuracy and efficiency . Learning Goal 10: Use mental math strategies to solve addition facts within 5.
District/School Formative Assessment Plan		**District/School Summative Assessment Plan**

● Teacher-Created Assessments ● Homework ● Classwork ● UDL's ● whiteboard activities ● IXL ● Problem of the Day ● Exit Ticket	● Chapter Tests ● Unit Tests ● EdConnect Assessments

Focus Mathematical Concepts

Vocabulary	**Instruction and Pacing**	
All numbers up to 50	Pretest	1 day
Add	Count, orally up to 50 by ones and tens (starting at 1 or 10)	1 week
Subtract	Count, orally up to 50 by ones starting at any number	1 week
Greater than	Write numbers from 0 to 20	2 weeks
Less than	Create addition and subtraction events (with objects) up to 10	1 week
Equal to	Solve word problems by adding and subtracting within 10	1 week
	Count objects up to 20	1 week
	Compare groups of objects	1 week
	Add and subtract fluently within 5	1 week

ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
● Number stories have key words to help them know whether to add or subtract. ● You don't have to start at one when counting; you can count forward starting at any number. ● Comparing words like: greater than. Less than. Equal to. Are used everywhere	● What is the best way to organize objects to count them? ● What tools work for me to help me count objects? ● How can you solve a number story? ● How can counting objects help me determine if one group has more. Less, or the same number as another group?

Differentiation and Accommodations	District/School Primary and Supplementary Resources
● Provide graphic organizers ● Provide additional examples and opportunities for additional problems for repetition ● Provide tutoring opportunities ● Provide retesting opportunities after remediation (up to teacher and	● Go Math!! ● IXL ● Teacher created materials

district discretion)
- Teach for mastery not test
- Teaching concepts in different modalities
- Adjust pace and homework assignments

Instructional Strategies

Fairfield Township School recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson:
- Communicating with students
- Using questioning and discussion techniques
- Engaging students in learning
- Using assessment in instruction
- Demonstrating Flexibility and Responsiveness

Common Misconceptions	Proper Conceptions
● Students lose track of what they are counting ● Students have difficulty identifying the correct numeral after counting a set ● The same number can look different depending on the manipulative ● Students recite and count going beyond the actual number ● Zero means nothing ● Students do not match each item to determine which set has fewer ● Children do not recognize the correct number order ● Students don't understand that a number tells how many ● Sorting – students mix up items if they don't recognize shapes or colors ● Students have difficulty identifying same and different ● Students have difficulty choosing the object that belongs in the group ● Add & Sub. – Students miscount counters in ten frames ● Add & Sub - Students reverse numbers when writing them in Add/Sub equations ● Add & Sub – Students forget which number stands for which color or manipulative	● Mark or separate items being counted ● Continually say and write numbers 1-5 when counting objects ● Larger or smaller manipulatives can show the same amount ● Count and recite out loud one object at a time ● Zero is an empty set ● Draw lines to match items in different sets ● Use number lines and ten frames to show order of numbers ● Counting objects in order tells how many and is a number name ● Like shapes and colors have same attibutes ● Same is alike. Different are not alike ● Objects in the group must be alike in some way ● Each object in the ten frame is equal to one ● Count first part of the group then write the number. Count second part of group….. ● Break down each group of the part/part equation

Performance Task

Your task is to go shopping for your family. Your job is to get fruits and vegetables, you can't get more than 10 fruits and vegetables altogether. Your challenge is to sort the fruits and vegetables and write how many are in each group. Then you will draw a number story for your friend to solve using your fruits and vegetables.

(Note: If you are unsure of whether it's a fruit or vegetable please ask the teacher.)

Rubric

3- The student did not get more than 10 fruits and vegetables; the student sorted them and was able to explain how they sorted them. They correctly wrote the number for each group. They also were able to draw a number story. (5 tasks)

2- Was able to complete 3 or 4 of the tasks correctly.

1-Was able to complete 1 or 2 of the tasks correctly.

0-Didn't even attempt.

Unit 3 Kindergarten – Place value and measurement		
Content & Practice Standards		**Transfer**
● K.CC.A.1. http://www.corestandards.org/Math/Content/K/CC/A/1/Count to 100 by ones and by tens. *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Number names and the count sequence up to 70 Students are able to: ● count orally by ones up to 70. ● count orally by tens up to 70. Learning Goal 1: Count to 70 by ones and by tens.
● K.MD.A.1. Describe measurable	MP.7 Look for and make use of	Concept(s):

attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	structure.	● Measurable attributes: length, weight, size (volume) ● A single object can have more than one measurable attribute. Students are able to: ● identify measureable attributes. ● describe the measurable attributes of multiple objects. ● describe multiple measurable attributes of a single object. Learning Goal 2: Describe measurable attributes of multiple objects and describe several measurable attributes of a single object.
● K.MD.A.2. Directly compare two objects with a measurable attribute in common, to see which object has "more of" "less of" the attribute, and describe the differences. *example, directly compare the heights of two children and describe one child as taller/shorter.*	MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): ● When comparing objects by measuring, each object must have the same starting point. ● Moving an object does not change its measure. Students are able to: ● directly compare and describe two objects with measurable attribute in common using *more of* or *less of*. Learning Goal 3: Directly compare two objects with a measurable attribute in common; use *more of* or *less of* to compare the objects.
● K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. *(benchmarked)	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): ● Groups can be sorted by the number of objects in each group. Students are able to: ● sort objects into groups. ● sort the group by count. Learning Goal 4: Count the objects in given categories and sort the categories by count (up to 10 objects).
● K.G.A.2. Correctly name shapes regardless of their orientation or overall size.	MP.7 Look for and make use of structure.	Concept(s): ● Shapes have names. ● Shapes can have the same names but appear different. Students are able to: ● correctly names shapes regardless of their orientation or overall size. Learning Goal 5: Correctly names shapes regardless of their orientation or overall size.
● K.G.A.3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid")	MP.7 Look for and make use of structure.	Concept(s): ● Shapes may be *flat* or *solid.* Students are able to: ● identify shapes as two-dimensional (lying in a plane, *flat*) or three-dimensional (*not flat, solid*). ● compare two- and three- dimensional shapes, in different sizes, and orientations.

		Learning Goal 6: Identify shapes as two-dimensional (lying in a plane, *flat*) or three-dimensional (*not flat, solid*).
● K.OA.A.3. Decompose numbers less than or equal to 10 into pairs in more than one way, *e.g. using objects or drawings*, and record each decomposition by a drawing or equation *(e.g. 5 = 3 + 2 and 5 = 4 + 1)*	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Part-to-whole relationships ● Some groups of objects can be broken into two smaller groups while the total number remains the same. ● Some groups of objects can be broken into two smaller groups in more than one way. Students will be able to: ● decompose numbers less than or equal to ten into two numbers. ● record the decomposition with a drawing. ● record the decomposition with an equation. ● decompose the same number in more than one way. Learning Goal 7: Decompose numbers less than or equal to ten into pairs of numbers in more than one way and record with a drawing or equation.
● K.OA.A.4. 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.	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: ● find a missing part of 10 using objects. ● given a number from 1 to 9, use drawings, or equations to find the number that makes 10. Learning Goal 8: Given a number less than 10, find the number that makes 10.
● K.NBT.A.1. 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. *(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Numbers from 11 to 19 can be represented as one group of ten *ones* and another group containing fewer than ten *ones.* Students are able to: ● compose and decompose numbers from 11 to 19 into a group of ten *ones* and another group of one(s). ● use the term *ones* to describe the number of objects in each group. ● record each composition or decomposition using objects and drawings. ● record each composition or decomposition by a drawing or equation. Learning Goal 9: Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives; record each composition or decomposition through a drawing or equation.
● K.OA.A.5. Demonstrate fluency for	MP.7 Look for and make use of	Concept(s): No new concept(s) introduced

addition and subtraction within 5 http://www.corestandards.org/Math/Content/K/OA/A/5/ (by the end of Kindergarten). *(benchmarked)	structure. MP.8 Look for and express regularity in repeated reasoning.	Students will be able to: ● add and subtract within 5 with accuracy and efficiency. Learning Goal 10: Use mental math strategies to solve addition and subtraction facts within 5.

District/School Formative Assessment Plan	District/School Summative Assessment Plan
● Teacher-Created Assessments ● Homework ● Classwork ● UDL's ● whiteboard activities ● IXL ● Problem of the Day ● Exit Ticket	● Chapter Tests ● Unit Tests ● EdConnect Assessments

Focus Mathematical Concepts

Vocabulary	Instruction and Pacing	
All numbers up to 70 more of less of Length flat solid 2-Dimensional 3-dimensional Weight Size tens ones whole part Heavier Lighter triangle square rectangle circle cone sphere cylinder cube solid figure plane shape Longer shorter	Pretest	1 day
	Count, orally up to 70 by ones and tens (starting at 1 or 10)	1 week
	Describe measureable attributes of an object	1 week
	Compare 2 objects with common measureable attributes	1 week
	Sort/classify objects by group and count	1 week
	Identify shapes by names	1 week
	Identify shapes by 2-D or 3-D	1 week
	Decompose numbers less than 10 and record decomposition	1 week
	Make 10	1 week
	Compose and decompose numbers 11-19	

ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
● Sets of objects can be grouped and counted so that they can compare them in terms of greater than, less than or equal to. ● We can describe and sort all objects by their attributes	● How can we compare numbers? ● How can we organize a set of objects so they are easy to count and combine

- Measuring identifies how long things are, how much they weigh and how much they can hold.

- Shapes are everywhere in our environment and some objects are made up of many simple shapes

- Numbers connect to a quantity.
- Using groups to count and combine is more efficient than counting by ones.
- The place value of ten numbers is made up of one group of ten and some number of ones.
- Addition and subtraction involve combining or separating small amounts.
- Compose and decompose numbers up to 10 with objects and pictures

- What are some ways we can measure objects?

- How can we observe, describe and compare shapes

- How can we organize a set of objects so they are easy to count and combine?
-
- How will I know if I need to add or subtract?
-
- What symbols do I use to create number sentences to show joining or separating groups or numbers?

- How do I recognize what strategy to use for a specific problem?

Differentiation and Accommodations	District/School Primary and Supplementary Resources
- Provide graphic organizers - Provide additional examples and opportunities for additional problems for repetition - Provide tutoring opportunities - Provide retesting opportunities after remediation (up to teacher and district discretion) - Teach for mastery not test - Teaching concepts in different modalities - Adjust pace and homework assignments	- Go Math!! - IXL - Teacher created materials

Instructional Strategies

Fairfield Township School recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson:
- Communicating with students
- Using questioning and discussion techniques
- Engaging students in learning
- Using assessment in instruction
- Demonstrating Flexibility and Responsiveness

Common Misconceptions	Proper Conceptions

Key: Major Clusters | Supporting | Additional Clusters | * Benchmarked Standard

● Students do not match each item to determine which set has fewer ● Children do not recognize the correct number order ● Students don't understand that a number tells how many ● Sorting – students mix up items if they don't recognize shapes or colors ● Students have difficulty identifying same and different ● Students have difficulty choosing the object that belongs in the group ● Students are distracted by the size or orientation of the shape ● Students confuse rectangles and squares ● Students confuse rectangle and triangle ● Measurement – students have difficulty lining measuring with chain links or cubes ● Measurement – students' measurements are too long ● Measurement – children make mistakes with counting non-standard units of meas. ● Students make errors when writing equations by misplacing addends or sums ● Students see 2 groups of objects for addition, and don't know where to start ● Students are confused with the "plus" sign ● Students forget the meaning of the "plus" sign ● Students forget the meaning of the "equal" sign ● Students have difficulty finding sums ● In subtraction, students are unsure why they are crossing out pictures or objects ● In subtraction students are unsure why they match objects one to one ● In subtraction students forget the meaning of the "minus" sign ● Why do addition and subtraction sentences have no words?	● Draw lines to match items in different sets ● Use number lines and ten frames to show order of numbers ● Counting objects in order tells how many and is a number name ● Like shapes and colors have same attibutes ● Same is alike. Different is not alike ● Objects in the group must be alike in some way ● Shapes are the same shape regardless of size or orientation ● A rectangle can also be a square ● Count the sides of each shape to determine the name of the shape ● Make sure nonstandard units of measure have no space in between them ● Always measure from end to end or ("edge to edge") ● Touch and count each unit of measure when using non-standard units of measure ● Touch and count objects in the group and write the number in each group ● Always start with counting the objects in the first group. ● The "plus" sign shows joining ● The + "plus" sign in another way of saying 3 "and" 2 is 5 ● The = "equal" sign is another way of saying 3 and 2 "is" 5 ● Counting the number in each group and putting them together gives the sum ● Marking an X means taking away ● Pairing objects can help to see which group has more and how many more ● The – "minus" sign means take away ● Number sentences use numbers and signs instead of words

Performance Task

You are a builder and your task is to build a tower using connecting cubes for your friend. Your challenge is to compare your tower to your friend's tower to see which one has more cubes.

In pairs, teacher will distribute two different amounts of connecting cubes (using 2 colors).

Each student will build their tower, count, and draw their tower. When finished the student will count and draw their friend's tower on the same paper. The task for the students will be to write the number of cubes under each tower and be able to identify and write which one had more.

Rubric

3- Students will correctly count, draw and compare their towers on their paper.(4 tasks)

2-Students will have three correct completed tasks.

1-Students will have two correct completed tasks.

0-Students did not attempt.

Unit 4 Grade K – Place value and geometric shapes		
Content & Practice Standards		**Transfer**
● K.CC.A.1. http://www.corestandards.org/Math/Content/K/CC/A/1/Count to 100 by ones and by tens. *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Number names and the count sequence up to 100 Students are able to: ● count orally by ones up to 100. ● count orally by tens up to 100. Learning Goal 1: Count to 100 by ones and by tens.
● K.OA.A.5. Demonstrate fluency for addition and subtraction within 5 (by the end of Kindergarten). *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: ● add and subtract within 5 with accuracy and efficiency. Learning Goal 2: Fluently add and subtract within 5.
● K.G.B.4. Analyze and compare	MP.7 Look for and make use of	Concept(s):

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).*	structure.	● Orientation does not alter attributes or size. ● Shapes may have sides of unequal or equal length. ● Shapes may or may not have the same number of sides or 'corners'. Students are able to: ● compare two- and three- dimensional shapes in different sizes and in different orientations and identify similarities and differences. ● compare parts of two- and three-dimensional shapes [e.g. number of sides, number of vertices (*corners*)]. ● compare attributes of two- and three-dimensional shapes [e.g. sides have equal length.] ● use informal language to describe similarities, differences, parts, and other attributes when comparing two-and three-dimensional shapes, in different sizes and orientations. Learning Goal 3: Use informal language to describe similarities, differences, parts number of sides, number of *corners*), and other attributes (having sides of equal length) when comparing two- and three- dimensional shapes, in different sizes and orientations.
● K.G.B.5. http://www.corestandards.org/ Math/Content/K/G/B/5/Model shapes in the world by building shapes from components *(e.g., sticks and clay balls)* and drawing shapes.	MP.1 Make sense of problems and persevere in solving them. MP.4 Model with mathematics. MP.7 Look for and make use of structure.	Concept(s): ● Basic shapes exist in real world objects. Students are able to: ● recognize basic shapes in the real world. ● use objects (clay, sticks, etc) to model shapes. ● model shapes in the world by drawing shapes. Learning Goal 4: Model shapes in the world by building and drawing shapes.
● K.G.B.6. Compose simple shapes to form larger shapes. *example: "Can you join these two triangles with full sides touching to make a rectangle?"*	MP.1 Make sense of problems and persevere in solving them. MP.4 Model with mathematics. MP.7 Look for and make use of structure.	Concept(s): ● Shapes can be combined to make larger shapes. Students are able to: ● compose simple shapes to form larger shapes. Learning Goal 5*:* Compose simple shapes to form larger shapes.
● K.NBT.A.1. 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,	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Numbers from 11 to 19 can be represented as one group of ten *ones* and another group containing fewer than ten *ones*. Students are able to: ● compose and decompose numbers from 11 to 19 into a group of ten *ones* and another group of one(s). ● use the term *ones* to describe the number of objects in each group. ● record each composition or decomposition using objects and drawings. ● record each composition or decomposition by a drawing or equation.

seven, eight, or nine ones. *(benchmarked)		Learning Goal 6: Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives. Record each composition or decomposition through a drawing or equation.

District/School Formative Assessment Plan	District/School Summative Assessment Plan
- Teacher-Created Assessments - Homework - Classwork - UDL's - whiteboard activities - IXL - Problem of the Day - Exit Ticket	- Chapter Tests - Unit Tests - EdConnect Assessments

Focus Mathematical Concepts

Vocabulary	Instruction and Pacing	
All numbers up to 100	Pretest	1 day
Add	Count, orally up to 100 by ones and tens (starting at 1 or 10)	2 weeks
Subtract	Analyze and compare 2-d and 3-d shapes	2 weeks
2-d shapes 3-d shapes names of shapes tens ones	Build and draw real-world shapes from smaller components	2 weeks
	Use simple shapes to form larger shapes	1 week
	Compose and decompose numbers from 11-19 - review	1 week
	Add and subtract fluently within 5 – review	1 week

ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
- Shapes are everywhere in our environment 2D and 3D shapes have different characteristics and properties. - Spatial relationships	- Why might it be helpful to use simple shapes to describe an object? - How can we observe, describe and compare shapes? - What shapes can I see in the world around me?

Differentiation and Accommodations	District/School Primary and Supplementary Resources
- Provide graphic organizers - Provide additional examples and opportunities for additional problems for repetition	- Go Math!! - IXL - Teacher created materials

- Provide tutoring opportunities
- Provide retesting opportunities after remediation (up to teacher and district discretion)
- Teach for mastery not test
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- Communicating with students
- Using questioning and discussion techniques
- Engaging students in learning
- Using assessment in instruction
- Demonstrating Flexibility and Responsiveness

Common Misconceptions	Proper Conceptions
- Students lose track of what they are counting - Students have difficulty identifying the correct numeral after counting a set - The same number can look different depending on the manipulative - Students recite and count going beyond the actual number - Zero means nothing - Students do not match each item to determine which set has fewer - Children do not recognize the correct number order - Students don't understand that a number tells how many - Sorting – students mix up items if they don't recognize shapes or colors - Students have difficulty identifying same and different - Students have difficulty choosing the object that belongs in the group - Add & Sub. – Students miscount counters in ten frames	- Mark or separate items being counted - Continually say and write numbers 1-5 when counting objects - Larger or smaller manipulatives can show the same amount - Count and recite out loud one object at a time - Zero is an empty set - Draw lines to match items in different sets - Use number lines and ten frames to show order of numbers - Counting objects in order tells how many and is a number name - Like shapes and colors have same attributes - Same is alike. Different are not alike - Objects in the group must be alike in some way - Each object in the ten frame is equal to one - Count first part of the group then write the number. Count second part of group.....

- Add & Sub - Students reverse numbers when writing them in Add/Sub equations
- Add & Sub – Students forget which number stands for which color or manipulative
- Students mix up or don't remember names of flat and solid shapes
- Sorting – students mix up items if they don't recognize shapes or colors
- Students have difficulty identifying same and different
- Students have difficulty choosing the object that belongs in the group
- Students are distracted by the size or orientation of the shape
- Students confuse rectangles and squares
- Students confuse rectangle and triangle
- Students infer that if a shape upside down or sideways it is a different shape
- Students confuse left and right

- Break down each group of the part/part equation
- Each shape has a different name. Continually say shape names aloud.
- Like shapes and colors have same attributes

- Same is alike. Different is not alike
- Objects in the group must be alike in some way
- Shapes are the same shape regardless of size or orientation
- A rectangle can also be a square
- Count the sides of each shape to determine the name of the shape
- Solid and Flat Shapes are the same regardless of their orientation
- Always review left and right using the dominant hand first

Performance Task

You are an inventor of robots. It is your duty to build a unique kind of robot using different kinds of shapes. Your friend needs a robot to help clean up their toys, do their homework, and any kind of chore their mom or dad asks them to do. You will create a robot using 10 to 20 different shapes (2-D shapes). You must build the robot flat on the piece of paper. Then trace the shapes exactly how you placed them on the paper (be careful). Once you are done you need to label each shape (either write the word or write the first letter-might want to make a key to follow in the corner for the students). Once you are finished labeling you can color the robot in, using one color for each shape (example: squares blue, triangles green, etc). Students will be able to explain position of shapes using terms such as above, below, beside, in front of, behind, next to.

Rubric

3- Students were able to complete the project completely. Created the robot first on the paper, next they traced each shape. Then they labeled each shape. Finally the colored in the robot using 1 color per shape. Can explain the position of each shape. (5 tasks)

2- Students were able to complete 4 or 3 tasks correctly.

1-Students were able to complete2 or 1 tasks correctly.

0-Students were unable to complete the assignment.