CKSD CURRICULUM
Grade K: Mathematics
Unit 1 – One to Five
Suggested Length of Unit - 9 Days
Instructors: Patty Brumbaugh, Dale Hartman, Lorraina McMinn

One to Five
- Count, read, and write numbers 1-5

Major Academic Standards Addressed
- K.CC.A.3 Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- K.CC.B.4a: 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.
- K.CC.B.4b: Understand the relationship between numbers and quantities; connect counting to cardinality. 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.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

Concepts – Content **What students should know**
- Know number names and the count sequence.
- Count to tell the number of objects.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Count to tell the number of objects.

Essential Questions – meant to challenge study to ponder, question and query
- How can numbers 1-5 be counted, read and written?

Assessments-
- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 2 – Comparing and Ordering 0-5
Suggested Length of Unit - 11 Days
Instructors: Patty Brumbaugh, Dale Hartman, Lorraina McMinn

Comparing and Ordering 0-5
- Compare numbers 0-5 and put them in sequence order.

Major Academic Standards Addressed
- K.CC.A.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.A.3: Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects.)
- K.CC.B.4a: 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.
- 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.
- K.CC.C.7:   Compare two numbers between 1 and 10 presented as written numerals.

Concepts – Content **What students should know**
- Know number names and the count sequence.
- Count to tell the number of objects.
- Comparing numbers.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Count to tell the number of objects.
- Compare numbers.

Essential Questions – meant to challenge study to ponder, question and query
- How can numbers 0 to 5 be compared and ordered?

Assessments-
- Daily Common Core Reviews
- Quick Checks

- Leveled Homework
- Topic Tests

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 3 – Six to Ten
Suggested Length of Unit - 9 Days
Instructors: Patty Brumbaugh, Dale Hartman, Lorraina McMinn

Six to Ten
- Count, read, and write numbers 6-10

Major Academic Standards Addressed
- K.CC.A.3 Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

- K.CC.B.4a: 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.

- K.CC.B.4b: Understand the relationship between numbers and quantities; .connect counting to cardinality. 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 the relationship between numbers and quantities; connect counting to cardinality. Understand that each successive number name refers to a quantity that is one larger.

- 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

Concepts – Content   **What students should know**
- Know number names and the count sequence.
- Count to tell the number of objects.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Count, read, and write numbers.

Essential Questions – meant to challenge study to ponder, question and query
- How can numbers 6-10 be counted, read and written?

Assessments-
- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 4 – Comparing and Ordering Numbers 0-10
Suggested Length of Unit - 12 Days
Instructors: Patty Brumbaugh, Dale Hartman, Lorraina McMinn

Comparing and Ordering Numbers 0-10
- Compare numbers 0-10 and put them in sequence order.

Major Academic Standards Addressed
- K.CC.A.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.B.4c: Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that each successive number name refers to a quantity that is one larger.
- 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.
- K.CC.C.7: Compare two numbers between 1 and 10 presented as written numerals.

Concepts – Content   **What students should know**
- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Count, read, and write numbers 0-10.
- Compare number of objects in groups.

Essential Questions – *meant to challenge study to ponder, question and query*
- How can numbers 0-10 be compared and ordered?

Assessments-
- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests

Best Instructional Practice(s):

- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 5 – Numbers to 20
Suggested Length of Unit - 8 Days
Instructors: Patty Brumbaugh, Dale Hartman, Lorraina McMinn

Numbers to 20
- Count, read, and write numbers to 20.

Major Academic Standards Addressed
- K.CC.A.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.A.3 Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- K.CC.B.4b: Understand the relationship between numbers and quantities; connect counting to cardinality. 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.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.

Concepts – Content   **What students should know**
Representing, relating, and operating on whole number, initially with sets of objects
- Know number names and the count sequence.
- Count to tell the number of objects.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Count, read, and write numbers.

Essential Questions – meant to challenge study to ponder, question and query
- How can numbers to 20 be counted, read, and written?

Assessments-
- Daily Common Core Reviews
- Quick Checks
- Leveled Homework

- Topic Tests

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards

CKSD CURRICULUM
Kdg: Mathematics
Topic 6 – Numbers to 100
Suggested Length of Unit – 7 Days
Instructor: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Counting to 100
- Counting Numbers to 100.

Counting to 100 by ones and by tens. Counting to 30 then to 100. Counting groups of tens. Using a hundred chart and looking for patterns.

Major Academic Standards Addressed

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

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

Concepts – Content ——**What students should know**
- Know number names and the count sequence.
- Count to tell the number of objects.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Count by ones and tens

Essential Questions – meant to challenge study to ponder, question and query
- _How can numbers to 100 be counted using a hundred chart?_

Assessments-

- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests/Alternate Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics

Deep conceptual understanding of the crucial

CKSD CURRICULUM
Kdg: Mathematics
Topic 7 – Understanding Addition
Suggested Length of Unit – 9 Days
Instructor: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Understanding Addition

Understand addition with stories about joining, then more joining, then joining groups. Using the plus sign. Finding sums. Draw pictures to help solve a problem. Writing and reading addition sentences.

Major Academic Standards Addressed

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

Concepts – Content ——**What students should know**
- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Understand addition as putting together and adding to

Essential Questions – meant to challenge study to ponder, question and query
- *How can numbers from 0 to 20 be counted, read, and written?*

Assessments-

- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests/Alternate Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards.

CKSD CURRICULUM
Kdg: Mathematics
Topic 8 – Understanding Subtraction
Suggested Length of Unit – 10 Days
Instructor: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Understanding Subtraction
Understanding Subtraction with stories about separating, stories about take away, and acting out stories. Using the minus sign in subtraction sentences. Finding the difference in subtraction sentences. Writing and reading subtraction sentences.

Major Academic Standards Addressed
C.C.2.2.K.A.1 Extend concepts of putting together and taking apart to add and subtract within 10.

Concepts – Content ——**What students should know**
- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Understand subtraction as taking apart and taking from.
- Decompose numbers less than or equal to 10

Essential Questions – meant to challenge study to ponder, question and query
- *What types of situations involve subtraction?*

<u>Assessments-</u>

- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests/Alternate Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards.

CKSD CURRICULUM
Kdg: Mathematics
Topic 9 – More Addition and Subtraction
Suggested Length of Unit – 11 Days
Instructor: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

More Addition and Subtraction
- More Addition and Subtraction

Making number sentences for 4 and 5. Making number sentences for 6 and 7. Making number sentences for 8 and 9. Making number sentences for 10. Making and using a graph to solve addition and subtraction problems.

Major Academic Standards Addressed
CC.2.2.K.A.1 Extend concepts of putting together and taking apart to add and subtract within 10.
CC.2.1.K.B.1: Use place value to compose and decompose numbers.

Concepts – Content ——**What students should know**
- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Understand subtraction as taking apart and taking from.
- Decompose numbers less than or equal to 10

Essential Questions – meant to challenge study to ponder, question and query

- *What are the different ways to make a number?*

Assessments-

- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests/Alternate Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards.

CKSD CURRICULUM
Kdg: Mathematics
Topic 10 – Composing Numbers 11-19
Suggested Length of Unit – 6 Days
Instructor: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

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Composing Numbers 11-19
- Composing Numbers 11-19

Making numbers that are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. Solving problems by looking for patterns.

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Major Academic Standards Addressed

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

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

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Concepts – Content ——**What students should know**
- Works with numbers 11-19 to gain foundations for place value.

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Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Understand addition as putting together.

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Essential Questions – meant to challenge study to ponder, question and query
- How can you add 1 ten and some ones to make the numbers 11 to 19.

<u>*Assessments-*</u>

- Daily Common Core Reviews
- Quick Checks
- Leveled Homework
- Topic Tests/Alternate Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial grade level standards.

CKSD CURRICULUM
Grade K: Mathematics
Unit 11 – Decoding Numbers 11 to 19
Suggested Length of Unit - 7 Days
Instructors: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Unit title and short description
- Decoding Numbers 11 to 19 – The students will learn that the two digits of a two-digit numbers represent amounts of tens and ones, with the first number representing ten and the second number representing the ones. Numbers can be decomposed to 10 + another number.

Major Academic Standards Addressed
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 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.

Concepts – Content ———**What students should know**
- Work with numbers 11 to 19 to gain foundations for place value

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- There is more than one way to show a number
- The numbers 11-19 can be decomposed as a ten and some ones, as 10 + another number.

Essential Questions – meant to challenge study to ponder, question and query
- How can we break the numbers 11-19 into parts?

Assessments-

- Daily Common Core Review

- Quick Check
- Leveled Homework
- Topic Test and Alternative Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 12 – Measurement
Suggested Length of Unit - 10 Days
Instructors: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Unit title and short description
- Measurement – The students will be able to describe measurable attributes of objects, such as length, height, weight, and capacity.

Major Academic Standards Addressed
CC.2.4.K.A.1: Describe and compare attributes of length, area, weight, and capacity of everyday objects.

Concepts – Content ——**What students should know**
- Describe and compare measurable attributes.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Objects can have measurable attributes such as length, height, capacity, and weight that can be compared and described

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Essential Questions – meant to challenge study to ponder, question and query
- How can objects be compared by length, height, capacity, and weight?

Assessments-

- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test and Alternative Test

Best Instructional Practice(s):
- Consistent student mathematical discourse

- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 13 – Sorting, Classifying, Counting, and Categorizing Data
Suggested Length of Unit - 9 Days
Instructors: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Unit title and short description
- Sorting, Classifying, Counting, and Categorizing Data – The students will classify objects into given categories, count the numbers of objects in each category and sort the categories by count.

Major Academic Standards Addressed
CC.2.4.K.A.4: Classify objects and count the number of objects in each category

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Concepts – Content ——**What students should know**
- Classify objects and count the number of objects in each category

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Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Attributes can be used to compare and sort objects by color, shape, or size, or a combination of these attributes.

Essential Questions – meant to challenge study to ponder, question and query
- How can objects be compared by length, height, capacity, and weight?

Assessments-

- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test and Alternative Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving

- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 14 – Identifying and Describing Shapes
Suggested Length of Unit - 10 Days
Instructors: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Unit title and short description
- Identifying and Describing Shapes – The students will identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

Major Academic Standards Addressed
- CC.2.3.K.A.1: Identify and describe shapes (squares, circles, triangles, rectangles, cubes, cones, cylinders, and spheres).

- CC.2.3.K.A.1: Identify and describe two- and three-dimensional shapes.

Concepts – Content ——**What students should know**
- Identify and describe shapes (squares, circles, triangles, rectangles, cubes, cones, cylinders, and spheres).

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- A rectangle has four sides, with the opposite sides being the same length, and corners.
- A square has four sides and four corners. All sides are the same length.
- A circle is round and does not have any corners.
- All triangles have three sides but can have different configurations of sides and angles.
- A hexagon is a shape with six sides and six corners.
- Three-dimensional or solid figures have length, width, and height. Many everyday objects closely approximate standard geometric solids.
- Flat surfaces of many solid figures have specific shapes.

Essential Questions – meant to challenge study to ponder, question and query

- How can shapes be named and described?

Assessments-

- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test and Alternative Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics
- Deep conceptual understanding of the crucial level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 15 – Position and Location of Shapes
Suggested Length of Unit - 7 Days
Instructors: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Unit title and short description
- Position and Location of Shapes – The students will identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) and also describe the position of these objects using the words *above, below, beside, in front of, behind,* and *next to.*

Major Academic Standards Addressed
- CC.2.3.K.A.1: Identify and describe shapes (squares, circles, triangles, rectangles, cubes, cones, cylinders, and spheres).

- CC.2.3.K.A.1: Identify and describe two- and three-dimensional shapes.

Concepts – Content ——**What students should know**
- Identify and describe shapes (squares, circles, triangles, rectangles, cubes, cones, cylinders, and spheres).
- Describe the position of these objects using the words *above, below, beside, in front of, behind,* and *next to.*

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- The position of objects can be determined in relation to surrounding objects and described using words.

Essential Questions – meant to challenge study to ponder, question and query
- What words can be used to describe the position and location of shapes?

Assessments-

- Daily Common Core Review
- Quick Check

- Leveled Homework
- Topic Test and Alternative Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics

Deep conceptual understanding of the crucial level standards

CKSD CURRICULUM
Grade K: Mathematics
Unit 16 – Analyzing, Comparing, and Composing Shapes
Suggested Length of Unit - 7 Days
Instructors: Dale Hartman, Patty Brumbaugh, Lorraina McMinn

Unit title and short description
- Analyzing, Comparing, and Composing Shapes – The students analyze, compare, create, and compose shapes.

Major Academic Standards Addressed
- CC.2.3.K.A.2: Analyze, compare, create, and compose two- and three-dimensional shapes.

Concepts – Content ——**What students should know**
- Two dimensional shapes can be classified by their defining attributes, specifically, the number of sides and/or the number of corners.
- Shapes can be combined to make other shapes.
- Solid figures can be compared in different ways. Some solid figures can be compared by their flat surfaces (faces) and vertices (corners).
- Solid figures can be combined to make other solid figures.

Objectives – also called competencies in the SAS
What students should be able to do as a result of the instruction
- Shape concepts

Essential Questions – meant to challenge study to ponder, question and query
- How can shapes be named, described, compared, and composed?

Assessments-

- Daily Common Core Review
- Quick Check
- Leveled Homework
- Topic Test and Alternative Test

Best Instructional Practice(s):
- Consistent student mathematical discourse
- Students steeped in problem solving
- High levels of student achievement
- High levels of self-worth and confidence in mathematics

Deep conceptual understanding of the crucial grade level standards