

Davison Community Schools
ADVISORY CURRICULUM COUNCIL
Phase II, February 29th, 2016
Sue Will, Matt Lobban

Kindergarten CI Math

Course Essential Questions:

- What role do shapes have in our world?
- Why is the number 10 an important number in our number system?
- What does it mean to compare and order objects?
- How does data help us make sense of our world?
- Why are there different ways to count?

MAJOR CLUSTERS	- areas of intensive focus, where students need fluent understanding and application of the core concepts.	<i>approximately 70%</i>
SUPPORTING CLUSTERS	- rethinking and linking; areas where some material is being covered, but in a way that applies core understandings.	<i>approximately 20%</i>
ADDITIONAL CLUSTERS	- expose students to other subjects, though at a distinct, level of depth and intensity.	<i>approximately 10%</i>

Tier 3 Vocabulary Words are highlighted in yellow

Phase II Curriculum

Unit 1: Counting and Cardinality

Essential Questions:

- How do we use numbers to compare?
- Why is five a special/helpful number?
- How do numbers relate to each other?

Essential Understanding:

- numbers represent quantities which can be compared by the number of objects in each quantity.
- successive numbers increase in quantity by one.

Curriculum Standards- DOK noted where applicable with Standards

EE.K.CC.1 - starting with one, count to 10 by ones

EE.K.CC.4 - Demonstrate one-to-one correspondence, pairing each object with one and only one number and each number with one and only one object.

EE.K.CC.5 - Count out up to three objects from a larger set, pairing each object with one and only one number name to tell how many

EE.K.CC.6 - Identify whether the number of objects in one group is greater than, less than (when quantities are clearly defined) or equal to the number of objects in another group,

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none">• quantities are represented using numbers and represent numbers using quantities• the number of objects is the same regardless of their arrangement or the order in which they were counted• that the last number name said tells the number of objects counted.• that each successive number name refers to a quantity that is one larger.• greater than, less than, or equal to.	<ul style="list-style-type: none">• say the number names in order while matching each object with a number when counting objects.• count out 1-10 objects• count up to 10 objects arranged in a line, array,• count as many as 10 objects in a scattered configuration.• determine whether a group of 10 or fewer objects is greater than, less than, or equal to another group of 10 or fewer objects.

Phase II Curriculum

Unit 2: Operations and Algebraic Thinking

Essential Questions:

- What methods can we use to solve number stories?
- What is the difference between more and less?

Essential Understanding:

- Addition and Subtraction problems can be solved using different tools and strategies.
- There are different types of addition and subtraction situations

Curriculum Standards- DOK noted where applicable with Standards

EE.K.OA.1 - Represent addition as “putting together” or subtraction as “taking from” in everyday activities

LEARNING TARGETS

Knowledge/Content

I Know ...

- **addition** is putting together parts to make the whole.
- **subtraction** is taking apart or taking away from the whole to find the other part

Skills/Processes

I Can ...

- model an addition problem given a real-life story
- represent addition with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.
- add within 10 (maximum sum is 10)
- use objects/drawings to represent an addition word problem
- solve addition word problems within 10
- model a subtraction problem given a real-life story
- represent subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.
- subtract within 10 (maximum minuend is 10)
- use objects/drawings to represent a subtraction word problem
- solve subtraction word problems within 10

Phase II Curriculum

Unit 3: Measurement

Essential Questions:

- Why are objects measured?
- What attributes of an object can be measured?
- What are different ways objects can be measured?
- How can I tell which of two objects is longer than the other?
- How can I tell which of two objects is heavier?

Essential Understanding:

- Objects are measured and compared with attributes like height and weight.

Curriculum Standards- DOK noted where applicable with Standards

EE.K.MD.1-3 - Classify objects according to attributes (big/small, heavy/light)

LEARNING TARGETS

Knowledge/Content

I Know ...

- that objects have measurable attributes and know what they are called, such as **length and weight**
- the meaning of a variety of attributes
- two objects can be compared using a particular attribute using words like **(taller, shorter, longer, larger, smaller)**

Skills/Processes

I Can ...

- describe an object using multiple attributes such as: width, height, length, weight, etc.
- compare two objects and determine which has more or less of a measurable attribute
- describe the measurable attribute difference

Phase II Curriculum

Unit 4: Geometry

Essential Questions:

- What can we do to identify the shapes
- What shapes can we create by combining two or more shapes?

Essential Understanding:

- Shapes can be identified using attributes that are unique to them.
- The size and orientation of a shape does not affect the name of the shape
- New shapes can be combined to create new shapes

Curriculum Standards- DOK noted where applicable with Standards

EE.K.G.2-3 - Match Shapes of same size and orientation (circle, square, rectangle, triangle)

LEARNING TARGETS

Knowledge/Content
I Know ...

- that size does not affect the name of the shape
- that orientation does not affect the name of the shape
- the basic shapes
- examples of the basic shapes in the real-world
- that flat shapes are 2-dimensional

Skills/Processes
I Can ...

- name shapes, regardless of orientation or size
- draw shapes found in the environment
- match shapes of same size and orientation
- identify the basic shapes

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Phase II, February 29th, 2016
Sue Will, Matt Lobban

1st Grade CI Math

Course Essential Questions:

- What is the importance of the relationship between tens and ones in our place value system?
- What are some ways that we can compare objects using their length?
- What are some real-world application where shapes are composed and decomposed to create other shapes?
- How do we solve addition and subtraction problems within 20?

MAJOR CLUSTERS	- areas of intensive focus, where students need fluent understanding and application of the core concepts.	<i>approximately 70%</i>
SUPPORTING CLUSTERS	- rethinking and linking; areas where some material is being covered, but in a way that applies core understandings.	<i>approximately 20%</i>
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Tier 3 Vocabulary Words are highlighted in yellow

Phase II Curriculum

Unit 1: Number And Operations

Essential Questions:

- Why do we need to learn numbers?
- What is significant about the teen numbers (related to 10)?
- How is counting connected to quantity in a number?
- How can the level of strategy you use indicate how much you know about place value?

Essential Understanding:

- We have to learn to read and write numbers and count so that we understand how numbers are used.
- A unit of 10 is made of 10 ones.
- Two-digit numbers are composed of units of tens and some ones.
- Numbers can be represented in different ways to demonstrate tens and ones in a two digit number.

Curriculum Standards- DOK noted where applicable with Standards

EE.1.NBT.1a - Count by ones to 30

EE.1.NBT.1b - Count as many as 10 objects and represent the quantity with the corresponding numeral.

EE.1.NBT.2 - Create sets of 10

EE.1.NBT.3 - Compare two groups of 10 or fewer items when the number of items in each group is similar

EE.1.NBT.4 - Compose numbers less than or equal to five in more than one way

EE.1.NBT.6- Decompose numbers less than or equal to five in more than one way

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<p>Vocabulary: tens, ones, bundle, left-overs, singles, groups, greater/less than, equal to</p> <ul style="list-style-type: none">• number names up to 30• a bundle of 10 ones to be a “ten” (unitizing)• each object in a group counted is one more than the previous said in the number sequence• each object counted or produced has one and only one name associated with it• numerals up to 10	<ul style="list-style-type: none">• Write numerals up to 10• Identify a bundle of 10 ones as a “ten”• Count to 30 starting at any number less than 30• count 1-to-1 up to 10 objects• write the numeral for the number of objects in a counted group• produce a group to show a number to 10.• compare two similar groups of 10 or fewer items• compose numbers within 5 in multiple ways using multiple representations

Unit 2: Operations and Algebraic thinking

Essential Questions:

- How can you model addition and subtraction?
- Why can you add numbers in any order?

Essential Understanding:

- We can solve word problems by adding with pictures, counters, or number sentences.
- You can change the order of the numbers when you are adding and you will get the same answer.

Curriculum Standards- DOK noted where applicable with Standards

EE.1.OA.A.1.a Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), or acting out situations

EE.1.OA.A.1.b. Recognize two groups that have the same or equal quantity

EE.1.OA.A.2. Use “putting together” to solve problems with two sets

EE.1.OA.A.5.a Use manipulatives or visual representations to indicate the number that results when adding one more

EE.1.OA.A.5.b. Apply knowledge of “one less” to subtract one from a number

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<p>Vocabulary: the same amount/quantity as, add, adding to, sum, putting together, equal to, the same amount as, order, first, second, plus sign (+), equal (=)</p> <ul style="list-style-type: none"> • Addition strategies: counting all, counting on • Addition tools: counters, snap cubes, number line, tens frame, drawing pictures, part-part whole • when putting together, the total number of objects is the last number said when counting all of them together • one less is the number before in the counting sequence • equal groups have the same number of 	<ul style="list-style-type: none"> • model addition in multiple ways • model subtraction in multiple ways • identify equal groups • use putting together to solve problems of adding two groups • subtract 1 from a number within 10

objects in each group	
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Unit 3: Measurement and Data

Essential Questions:

- What is indirect measurement and how can it be used to compare objects?
- How can we measure lengths?

Essential Understanding:

- By comparing the lengths of two objects to a third we can order them based on their lengths
- Length can be measured using standard and non-standard units of measurement; such as paper clips or pencils

Curriculum Standards- DOK noted where applicable with Standards

EE.1.MD.1-2 Compare lengths to identify which is longer/shorter, taller/shorter

EE.1.MD.3a Demonstrate an understanding of the terms tomorrow, yesterday, and today.

EE.1.MD.3b Demonstrate an understanding of the terms morning, afternoon, day, and night

EE.1.MD.3c Identify activities that come before, next, and after.

EE.1.MD.3d Demonstrate an understanding that telling time is the same every day

EE.1.MD.4 – Organize data into categories by sorting

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<p>Vocabulary: tomorrow, yesterday, today, morning, afternoon, day, night, before, next, after, data, tally mark, more, most, less, least, same, different, category, question, collect, time,</p> <ul style="list-style-type: none"> • data can be organized using identified characteristics (color, size, type,...) • what length means • what height means • that the length can be measured with various units • the time of day occurs each day 	<ul style="list-style-type: none"> • directly compare the length of objects as which one is longer/shorter • directly compare the height of objects as which is taller/shorter • identify events that occurred yesterday, today, and tomorrow. • describe events that take place in the morning, afternoon, day, and night. • sequence events using terms like before, next, and after. • answer questions about data. • organize data with up to three categories

Unit 4: Geometry

Essential Questions:

- How are dividing a circle and telling time related?
- How are shapes used in the real world?
- How are shapes unique?

Essential Understanding:

- Shapes are all around our world and can be put together or taken apart to form other shapes.
- Objects can be sorted, described or built based on certain attributes.

Curriculum Standards- DOK noted where applicable with Standards

EE.1.G.1 Identify the relative position of objects that are on, off, in and out.

EE.1.G.2 Sort shapes of same size and orientation (circles, square, rectangle, triangle)

EE.1.G.3 Put together two pieces to make a shape that relates to the whole (i.e., two semicircles to make a circle, two squares to make a rectangle).

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<p>Academic Vocabulary: 2-dimensional, Triangle, Circle, Square, Rectangle, Semi-Circle, on, off, in, out</p> <ul style="list-style-type: none">• Part-whole relationship of shapes.• Properties of shapes.• that dividing a circle or rectangle into more equal pieces creates smaller shares	<ul style="list-style-type: none">• identify objects as being on, off, in and out.• sort shapes into groups that have the same size and orientation.• compose a new shape using 2-D shapes.

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2nd Grade CI Math

Course Essential Questions:

- How do the digits in a two digit number relate to each other?
- How does knowing multiple strategies help in solving addition and subtraction word problems?
- How does choosing the appropriate tool aid in measuring lengths?
- How does mathematics help us in finding patterns and relationships in the real-world?

MAJOR CLUSTERS	- areas of intensive focus, where students need fluent understanding and application of the core concepts.	approximately 70%
SUPPORTING CLUSTERS	- rethinking and linking; areas where some material is being covered, but in a way that applies core understandings.	approximately 20%
ADDITIONAL CLUSTERS	- expose students to other subjects, though at a distinct, level of depth and intensity.	approximately 10%

Tier 3 Vocabulary Words are highlighted in yellow

Unit: 1 Place Value

Essential Questions:

- What do the digits represent in a two digit number?
- How can you compare numbers?
- How can you determine if a number is odd or even?

Essential Understanding:

- The two digits of a two digit number represent amounts of tens and ones.
- Numbers can be compared using <, >, = symbols.
- Numbers can be compared using base-10 numerals, number names, and expanded form.

Curriculum Standards- DOK noted where applicable with Standards

EE..NBT.1 Represent numbers up to 30 with sets of tens and ones using objects in columns or arrays

EE.2.NBT.2.a. Count from 1 to 30 (count with meaning; cardinality)

EE.2.NBT.2.b. Name the next number in a sequence between 1 and 10

EE.2.NBT.3 Identify numerals 1 to 30

EE.2.NBT.4 Compare sets of objects and numbers using appropriate vocabulary (more, less, equal).

LEARNING TARGETS

Knowledge/Content

I Know ...

- numbers can be written in multiple forms including **number names**, **expanded** and **standard** forms.
- that a bundle of ten ones makes 10
- the last number counted in a number sequence is the number of objects in the set.
- **more, less, equal**
- numerals that correspond to each number from 1

Skills/Processes

I Can ...

- Show groups of tens and ones using objects
- Read and identify numbers to 30 using base ten numerals, number names, expanded form
- add 1 to a number by counting on within 10
- determine the number of objects in a set
- associate a number with its numeral
- compare sets of objects using words like more, less, equal

to 30	
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Unit: 2 Operations

<p>Essential Questions:</p> <ul style="list-style-type: none"> How do we use putting together to add two groups of objects? 	<p>Essential Understanding:</p> <ul style="list-style-type: none"> By putting together and counting all objects we are adding. Addition can be modeled in many ways and represented using a variety of tools.
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Curriculum Standards- DOK noted where applicable with Standards

- EE.2.0A.3** Equally distribute even number of objects between two groups
- EE.2.0A.4** Use addition to find the total number of objects arranged within equal groups up to a total of 10.
- EE.2.NBT.5 a** Identify the meaning of the “+” sign (ie, combine, plus, add), “-” sign (i.e., separate, subtract, take), and the “=” sign (equal)/.
- EE.2.NBT.5.b** Using concrete examples, compose and decompose numbers up to 10 in more than one way
- EE.2.NBT.6-7** Use objects, representations, and numbers (0-20) to add and subtract
- EE.2.MD.6** Use a number line to add one more unit of length

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> the meaning of the “+” sign as combine, plus, add the meaning of the “-” sign as separate, subtract, take the meaning of the “=” sign as equal strategies for adding and subtracting tools that can be used to represent addition and subtraction. 	<ul style="list-style-type: none"> divide an even number of objects into two equal groups find the total number of objects in two equal groups up to a total of 10 compose numbers to 10 in multiple ways decompose numbers to 10 in multiple ways procedurally add and subtract within 20 using strategies and tools use a number line to show addition of 1 more label a number line correctly

Unit: 3 Time	
Essential Questions: <ul style="list-style-type: none"> • How are the routines we do related to the time of day that we do them in? 	Essential Understanding: <ul style="list-style-type: none"> • We have routines that take place at certain periods over the course of a 24 hour period.
Curriculum Standards- DOK noted where applicable with Standards	
EE.2.MD.7 Identify on a digital clock the hour that matches a routine activity.	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • Certain times of the day match with routine things we do • Time can be expressed using different units that are related to each other. A.M. and P.M. are used to designate certain time periods of the day. • examples of routine activities that are done at certain periods throughout the day 	<ul style="list-style-type: none"> • Associate a routine activity with an hour on a digital clock for when it would occur • Identify the hour on a digital clock

Unit: 4 Money	
Essential Questions: <ul style="list-style-type: none"> • How are coins and bills different? • How are \$ and ¢ used in word problems appropriately? 	Essential Understanding: <ul style="list-style-type: none"> • Coins and bills have different sizes, colors, shapes, and values.
Curriculum Standards- DOK noted where applicable with Standards	
EE.2.MD.8 Recognize that money has value	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • Specific coins or bills each have a unique value. • The size of the coin does not indicate the value. • the value of dollar bills, quarters, dimes, nickels, and pennies (cents) • the \$ and cent symbols 	<ul style="list-style-type: none"> • identify the value of different coins and bills.

Unit: 5 Measurement

<p>Essential Questions:</p> <ul style="list-style-type: none"> • How can length be measured? 	<p>Essential Understanding:</p> <ul style="list-style-type: none"> • The process for measurement is the same for anything being measured. First identify the attribute being measured (ex: length). Second, select an appropriate unit. Then compare the unit to the object. Finally, report the number of units.
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Curriculum Standards- DOK noted where applicable with Standards

- EE.2.MD.1** Measuring the length of an object using non-standard units.
- EE.2.MD.3-4** Order by length using non-standard units.
- EE.2.MD.5** Increase or decrease length by adding or subtracting unit(s).
- EE.2.MD.9-10** Create picture graphs from collected measurement data.

LEARNING TARGETS

<p>Knowledge/Content I Know ...</p>	<p>Skills/Processes I Can ...</p>
<ul style="list-style-type: none"> • The length of an object can be used as a measurement unit for length. • examples of non-standard unit tools used for measuring (eg.,staples, shoes, arm lengths,pencils,...) • The length of some objects is measurable. • what a picture graph is and should look like • what it means to increase • what it means to decrease 	<ul style="list-style-type: none"> • Measure the lengths of objects using a non-standard unit. • Use different non-standard units to measure the height and length of objects • Use addition and subtraction to solve measurement problems • Add units to increase the length • Subtract units to decrease length • Collect measurement data • Organize measurement data • Create picture graph to represent measurement data collected

Unit: 6 Geometry	
Essential Questions: <ul style="list-style-type: none"> • How can shapes having specified attributes be recognized and drawn? 	Essential Understanding: <ul style="list-style-type: none"> • Objects can be described and compared using their geometric attributes.
Curriculum Standards- DOK noted where applicable with Standards	
EE.2.G.1 Identify common two-dimensional shapes: square, circle, triangle, and rectangle	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • Attributes of squares, circles, triangles, and rectangles • A shape can be identified by the number of its sides, vertices, or angles. 	<ul style="list-style-type: none"> • Describe and analyze shapes by examining their sides and angles, not by measuring • Compare shapes by their attributes (e.g., faces, angles)

Davison Community Schools
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 Phase II, February 29, 2016
 Kimber Griffiths, Matt Lobban

3rd grade CI - Math

Course Essential Questions:

- Why is the number 10 so important in addition and subtraction and in telling time?
- In what ways are two-dimensional shapes categorized?

MAJOR CLUSTERS	- areas of intensive focus, where students need fluent understanding and application of the core concepts.	<i>approximately 70%</i>
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Tier 3 Vocabulary Words are highlighted in yellow

Unit: 1 Place Value

Essential Questions:

- How are tens used within place value?

Essential Understanding:

- The decade numbers are the foundation for place value.

Curriculum Standards- DOK noted where applicable with Standards

EE.3.NBT.1 : Use decade numbers (10, 20, 30) as benchmarks to demonstrate understanding of place value for numbers 0-30

EE.3.NBT.2: Demonstrate understanding of place value to tens.

LEARNING TARGETS

Knowledge/Content
I Know ...

Skills/Processes
I Can ...

- The decade numbers are 10, 20, 30, ...
- The tens place in the two-digit number represents the number of groups of tens in that number.

- Decompose a two-digit number to 30 into the number of tens and ones.

Phase II Curriculum

Unit: 2 Operation

Essential Questions:

- How does understanding place value help us make sense of procedures we use to add and subtract multi-digit numbers (within 20)?
- Why might someone decompose a number when adding or subtracting?
- How does understanding the properties of operations help us make sense of and solve multi-digit addition and subtraction problems?

Essential Understanding:

- repeated addition and strategies help us solve bigger problems by making use of smaller ones we already know how to do.

Curriculum Standards- DOK noted where applicable with Standards

EE.3.OA.1-2 : Use repeated addition to find the total number of objects and determine the sum.

EE.3.OA.4 : Solve addition and subtraction problems when result is unknown, limited to operands and results within 20.

EE.3.OA.8 : Solve one-step real-world problems using addition or subtraction within 20.

EE.3.OA.9 : Identify arithmetic patterns.

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • strategies and algorithms for addition within 20 • strategies and algorithms for subtraction within 20 • strategies for solving word problems • strategies for estimating • arithmetic patterns such as even and odd numbers • patterns in an addition tables 	<ul style="list-style-type: none"> • use repeated addition to find the total number of objects of a sum. • solve problems by using strategies and tools for addition problems within 20. • solve problems by using strategies and tools for subtraction problems within 20. • solve one-step real-world problems using addition within 20. • solve one-step real-world problems using subtraction within 20. • Identify arithmetic patterns

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Phase II Curriculum

Unit: 3 - Time and Temperature

Essential Questions:

- What information does a digital clock provide us?

Essential Understanding:

- Digital clocks provide us with the hour and minute of the day.

Curriculum Standards- DOK noted where applicable with Standards

EE.3.MD.1 : Tell time to the hour on a digital clock.

LEARNING TARGETS

Knowledge/Content

I Know ...

- The first two digits on a digital clock tell us what hour it is.
- The last two digits on a digital clock tell us what minute we are in.
- A.M. represents time from midnight to noon.
- P.M. represents time from noon to midnight.
- 60 min = 1 hour.

Skills/Processes

I Can ...

- Identify what hour it is
- Identify what minute it is
- Identify if it AM or PM

Unit: 4 Money

Essential Questions:

- How do we count by tens?

Essential Understanding:

- Each group of ten ones is called “a ten”.
- With each group of ten ones we name them 10, 20, 30,...

Curriculum Standards- DOK noted where applicable with Standards

EE.3.NBT.3 : Count by tens using models such as objects, base ten blocks, or money.

LEARNING TARGETS

Knowledge/Content I Know ...

- multiple tools I can use to count by tens.

Skills/Processes I Can ...

- count by tens using models.

Unit: 5 Measurement

Essential Questions:

- How do we use data represented in bar graphs and picture graphs to make sense of world around us?
- Where and how do we use number lines when we measure?
- What does it mean to be precise when we measure? How are precision and estimation related when we measure?
- How does representing data help us solve real-world and mathematical problems?
- Why and how do we use tools to collect (e.g., rulers) and record (e.g., line plots) data? How do we know which tool is most appropriate to use to measure?

Essential Understanding:

- Information can be represented in bar graph and picture graph form.

Curriculum Standards- DOK noted where applicable with Standards

EE.3.MD.2 : Identify the appropriate measurement tool to solve one-step problems involving mass and volume.

EE.3.MD.3 : Use picture or bar graph data to answer questions about data

EE.3.MD.4 : Measure length or objects using standard tools, such as rulers, yardsticks, and meter sticks.

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • tools that can be used to find mass • tools that can be used to find volume • the difference between mass and volume • how to explain what and identify the scale of a graph with a scale greater than one • what the horizontal axis is • the height of the bar is the number of objects • volume is measured in liters • mass is measured in grams and kilograms • various strategies to represent a word problem involving liquid volume or mass • tools that can be used to measure the length of an object. 	<ul style="list-style-type: none"> • analyze a graph with a scale greater than one • choose a proper scale for a bar graph or picture graph • interpret a bar/picture graph to solve one-step problems. • create a scaled picture graph to show data • create a scaled bar graph to show data • analyze data from picture graph • analyze data from a bar graph • determine an appropriate unit of measurement • determine an appropriate scale for a line plot • solve one-step word problems involving masses given in the same units • solve one-step word problems involving liquid volume given in the same units • measure liquid volumes using standard units of liters

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|--|--|
| | <ul style="list-style-type: none">• measure mass of objects using standard units of grams (g) and kilograms (kg)• measure the length of an object |
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Unit: 6 - Geometry

Essential Questions:

- How can 2-dimensional shapes be described?
- What are some tools we can use to analyze attributes of two-dimensional figures?
- How does recognizing characteristics of angles help in classifying quadrilaterals?

Essential Understanding:

- Objects can be described and compared using their geometric attributes.
- Figures are categorized according to their attributes.

Curriculum Standards- DOK noted where applicable with Standards

EE.3.G.1 : Describe attributes of two-dimensional shapes

LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none">• attribute of rhombuses, rectangles, and squares are examples of quadrilaterals	<ul style="list-style-type: none">• describe, analyze, and compare properties of two-dimensional shapes• compare and classify shapes by attributes to define a larger category (eg., quadrilaterals)• group shapes with shared attributes to define a larger category (eg., quadrilaterals)• I can identify and classify polygons• I can identify and classify triangles• I can identify and classify quadrilaterals .• I can identify things in common among objects or situations to make or test generalizations.

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Phase II Curriculum

Unit: 7 - Fractions

Essential Questions:

- How can fractions be represented visually and symbolically?
- How can understanding unit fractions help us make sense of, build, and use other fractions?
- How can we use the size of the unit to reason about fractions?
- How can understanding equivalent fractions help us solve problems?
- Are there fractions equal to and/or greater than one? If yes, why? If no, why not?

Essential Understanding:

- The size of the fractional part is relative to the size of the whole.
- Fractions represent quantities where a whole is divided into equal-sized parts using models, manipulatives, words, and/or number lines.
- Fractions can be used as a tool to understand and model quantities and relationships.
- Fractions are composed of unit fractions.
- Fractions that represent equal-sized quantities are equivalent.

Curriculum Standards- DOK noted where applicable with Standards

EE.3.G.2 : Recognize that shapes can be partitioned into equal parts

EE.3.NF.1 : Differentiate a fractional part from a whole

LEARNING TARGETS

Knowledge/Content

I Know ...

- that shapes can be partitioned into equal areas
- the **area** of each part of a whole is called a fractional part.

Skills/Processes

I Can ...

- identify shapes partitioned into equal parts
- identify the fractional part of a whole from the whole itself

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Davison Community Schools
ADVISORY CURRICULUM COUNCIL
Phase II, February 29, 2016
Kimber Griffiths, Matt Lobban

4th grade CI - Math

Course Essential Questions (from Phase I report):

- How do we multiply/divide multi-digit numbers?
- How can we use our understanding of equivalent fractions to aid in addition and subtractions?
- How does mathematics help us in finding patterns and relationships in the real-world?

MAJOR CLUSTERS	- areas of intensive focus, where students need fluent understanding and application of the core concepts.	approximately 70%
SUPPORTING CLUSTERS	- rethinking and linking; areas where some material is being covered, but in a way that applies core understandings.	approximately 20%
ADDITIONAL CLUSTERS	- expose students to other subjects, though at a distinct, level of depth and intensity.	approximately 10%

Tier 3 Vocabulary Words are highlighted in yellow

Unit 1: Place Value

Essential Questions:

- How does the position of a digit in a number affect its value, and how can the value of digits be used to compare two numbers?
- In what ways can numbers be composed and decomposed?
- How does understanding place value help you round?

Essential Understanding:

- Place value is based on groups of ten and the value of a number is determined by the place of its digits.
- Whole numbers are read from left to right using the name of the period; commas are used to separate periods.

Curriculum Standards- DOK noted where applicable with Standards

EE.4.NBT.2 Compare whole numbers to 10 using symbols (<, >, =).

EE.4.NBT.3 Round any whole number 0-30 to the nearest ten.

LEARNING TARGETS

Knowledge/Content
I Know ...

- the symbols used for comparing numbers
- how place value is used to compare numbers
- strategies used to round whole numbers to the nearest ten

Skills/Processes
I Can ...

- compare two single-digit numbers based on meanings of the digits in each place, using >, =, < symbols to record the results of comparisons
- compare two numbers with digits up to ten and identify whether they are less than, greater than, or equal to another number
- identify the place value they are rounding to
- round whole numbers by finding the multiple of 10 closest to a given number
- round two-digit (up to 30) numbers to a given place
- explain the rounding process using visuals

	and or language.
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Unit 2: Adding and Subtracting Whole Numbers

<p>Essential Questions:</p> <ul style="list-style-type: none"> How does understanding place value help you solve multi-digit addition and subtraction problems and how can rounding be used to estimate word problems? 	<p>Essential Understanding:</p> <ul style="list-style-type: none"> The standard addition and subtraction algorithms for multi-digit numbers break the calculation into simpler calculations using place value starting with the ones, the tens, and so on.
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Curriculum Standards- DOK noted where applicable with Standards

<p>EE.4.NBT.4 Add and subtract two-digit numbers.</p> <p>EE.4.OA.1-2 Demonstrate the connection between repeated addition and multiplication</p> <p>EE.4.OA.3 Solve one-step real-world problems using addition or subtraction within 100.</p> <p>EE.4.OA.4 Show one way to arrive at a product</p> <p>EE.4.OA.5 Use repeating patterns to make predictions</p>	
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LEARNING TARGETS

Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> how to add and subtract whole numbers. multiplication is repeated addition strategies for solving addition and subtraction real-world problems within 100. a model that can be used to find a product 	<ul style="list-style-type: none"> add and subtract two-digit whole numbers use mental math and estimation to determine whether my answer is reasonable. solve one-step real-world problems using addition within 100. solve one-step real-world problems using addition within 100. create and use a representation to model a problem involving multiplication. use my model to find a product identify a number or shape pattern analyze a pattern to determine features not apparent in the rule generate a number or shape pattern that follows a given

Unit 3: Time	
Essential Questions: <ul style="list-style-type: none"> How is telling time on digital clocks and analog clocks similar and different? 	Essential Understanding: <ul style="list-style-type: none"> Both digital and analog clocks display the hour and minutes, but in different ways.
Curriculum Standards- DOK noted where applicable with Standards	
EE.4.MD.2 Tell time using a digital clock. Tell time to the nearest hour using an analog clock.	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> the little-hand on an analog clock identifies the hour the big-hand on an analog clock identifies the minute the left two digits on a digital clock identify the hour the right two digits on a digital clock identify the minute we use 30 minutes as a benchmark number to tell time to the nearest hour. 	<ul style="list-style-type: none"> tell time using a digital clock tell time to the nearest hour on an analog clock.

Unit 4: Money	
Essential Questions: <ul style="list-style-type: none"> • What is the difference between the coins we use? 	Essential Understanding: <ul style="list-style-type: none"> • The coins we use vary in size, color, weight, and value.
Curriculum Standards- DOK noted where applicable with Standards	
EE.4.MD.2.d. Identify coins (penny, nickel, dime, quarter) and their values.	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • What each coin looks like • the value of each coin 	<ul style="list-style-type: none"> • identify coins based on their physical attributes • identify the value of monetary coins

Unit 5: Measurement	
Essential Questions: <ul style="list-style-type: none"> • How do we measure? • How do graphs aid in making decisions about data? 	Essential Understanding: <ul style="list-style-type: none"> • Units of measurement are broken into smaller and larger units within a system. • Graphs provide us with a visual representation to view data that is often abstract.
Curriculum Standards- DOK noted where applicable with Standards	
<p>EE.4.MD.1 Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/foot, centimeter/meter, minutes/hour).</p> <p>EE.4.MD.2.b Measure mass or volume using standard tools.</p> <p>EE.4.MD.2c Use standard measurement to compare lengths of objects</p> <p>EE.4.MD.4.a Represent data on a picture or bar graph given a model and a graph to complete</p> <p>EE.4.MD.4.b Interpret data from a picture or bar graph</p> <p>EE.4.MD.6 Identify angles as larger and smaller</p>	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • the relationship between the smaller measurement unit and the larger unit in a system • tools to use to find mass • tools to use to find volume • characteristics of picture graphs • characteristics of bar graphs 	<ul style="list-style-type: none"> • measure mass • measure volume • compare lengths of objects • complete a picture graph from data • complete a bar graph given data • make decisions based on data from a picture • make decisions based on data from a bar graph • identify an angle as being large or small

Unit 6: Geometry	
Essential Questions: <ul style="list-style-type: none"> • What are the types of angles and the relationships? • How are angles applied in the context of a circle? • How are parallel lines and perpendicular lines used in classifying two-dimensional shapes? 	Essential Understanding: <ul style="list-style-type: none"> • Shapes can be classified by properties of their lines and angles. • Angles are measured in the context of a central angle of a circle • Angles are composed of smaller angles. • Two-dimensional or plane shapes have many properties that make them different from one another.
Curriculum Standards- DOK noted where applicable with Standards	
<p>EE.4.G.1 Recognize parallel lines and intersecting lines.</p> <p>EE.4.G.2 Describe the defining attributes of two-dimensional shapes</p> <p>EE.4.G.3 Recognize that lines of symmetry partition shapes into equal areas</p> <p>EE.4.MD.5 Recognize angles in geometric shapes.</p>	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> • characteristics of acute, obtuse, and right angles • the relationship between parallel and perpendicular lines in two-dimensional figures • how to classify shapes based on the number and length of sides and • how to identify the number of angles. • that an angle is formed from 2 rays with a common endpoint. • the lines of symmetry partition shapes into equal areas. 	<ul style="list-style-type: none"> • analyze two-dimensional figures to identify points, lines, line segments, rays, angles, (right, acute, obtuse), and perpendicular and parallel • draw 2 dimensional figures (points, line, [perpendicular and parallel], line segments, rays and angles [acute, obtuse, right]). • classify lines as parallel or perpendicular. • identify right angles. • identify right triangles. • determine the kind of angle based on the measurement (ex. acute, obtuse, right, straight). • classify two dimensional figures based on parallel or perpendicular lines and sizes of angles. • recognize a line of symmetry as a line across a figure when folded.

Unit 7: Fractions	
Essential Questions: <ul style="list-style-type: none"> What is the relationship between one-half and one-whole? 	Essential Understanding: <ul style="list-style-type: none"> Two halves make one whole.
Curriculum Standards- DOK noted where applicable with Standards	
EE.4.NF.1-2 Identify models of one-half ($\frac{1}{2}$) and one-fourth ($\frac{1}{4}$). EE.4.NF.3 Differentiate between whole and half.	
LEARNING TARGETS	
Knowledge/Content I Know ...	Skills/Processes I Can ...
<ul style="list-style-type: none"> examples of models that display $\frac{1}{2}$ of the whole examples of models that display $\frac{1}{4}$ of the whole 	<ul style="list-style-type: none"> use visual fraction models to show why fractions are equivalent identify models of one-half identify models of one-fourth differentiate between whole and half.

