**Keansburg School District**

**Curriculum Management System**



**Believe, Understand, and Realize Goals**

**Mathematics: Grade 1 - College and Career Ready (CCR)**



**Board Adopted**: July 24, 2012 **Revision Process**: Ongoing

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**Believe, Understand, and Realize Goals**

**Graduates
that are
prepared
and
inspired
to make positive contributions to society**

**Non-Negotiables**

**Mission/Vision Statement**

The mission of the Keansburg School District developed through relationships with all stakeholders is to identify the unique potential of each individual by creating a relevant and meaningful learning environment that promotes high academic, social, and emotional expectations for our students and teachers, and leads to graduates that are prepared and inspired to make positive contributions to society.

**Beliefs**

We believe that:

* All children can learn.
* To meet the challenges of change, risk must be taken.
* Every student is entitled to an equal educational opportunity.
* It is our responsibility to enable students to succeed and become the best that they can be.
* All individuals should be treated with dignity and respect.
* The school system should be responsive to the diversity within our total population.
* The degree of commitment and level of involvement in the decision-making processes, from the student, community, home and school, will determine the quality of education.
* Decisions should be based on the needs of the students.
* Achievement will rise to the level of expectation.
* Students should be taught how to learn.
* The educational process should be a coordinated system of services and programs.

**Curriculum Philosophy**

The curriculum philosophy of the Keansburg School District is progressive. We embrace the high expectations of our students and community towards success in the 21st Century and beyond. At the center of this ideal, we believe that all of our students can be successful. The following are our core beliefs for all curricula:

**All district curricula:**

* Balances policy driven trends of centralization and standardization with research and what we know is good for our students.
* Balances the strong emphasis on test success and curriculum standards with how and what our students must know to be successful in our community.
* Embraces the reality that our students differ in the way they learn and perform, and personalizes instruction to meet the needs of each learner.
* Are aligned to be developmentally appropriate.
* Provides teachers the support and flexibility to be innovative and creative to meet the needs of our students.

**Mathematics Goals**

**To deliver a curriculum that is:**

* Pertinent for the success of all of our students and useful for teachers in the 21st Century.
* Problem-based, where students understand the importance of mathematical concepts and applications.
* Socially, emotionally, and academically driven with regards to statute and code, while focusing on what is best for each of the students in our school district to achieve successful outcomes.
* Significant in the processes of growth and development, and relevant to the students.
* Differentiated with regards to our students’ abilities and needs.
* Embedded with teaching responsibility, respect, and the value of hard work and self-pride over time.
* Designed with both content knowledge and experiences which:
	+ Are aligned from one grade level to the next, with scaffolded underpinnings of similar concepts for success.
	+ Engage our diverse population for positive outcomes.
	+ Build and support the language of mathematics.
	+ Develop educational and mathematical independence over time.

**Common Core Standards for Mathematics**

**OPERATIONS AND ALGEBRAIC THINKING**

**Represent and solve problems involving addition and subtraction.**

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

**Understand and apply properties of operations and the relationship between addition and subtraction.**

1. Apply properties of operations as strategies to add and subtract.3 *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*
2. Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*

**Add and subtract within 20.**

1. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
2. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

**Work with addition and subtraction equations.**

1. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*
2. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 =* 􀃍 *– 3, 6 + 6 =* 􀃍*.*

**NUMBER AND OPERATIONS IN BASE TEN**

**Extend the counting sequence.**

1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

**Understand place value.**

1. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
2. 10 can be thought of as a bundle of ten ones — called a “ten.”
3. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
4. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
5. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

**Use place value understanding and properties of operations to add and subtract.**

1. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
2. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
3. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

**MEASUREMENT AND DATA**

**Measure lengths indirectly and by iterating length units.**

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.
2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

**Tell and write time.**

1. Tell and write time in hours and half-hours using analog and digital clocks.

**Represent and interpret data.**

1. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

**GEOMETRY**

**Reason with shapes and their attributes.**

1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

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| **Grade 1 Scope and Sequence** |
| **September****Quarter 1** | Number Sense* Numbers 1-20
* Number writing
* Identifying
* Counting objects (up to 20)

Number 20+* Number Identification
* Counting 1-100, by ones and tens
 |
| **October****Quarter 1** | Operations & Algebraic Expressions* Problem solving with addition and subtraction
* Properties of operations
* Add and subtract within 20
 |
| **November****Quarter 2** | Measurement & Data* Measure lengths and by iterating length units
* Tell and write time
* Represent and interpret data
 |
| **December****Quarter 2** | Geometry* Reason with shapes and their attributes
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| **January****Quarter 2** | Number and Base Ten* Extend the counting sequence
* Understand place value
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| **February****Quarter 3** | Operations & Algebraic Expressions (II)* Represent and solve problems involving addition and subtraction
* Understand and apply properties of operations and the relationship between addition and subtraction
* Add and subtract within 20
* Work with addition and subtraction equations
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| **March****Quarter 3** | Measurement & Data (II)* Measure lengths and by iterating length units
* Tell and write time
* Represent and interpret data
 |
| **April****Quarter 4** | Geometry (II)* Reason with shapes their attributes
 |
| **May****Quarter 4** | Number and Base Ten* Use place value understanding and properties of operations to add and subtract.
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| **June****Quarter 4** | Readiness skills for September of Grade 2* Problem solving with all mathematical concepts covered in Grade 1
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: September-Quarter 1 |
| **Topic(s):** Number Sense |
| **Significance of Learning Goal(s): To write numbers 0-20,** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**: K.CC.1; K.CC.2; K.CC.3; K.CC.6; K.OA.5; K.NBT.1**EQ**: * Why is it important to recognize and write numbers?
 | **Concept(s):** Kindergarten review of number sense.**SWBAT:*** Identify, write, and count numbers 0-20.
* Count objects and represent with a number.
* Compare and order numbers 0-20 through concrete and pictorial models.
* Count to 100 by ones and tens.
 | **Meets Standard**: * Practice counting numbers 0-20, using nursery rhymes and songs.
* Order numbers from 0-20, using number cards, number tiles (from hundredths board)
* Order numbers while understanding words such as: before, after, between. Utilize a number line to locate and order numbers.
* Compare numbers that greater than or less than using games such as; Number Line Squeeze, Top It and One More, One Less Stories.
* Write numbers from 0-20
* Construct numbers 11-19 by bundling groups of ten and then by counting the left over ones.
* Develop number sense by counting up and counting back using a given number.
* Incorporate number sense daily through: calendar, school day count, class number grid, weather, and attendance.
* Reading counting books.
* Recording tally counts; creating tally charts.
* Find and locate numbers on the number grid.
* Provide students with number lines; students will need to identify and provide the missing number.
* Show one more; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Show one less: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* One more on the ten frame: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)

**Exceeds Standard**:* Practice counting numbers 21-100.
* Compare numbers greater than 20 through games.
* Before and after games.
* Number grid puzzles.
* Counting walk; students estimate step amounts from one location to another. Find actual number of steps, and compare the two numbers. Choose other locations and repeat procedure.
* Students compose and solve ones and tens riddles.
* Counting by 5s using nickels.
* Counting by 10s using dimes.
* One more/one less scoop: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
 | * Nursery Rhymes
* CD Math songs
* Number cards
* Number Line Squeeze-number lines
* Everyday Math cards
* Straws or popsicle sticks
* Calendar
* <http://www.starfall.com/n/holiday/calendar/load.htm?f&n=main>
* school day count chart, weather chart, attendance chart
* class number grid
* [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* coins
* counters

**Typical Assessment Question(s) or Task(s):*** Ask students to count 0-20.
* Students will be asked to order numbers from 0-20.
* Compare numbers that greater than or less than.
* Students will display number sense through orally counting up and counting back using a given number.
* Give students a given number; have them identify the given number on the number grid.
* Have students analyze a tally chart and give the associated number with this chart.
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: October-Quarter 1 |
| **Topic(s):** Operations & Algebraic Expressions |
| **Significance of Learning Goal(s): To solve problems using addition and subtraction within 20.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**: 1.OA.3;1.OA.4; 1.OA.5; 1.OA.6; 1.OA.7; 1.OA.8**EQ**:* What questions can be answered using addition?
* What strategies can be used to solve problems?
* How can we tell how many?
* How does knowing math facts make math easier?
* How can numbers be helpful?
* Why do I need to subtract?
* How do we use addition and subtraction in our everyday life?
* Why are fact families important?
* What strategies can be used to solve problems? How is counting on different from just counting to add?
* What information do you need to know in order to find the total number of something?
* Why would you need to count back?
* How are subtraction and addition related?
 | **Concept(s):** Working with and solving problems using addition and subtraction within 20. **SWBAT:*** Solve word problems within 20 using real life situations.
* Understand, demonstrate, and apply properties of operations for addition.
* Demonstrate fluency for addition and subtraction within 20 by using strategies to solve problems.
* Relate counting to addition by counting on from the higher number.
* Demonstrate fluency for addition by using strategies such as counting on, doubles, and doubles plus 1.
 | **Meets Standard**: * Model a number sentence using manipulatives and label operation symbols.
* Use dominoes to create an addition problem and find the sum.
* Solve addition problems using a number line.
* Students will develop different ways to solve number stories; students will use objects, fingers, and pictures, count on/back, number line or number grid.
* Create real life situations in which students will use all number story strategies to solve a problem.
* Teachers will pose real world number stories to the students; students will synthesize pre-existing information that they know to solve the problem.
* Introduce and devise addition and subtraction number stories posters stating each key word for addition and subtraction operations.
* Combine and mix two sets of 0-10 number cards. One partner draws two number cards from the top of the deck; students will design and generate a number story using the two numbers. Both partners solve the problem in the number story and write the answer on their slate.
* Use concrete objects to demonstrate the relationship between two addends and the sum.
* Teacher will model and demonstrate using pictures and objects how objects can be moved around and still come out to equal the same sum.
* Develop counting on skills by students choosing a number card and partner count on from the given number.
* Roll two number cubes; identify the higher number and count on to find sum.
* Use technology to show doubles, different compliments of 10, songs and raps to help students memorize basic facts. Poll students to discover their favorite tune.
* Play around the world using basic addition facts.
* Relate addition to subtraction by creating fact families using number cubes, dominoes, fact family houses, etc.
* Turn around trains; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Domino fact families; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Plus one game: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* One less game: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Doubles facts: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Facts of ten; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Fact family house: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Number sentence math: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Sums of ten; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)

**Exceeds Standard**:* In groups or individually, students will plan and generate world problems based on real life situations.
* Teachers will provide pictures of groups of things such as: animals, people or objects. Students will analyze and evaluate the picture and design a number story about the picture.
* Using number cards or dice create addition sentences; draw a picture to represent problem and write an addition number model to correlate with the fact.
* With 9, 10, 12 side dice roll two number cubes; identify the higher number and count on to find sum.
* Students will compose their own double facts song.
* Students create a 4 x 4 double facts mat with double sums. Partners roll a 12-sided number cube, double the top number showing, and X it out on the mat. First student to get 4 in a row wins.
* Take two dominoes, each representing an addend, and have students find the sum.
* Students use pennies to solve basic addition problems.
* Students will complete turn around facts.
* Make ten: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Make ten on the ten frame: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* What number is…; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Make ten square; What number is…; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Dot card addition; What number is; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Addition domino train: What number is; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
 | * Dominoes
* Number lines
* Number Grids
* Number Cards
* White Boards
* Dry-Erase markers
* Pennies

**Typical Assessment Question(s) or Task(s):*** Students will be asked to solve addition and subtraction problems within 20 within a given time frame.
* Students will be given a number, and be asked to count on from that given number.
* Students will be given word problems within 20 to solve; students will use various strategies and means to solve these problems.
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: November-Quarter 2 |
| **Topic(s):** Measurement and Data |
| **Significance of Learning Goal(s): To understand measurement and what tools and used.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**: 1.MD.1; 1.MD.2; 1.MD.3; 1.MD.4**EQ**:* Why do people use graphs?
* How is a bar graph like a tally chart?
* How would I know if a bar graph correctly shows what is on a tally chart?
* How could a bar graph answer a question?
* Do bar graphs make it easier to understand and compare facts? Why?
* What kind of graph should I use to answer questions?
* Why do I need to tell time?
* How many hands does a clock have?
* Are the hands on the clock the same size?
* How long is a minute?
* Why do I need to use a calendar?
* How do we use the clock and the calendar to determine what we will do in school?
* Why do we need to measure something?
* What can we use to draw and measure things?
* What do you think is about 1 inch long?
* How many steps long do you think it is from the front of the classroom to the back?
* If we measure in footsteps why are some of the measurements different?
* How is longer and shorter similar to greater and lesser?
 | **Concept(s):** Understanding what measurement is and what tools are used.**SWBAT:*** Compare and order the length of up to three objects using direct comparisons.
* Compare the lengths of two objects indirectly by using a third object.
* Measure objects using non-standard units and express it as a whole number.
* Draw an object longer or shorter than a given object.
* Organize, represent, and interpret data with up to three categories on simple graphs and charts.
* Analyze and formulate questions based on simple graphs and charts.
* Identify time to the hour and half hour on both a digital and analog clock
* Write time to the hour and half hour on both analog and digital clocks.
* Draw the hands on an analog clock for a give time to the hour or half hour.
* Relate times to the half hour to “half past” the hour.
 | **Meets Standard**: * Teacher will introduce measurement by holding up objects and the students will examine the objects and explain the size order.
	+ Students will break into groups and compare objects further and classify them depending on their size.
* Teacher will introduce the ruler. Explain to students that the ruler is used to measure objects. The students will then explore the classroom and select objects around the room that are smaller and larger than the ruler.
* Teacher will select specific body parts that the students will use as a personal unit of measurement. The students will work in pairs to demonstrate how to measure objects around the room using their personal unit of measurement.
* The teacher will select a classroom object and the students will be asked to illustrate objects in the room that are bigger and smaller in size.
* The students will be able to organize, represent, and interpret data up to three categories through the use of a bar graph.
* The teacher will then divide students into heterogeneous groups and encourage the students to explain what they can learn from the graph. The students will present findings following activity.
* Students will choose an object within classroom; then find additional objects one being larger the other being shorter using a two-column chart. Draw or write the objects in the chart.
* Create a human clock: students will hold 12 numbered plates. One student will stand in the middle as the minute and hour hand to model various times.
* Students will have their own demonstration clocks; students will identify and find the hour and minute hands.
* Students create their own clocks using paper plates; students will manipulate hands to identify varying times.
* Students will listen to Jack Hartman “Tick Tock” song.
* Teachers and students will view clock on videos on brainpopjr.com; students and teachers can complete quizzes available on website.
* Teachers will present time on an analog clock, students will write the digital time on a white board.
* Students will play clock concentration.

**Exceeds Standard**:* The students will work in pairs to locate objects around the room and compare the lengths against each other. The pairs will then work with another pair of students and compare the lengths of their objects with the objects the other pair located.
* Teacher will introduce the ruler in comparison to the yardstick. The students will be encouraged to find objects that in the room that are larger than a ruler and measure using the yardstick.
* After the teacher introduces units of personal measurement the students will be encouraged to measure object in the room using their own unit of personal measurement and convert it into a standard measurement using a ruler or a yardstick.
* The teacher will select a classroom object and the students will be asked to illustrate objects in the room that are bigger and smaller by a specific size.
* The students will be able to organize, represent, and interpret data up to four or more categories through the use of a bar graph.
* The teacher will then divide students into heterogeneous groups and encourage the students to explain what they can learn from the graph and create a tally chart utilizing the data.
* Students will create clock flash cards by drawing an analog clock on one side, and writing the digital clock time on the other.
* Give students a clock and a blue number cube (???)
 | * Rulers
* Judy Clock
* Paper Plates
* Classroom objects
* Chart paper
* Jack Hartmann – Tick Tock Song
* Brainpop Jr.
* White boards
* Dry Erase markers
* Clock Concentration

**Typical Assessment Question(s) or Task(s):*** Analyze a bar graph and answer questions.
* Create a bar graph using self – selected topic.
* Take 3 objects and order them from smallest to largest and largest to smallest.
* Read a series of clocks (analog and digital) and tell the time to the hour and half hour
* Using blank clocks the students will draw the hands to show a designated time.
* Use a personal measurement (i.e. your thumb) to measure the length of an object.
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: December-Quarter 2 |
| **Topic(s):** Geometry |
| **Significance of Learning Goal(s): To identify shapes and their attribures.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**:1.G.1; 1.G.2**EQ**:* Where do you see shapes in our classroom?
* Are there different shapes outside?
* How are geometric figures alike?
* How can we sort objects of different shapes?
* How can shapes and solids be described, compared, and used to make other shapes? What are equal parts?
* What foods do you divide into equal parts?
* What other items might be divided?
* How do you know if you have an equal share?
 | **Concept(s):** Identify shapes and their attributes. **SWBAT:*** Distinguish between two and three-dimensional shapes by classifying their attributes. For example: color, shape, and size.
* Compare and contrast shapes based on their attributes.
* Construct and create shapes possessing certain attributes.
* Identify and construct two-dimensional shapes.
* Identify and construct three-dimensional figures.
 | **Meets Standard**: * Sorting shapes based on their attributes. For example: number of sides
	+ Materials: attribute blocks, shape card sheet, sorting mat
* Introduce vocabulary: cylinder, cube, sphere, rectangular prism, triangular prism, pyramid. Classroom shape hunt: students go around the room finding shapes within the classroom. For example: trash can, tissue box, clock
	+ Materials: shape sheet, classroom objects <http://illuminations.nctm.org/LessonDetail.aspx?id=L237>
* Create 3-dimenstion shapes. (rectangular prism, pyramid, cube)
	+ Straws, twist ties, shape cards
* Create 2-dimensional shapes. (trapezoid, triangle, circle, rectangle, rhombus)
	+ Pattern block templates, attribute blocks, pattern block template stencil, geo-boards, rubber bands <http://illuminations.nctm.org/LessonDetail.aspx?id=L168>
* Create a drawing using shapes: students will create a picture using the pattern block template stencil. (house, sun, flowers, etc.)
	+ Paper, pattern block stencil template, crayons

 * Apply understanding of attributes by playing Shape Detective and Attribute Train Game
* Demonstrate understanding of 3 Dimensional shapes by playing What’s My Shape

**Exceeds Standard**:* Introducing and exposing higher vocabulary: polyhedron/polyhedra (many faces of a shape). Placing the word onto the word wall.
* Students read the poem Shapes by Shel Silverstein and create their own illustration of the poem to explore geometric figures and positional words.
* Materials: <http://illuminations.nctm.org/LessonDetail.aspx?ID=L202>
* Shapes by Shel Silverstein, paper, crayons, pencils, examples of rectangles, triangles, circles
* Compose clues using inferencing to play Guess What.
* Display variety of 3 dimensional shapes. Silently choose

an object and give clues about it. For example, I amsmall. I have 2 flat faces and if you trace my faces youwill get circles. What am I? (tomato can)* Students work together to use pattern blocks to cover

other pattern blocks. For example, how many triangle blocks are needed to cover a hexagon block?* Student rotate in groups to visit each geometric solid

while completing a chart which shows faces, sides, and * corners.
* Students compose a shape town by using their pattern

block templates. Then, students will calculate the totalnumber of each pattern block used.* Students will invent new shapes by using three-

dimensional shapes. * Students will create patterns using three dimensional

shapes. | * Attribute blocks
* Shape card sheet
* Sorting mat
* Twist ties
* Straws
* Shape cards
* Pattern block templates
* Attribute blocks
* Pattern block template stencil
* Geo-boards
* Rubber bands

 **Typical Assessment Question(s) or Task(s):*** Ask students how many sides each shape has
* Have students classify shapes based on number of sides
* Have students identify shapes in the classroom
* Have students create 2 and 3 dimensional shapes
* Have students design pictures using pattern blocks/pattern block template
* Have students identify and describe assigned shape’s attributes
* Ask students to name 3 dimensional shapes hidden i bag (What’s my Shape Game)
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: January-Quarter 2 |
| **Topic(s):** Number and Operations in Base Ten |
| **Significance of Learning Goal(s): To recognize, compare, and understand numbers to 120.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**: 1.NBT.1; 1.NBT.2A; 1.NBT.2B; 1.NBT.2C; 1.NBT.3**EQ**:* How do numbers help us?
* How can sets of numbers be counted, compared and ordered?
* How can I use numbers to solve problems?
* How would putting numbers on a chart make it easier to understand information?
* How can I make it easier to understand numbers when I sort them?
* What is place value?
* Why is place value important?
* How can I use place value to compare and order numbers?
* How can I use the number grid to help me with counting numbers?
* How many times do you think you can hop in one minute?
* What does number relationships mean?
* Why do we need to know how to add?
* Why do we need to know how to subtract?
* How are addition and subtraction related?
* What are doubles?
* How can double facts help us to add and subtract?
* Does it matter what order you use to add three numbers? Why or why not?
 | **Concept(s):** Recognize, compare, and understand numbers up to 120. **SWBAT:*** Recognize, read, write, and count 0-120.
* Understand that a two-digit number represents amounts of tens and ones.
* Relate groups of ten to skip counting.
* Compare two two-digit numbers based on meanings of tens and ones digits using symbols <,>, and =.
 | **Meets Standard**: * Teacher will cover up specific numbers on an enlarged number grid using cover up tape to have students identify numbers before and after. Students will come up and write the missing numbers.
* Students will play “I have\_\_. Who has \_\_? Teacher will create cards using index cards and numbers in which students need further practice with. Students will read their cards aloud. Variations of game can include: identifying specific numbers, identifying numbers more or less, etc).
* Students will use base ten blocks to represent numbers, including three digit numbers. Students will identify representation of numbers through these manipulatives. They may match the representation to the written number.
* Students will write the number they created using the base ten blocks using their white boards and markers.
* Students will arrange given digits to create the greatest and lowest possible numbers. They can show each number they create using base ten blocks.
* Students will use the Base Ten Exchange Game to show an understanding of exchanging ones for tens and tens for hundreds. Students can use place value mats, base ten blocks (cubes, tens, and flats). Students can take number of cubes displayed with roll of single die. Students will determine when exchanging can be made when reaching ten units.
* Teens on the ten frame; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Base ten concentration: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Ten frame compare: www.k-5mathteachingresources.com

**Exceeds Standard**:* Students will create riddles: I’m thinking of a number that has 4 tens and 13 ones. Have students solve the riddle by regrouping the ones to find the answer.
* -Students use hundreds chart to jump up and down from a number to show 10 more or 10 less.
* -Students will play What’s my Number by giving clues based on place value, odd or even, and number sense. For example, I’m a two digit number. The digit in my tens place is 2 more than 4. The digit in my ones place is 3 less than 8. What’s my number?
* My double ten frame riddle: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
 | * Number grids
* “I have/ Who has” index cards
* base ten blocks
* white boards
* markers
* number cards
* dice
* ten frame
* base ten concentration boards (k-5 math teaching resources)
* double ten frame boards (k-5 math teaching resources)

**Typical Assessment Question(s) or Task(s):*** Recognize numbers 1-120 using flashcards
* Write numbers 1-20 using block or graph paper
* Build two-digit numbers using tens and ones blocks
* Listen and note students skip counting orally by tens to 120
* Students compare and label two numbers using relation symbols
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: February-Quarter 3 |
| **Topic(s):** Operations & Algebraic Expressions |
| **Significance of Learning Goal(s): To solve addition and subtraction problems.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**:1.OA.3;1.OA.4; 1.OA.5; 1.OA.6; 1.OA.7; 1.OA.81.OA.2; **EQ**:* What questions can be answered using addition?
* What strategies can be used to solve problems?
* How can we tell how many?
* How does knowing math facts make math easier?
* How can numbers be helpful?
* Why do I need to subtract?
* How do we use addition and subtraction in our everyday life?
* Why are fact families important?
* What strategies can be used to solve problems? How is counting on different from just counting to add?
* What information do you need to know in order to find the total number of something?
* Why would you need to count back?
* How are subtraction and addition related?
 | **Concept(s):** Solve addition with and subtraction problems **SWBAT:*** Solve addition problems with sums up to 20.
* Use addition within 20 to solve word problems involving real life situations.
* Solve word problems that call for addition of three whole numbers up to 20.
* Solve subtraction problems with difference up to 20.
* Use subtraction within 20 to solve word problems involving real life situations.
* Understand subtraction as an unknown addend problem: example, subtract 9-5 by finding the number that makes 9 when added to 5.
 | **Meets Standard**: * Model and have students create their own individual number sentence using manipulatives and label operation symbols.
* Students will choose a strategy to solve number stories, such as objects, fingers, and pictures, count on/back, number line or number grid.
* Create real life situations in which students will use a strategy to solve a number story and create a number model.
* Review addition and subtraction number stories posters stating each key word for addition and subtraction operations.
* Combine and mix two sets of 0-20 number cards. One partner draws two number cards from the top of the deck; students will design and generate a number story using the two numbers. Both partners solve the problem in the number story and write the answer on their slate.
* Find three cards that have a sum of 12; how many different ways can the student make the sum of 12 using three cards; students record work.
* -Teacher creates real life word problems

involving three addends up to 20. * Ten frames subtraction: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* I have, who has?; [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* True or false: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Count to 20: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)

**Exceeds Standard**:* Teacher creates multi step word problems for students to solve.
* Students work with partners or small groups to create real life word problems. Compose class book of problems.
* Three letter addends; use scrabble tiles or letter cards with corresponding numbers to make three letter words; find the sum of each word by adding the numbers on the tiles. Students will find which words have the greatest or smallest sum.
 | * Materials
* Manipulatives (examples: counting bears, connecting cubes, pennies, counters, etc)
* Slates, dry erase markers, erasers
* Clear Sheet Protectors
* Sets of 0-20 number cards
* Number cards
* Cardstock
* Scrabble tiles/ letter cards

**Typical Assessment Question(s) or Task(s):*** Students will solve real life word problems.
* Students will create their own number sentences; own number stories/word problems.
* Students will create and solve number stories in cooperative learning groups.
* Students will generate word problems using assigned numbers.
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: March-Quarter 3 |
| **Topic(s):** Measurement & Data |
| **Significance of Learning Goal(s): To tell time and compare measurements.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**: **EQ**:* Why do people use graphs?
* How is a bar graph like a tally chart?
* How would I know if a bar graph correctly shows what is on a tally chart?
* How could a bar graph answer a question?
* Do bar graphs make it easier to understand and compare facts? Why?
* What kind of graph should I use to answer questions?
* Why do I need to tell time?
* How many hands does a clock have?
* Are the hands on the clock the same size?
* How long is a minute?
* Why do I need to use a calendar?
* How do we use the clock and the calendar to determine what we will do in school?
* Why do we need to measure something?
* What can we use to draw and measure things?
* What do you think is about 1 inch long?
* How many steps long do you think it is from the front of the classroom to the back?
* If we measure in footsteps why are some of the measurements different?
* How is longer and shorter similar to greater and lesser?
 | **Concept(s):** Telling time; comparing measurements.**SWBAT:*** Identify and write time to the hour and half hour on both a digital and analog clock.
* Write time to the hour and half-hour on both digital and analog clocks.
* Draw the hands on the analog clock for a given time to the hour or half-hour.
* Relate times to the half hour as “half-past” the hour.
* Compare and contrast objects by length.
* Construct objects at contrasting lengths.
 | **Meets Standard**: * Students will have their own demonstration clocks; students will identify and find the hour and minute hands.
* Students create their own clocks using paper plates; students will manipulate hands to identify varying times.
* Students will listen to Jack Hartman “Tick Tock” song.
* Teachers and students will view clock on videos on brainpopjr.com; students and teachers can complete quizzes available on website.
* Teachers will present time on an analog clock, students will write the digital time on a white board.
* Students will play clock concentration.
* Teacher will introduce measurement by holding up objects and the students will examine the objects and explain the size order.
	+ Students will break into groups and compare objects further and classify them depending on their size.
* Teacher will introduce the ruler. Explain to students that the ruler is used to measure objects. The students will then explore the classroom and select objects around the room that are smaller and larger than the ruler.
* Teacher will select specific body parts that the students will use as a personal unit of measurement. The students will work in pairs to demonstrate how to measure objects around the room using their personal unit of measurement.
* The teacher will select a classroom object and the students will be asked to illustrate objects in the room that are bigger and smaller in size.
* The students will be able to organize, represent, and interpret data up to three categories through the use of a bar graph.
* The teacher will then divide students into heterogeneous groups and encourage the students to explain what they can learn from the graph. The students will present findings following activity.
* Students will choose an object within classroom; then find additional objects one being larger the other being shorter using a two-column chart. Draw or write the objects in the chart.

**Exceeds Standard**:* The students will work in pairs to locate objects around the room and compare the lengths against each other. The pairs will then work with another pair of students and compare the lengths of their objects with the objects the other pair located.
* Teacher will introduce the ruler in comparison to the yardstick. The students will be encouraged to find objects that in the room that are larger than a ruler and measure using the yardstick.
* After the teacher introduces units of personal measurement the students will be encouraged to measure object in the room using their own unit of personal measurement and convert it into a standard measurement using a ruler or a yardstick.
* The teacher will select a classroom object and the students will be asked to illustrate objects in the room that are bigger and smaller by a specific size.
* The students will be able to organize, represent, and interpret data up to four or more categories through the use of a bar graph.
* The teacher will then divide students into heterogeneous groups and encourage the students to explain what they can learn from the graph and create a tally chart utilizing the data.
* Students will create clock flash cards by drawing an analog clock on one side, and writing the digital clock time on the other. Students will include time in five minute intervals.
* Pose word problems where students have to find elapse time to the hour and half hour.
* Introduce second hand and conduct activities that are timed in seconds. (Examples: hopping on 1 foot, blinking eyes, counting to the highest number)
 | * Large Judy Clock
* Individual student Judy clocks
* Wipe off analog/digital clocks
* Clock stampers
* Timers
* Rulers
* Yardsticks
* Measuring tapes
* Sheet protectors
* Cardstock
* Paper plates
* Fasteners
* Index cards

**Typical Assessment Question(s) or Task(s):*** Students will be asked to identify and write time to the hour and half hour on both digital and analog clocks.
* Students will be asked to identify the parts of a clock; students will be asked to draw the hands on an analog clock for a given time to the hour or half-hour.
* Students will be given various objects and will further be asked to compare and contrast the lengths of these objects.
* Students will be asked to provide or create objects contrasting lengths to demonstrate understanding of differences in length.
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: April-Quarter 4 |
| **Topic(s):** Geometry |
| **Significance of Learning Goal(s): To identify two and three dimensional shapes; to understand fractional parts; and create equal shares.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**:1.G.1; 1.G.2;1.G.3**EQ**:* Where do you see shapes in our classroom?
* Are there different shapes outside?
* How are geometric figures alike?
* How can we sort objects of different shapes?
* How can shapes and solids be described, compared, and used to make other shapes? What are equal parts?
* What foods do you divide into equal parts?
* What other items might be divided?
* How do you know if you have an equal share?
 | **Concept(s):** Two and three dimensional shapes; fractional parts; equal shares**SWBAT:*** Combine two-dimensional or three-dimensional shapes or figures to create a new composite shape and identify the shapes within.
* Identify fractional parts of circles and rectangles into equal shares while developing vocabulary for halves, fourths, and quarters.
* Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
 | **Meets Standard**: * Determine which shape by touch without using their sight.
	+ Materials: attribute blocks, shape sheet, feely box [www.illuminations.nctm.org/lessondetail](http://www.illuminations.nctm.org/lessondetail)
* Sorting 3-dimensional objects: students will be given cards with 3-dimensional objects (trash can, soup can, globe, ball, tissue box, box, dice) they will sort them based on the 3-dimensional shape they represent.
	+ 3-dimensional object cards, sorting mats
* Pizza and Cake Fractions: students will utilize a pizza and a cake to work on the concept of fractions while developing the vocabulary: halves, quarters, and fourths.
	+ Materials: teacher created pizza and cake that are cut into fractions (construction paper)
* Students will illustrate a picture of a boat using at least one three dimensional shape in their drawings. Shapes include cubes, cylinders, spheres, cones, and rectangular prisms.
* Solid and Plane Figures: Name the Face activity: Provide three-dimensional objects. Have students draw the face for each object, as well as name the shape. Examples: ABC block, juice can, book, party hat.
* Introduce fractions by having students identify shapes that show equal parts. Display cut out shapes using document camera. Include some shapes that are divided equally and some that are not divided equally. As a whole group, sort shapes into two categories. Then, have students go back to their desks and work with a partner to classify additional shapes.
* Provide students with shapes that are divided into four parts. Include shapes that are divided into four equal parts and others that are unequal. Students identify the shapes that are divided into four equal parts and explain their reasoning.
* Shape Town activity: Students will design a shape town using the following shapes: trapezoid, hexagon, square, triangle, and circle. Afterwards, students will calculate the total number of each shape they included. After completing the activity, students will present their final product to the class and explain how they decided which shapes to use.
* Given an array of dots, students will draw shapes with specific number of sides and corners and connect the dots to create the shapes. Example: Draw a shape with 5 sides. Draw a shape with 6 corners.
* Students will create two-dimensional shapes on geoboards. Then using different colored rubber bands, students will divide the shapes into equal parts. Students will transfer their equally divided shapes onto geoboard paper by drawing lines to show their equal parts.
* Play the Fraction Path Game. Materials: Fraction circles: a circle with ½ shaded, a circle with 1/3 shaded, and a circle with ¼ shaded. Gameboard: Path consisting of assorted shapes divided into halves, thirds, and fourths. Players Needed: 3. Directions: Place the fraction circles facedown. Players close their eyes and pick one fraction circle. Each player follows the path from start to finish. Each player looks at each shape on the path and records how many shapes show their fractions. Players record their results on paper using tally marks. At end of game, students compare total number of shapes that show their fraction.

**Exceeds Standard**: | * Attribute blocks
* Geometric shapes
* 3-dimensional object cards
* Sorting maps
* 3-dimensional shapes
* Solid and lane figures
* Geo-boards and rubber bands
* Fraction circles
* Sheet protectors
* 2-dimensional shapes

**Typical Assessment Question(s) or Task(s):*** Students will be asked to describe and identify shapes within combined two and three-dimensional shapes.
* Students will be given circles and rectangles; students will be asked to divide these shapes into: halves, fourths, and quarters.
* Students will be asked to sort shapes that are divided equally and not divided equally.
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: May-Quarter 4 |
| **Topic(s):** Number and Operations in Base Ten |
| **Significance of Learning Goal(s): To use place value to add and subtract.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**: 1.NBT.4; 1.NBT.5; 1.NBT.6**EQ**:* How do numbers help us?
* How can sets of numbers be counted, compared and ordered?
* How can I use numbers to solve problems?
* How would putting numbers on a chart make it easier to understand information?
* How can I make it easier to understand numbers when I sort them?
* What is place value?
* Why is place value important?
* How can I use place value to compare and order numbers?
* How can I use the number grid to help me with counting numbers?
* How many times do you think you can hop in one minute?
* What does number relationships mean?
* Why do we need to know how to add?
* Why do we need to know how to subtract?
* How are addition and subtraction related?
* What are doubles?
* How can double facts help us to add and subtract?
* Does it matter what order you use to add three numbers? Why or why not?
 | **Concept(s): Use place value and properties of operations to add and subtract.****SWBAT:*** Use mental math to find 10 more or ten less than a given two-digit number and explain reasoning used within any number to 120.
* Use place value to add within 100, add a two-digit number to a one-digit number, and add a two-digit number to a multiple of ten.
* Understand when adding two-digit numbers that ones add to the ones and tens add to the tens, and sometimes it is necessary to compose a ten by regrouping.
* For all above objects, students will use concrete models and strategies based on place value and relate the strategy to a written method and explain the reasoning used.
* Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 using concrete models or drawings and strategies based on place value.
 | **Meets Standard**: * Comparing two digit numbers: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Subtraction split: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Ten more: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Addition split: www.k-5mathteachingresources.com

**Exceeds Standard**:* Comparing 3-Digit numbers: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* What number is: www.k-5mathteachingresources.com
* Students develop addition and subtraction number stories and have partners solve.
* Create pictures using base–10 blocks. Students trace picture onto paper, label the base ten blocks with their value, and add total.
* Solve number grid puzzles by adding and subtraction 10 on the number grid.
* Number Grid Game
* Base-10 Exchange Game
 | * Number cards
* Base 10 blocks
* Counters
* Number grid puzzles
* Sleeve protectors
* [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Dice

**Typical Assessment Question(s) or Task(s):*** Recognize numbers 1-120 using flashcards
* Write numbers 1-20 using block or graph paper
* Build two-digit numbers using tens and ones blocks
* Listen and note students skip counting orally by tens to 120
* Students compare and label two numbers using relation symbols
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| **Keansburg School District****Curriculum Management System****Subject/Grade/Level:****Mathematics/Grade 1** | **Timeline**: June-Quarter 4 |
| **Topic(s):** Readiness skills for September of Grade 2 |
| **Significance of Learning Goal(s): To compare larger numbers, add fluently, and apply measurement skills.** |
| **Suggested Days of Instruction** | **Content Standards / CPI / Essential Questions** | **Specific Learning Objective(s)****The Students Will Be Able To:** | **Suggested Activities** | **Instructional Tools / Materials / Technology / Resources / Assessments and Assessment Models** |
|  | **CPI**:**EQ**:* How can I use place value to compare and order numbers in the 100s?
* How can mastering basic addition and subtraction facts help me compute larger numbers?
* How can I tie in measurement skills with real life experiences?
 | **Concept(s):** Use place value to compare larger numbers; fluently add up to 20; apply measurement skills.**SWBAT:*** Extend place value into the hundreds place and re-write and construct models beyond the hundreds.
* Fluently add and subtract within 20 using mental strategies.
* Apply measurement skills.
 | **Meets Standard**: * Place Value barrier game: <http://www.k-5mathteachingresources.com/math-games.html> (place value only)
* High card
* <http://www.learningbox.com/Base10/BaseTen.html>
* Time barrier game: <http://www.k-5mathteachingresources.com/support-files/timebarriergame.pdf>, http://www.k-5mathteachingresources.com/support-files/timebarriergamegrid.pdf
* My favorite time of day writing activity: <http://www.k-5mathteachingresources.com/support-files/my-favorite-time-of-day.pdf>
* Estimating length: <http://www.k-5mathteachingresources.com/support-files/estimatinglength.pdf>
* Olympic golf: plastic golf clubs, cotton balls, and tape measurer.
* Olympic smiles: measuring smiles with string and rulers.
* Olympic Frisbee: using paper plates and tape measurer.
* Olympic airplane: students will make paper airplanes, measure the distance that they can throw their airplane.
* Doubles plus 1 game: <http://www.k-5mathteachingresources.com/support-files/doubles-plus-one.pdf>
* Eleven more: <http://www.k-5mathteachingresources.com/support-files/elevenmore.pdf>
* Building numbers with base ten blocks: pick three cards and arrange them to show a 3-digit number; build that number with base ten blocks; repeat with the same three cards until no new numbers can be made.
* Length strength inches: <http://www.harcourtschool.com/activity/length_strength1_inches/>
* Length strength centimeters: http://www.harcourtschool.com/activity/length\_strength1\_centi/

**Exceeds Standard**:* Number relationship mat: [www.k-5mathteachingresources.com](http://www.k-5mathteachingresources.com)
* Place value barrier game <http://www.k-5mathteachingresources.com/math-games.html> (integrate other skills into place values for example: the digit in my 10s place is four doubled).
* Measuring the mouse’s path: <http://www.k-5mathteachingresources.com/support-files/paths1.pdf>
* Double minus 1 game: <http://www.k-5mathteachingresources.com/support-files/doubles-minus-one.pdf>
* Number relationship mat: http://www.k-5mathteachingresources.com/support-files/numberrelationshipmat.pdf
 | * number cards
* base ten blocks
* rulers
* tape measurer
* string
* number relationship mat
* paper plates
* cotton balls
* judy clock
* digital clock

**Typical Assessment Question(s) or Task(s):*** Students will solve addition and subtraction problems within 20 in a given time frame.
* Students will be asked to measure items using inches and centimeters.
* Identify and create numbers with place values extending into the hundreds place.
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**ignment Matrices of Common Core State Standards**

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| **Grade** | **Strand** | **Standard #** | **Standard** | **September – October** | **November – December** | **January – February** | **March – April** | **May - June** |
| 1 | OA | 1 | CC.1.OA.1 Represent and solve problems involving addition and subtraction. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.  |  |  |  |  |  |
| 1 | OA | 2 | CC.1.OA.2 Represent and solve problems involving addition and subtraction. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. |  |  |  |  |  |
| 1 | OA | 3 | CC.1.OA.3 Understand and apply properties of operations and the relationship between addition and subtraction. Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.) (Students need not use formal terms for these properties.) |  |  |  |  |  |
| 1 | OA | 4 | CC.1.OA.4 Understand and apply properties of operations and the relationship between addition and subtraction. Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.  |  |  |  |  |  |
| 1 | OA | 5 | CC.1.OA.5 Add and subtract within 20. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). |  |  |  |  |  |
| 1 | OA | 6 | CC.1.OA.6 Add and subtract within 20. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). |  |  |  |  |  |
| 1 | OA | 7 | CC.1.OA.7 Work with addition and subtraction equations. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2. |  |  |  |  |  |
| 1 | OA | 8 | CC.1.OA.8 Work with addition and subtraction equations. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ＿ – 3, 6 + 6 = ＿.  |  |  |  |  |  |
| 1 | NBT | 1 | CC.1.NBT.1 Extend the counting sequence. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. |  |  |  |  |  |
| 1 | NBT | 2 | CC.1.NBT.2 Understand place value. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: -- a. 10 can be thought of as a bundle of ten ones — called a “ten.” -- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.  -- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). |  |  |  |  |  |
| 1 | NBT | 3 | CC.1.NBT.3 Understand place value. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.  |  |  |  |  |  |
| 1 | NBT | 4 | CC.1.NBT.4 Use place value understanding and properties of operations to add and subtract. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.  |  |  |  |  |  |
| 1 | NBT | 5 | CC.1.NBT.5 Use place value understanding and properties of operations to add and subtract. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. |  |  |  |  |  |
| 1 | NBT | 6 | CC.1.NBT.6 Use place value understanding and properties of operations to add and subtract. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.  |  |  |  |  |  |
| 1 | MD | 1 | CC.1.MD.1 Measure lengths indirectly and by iterating length units. Order three objects by length; compare the lengths of two objects indirectly by using a third object.  |  |  |  |  |  |
| 1 | MD | 2 | CC.1.MD.2 Measure lengths indirectly and by iterating length units. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. |  |  |  |  |  |
| 1 | MD | 3 | CC.1.MD.3 Tell and write time. Tell and write time in hours and half-hours using analog and digital clocks. |  |  |  |  |  |
| 1 | MD | 4 | CC.1.MD.4 Represent and interpret data. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. |  |  |  |  |  |
| 1 | G | 1 | CC.1.G.1 Reason with shapes and their attributes. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); for a wide variety of shapes; build and draw shapes to possess defining attributes. |  |  |  |  |  |
| 1 | G | 2 | CC.1.G.2 Reason with shapes and their attributes. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as “right rectangular prism.”) |  |  |  |  |  |
| 1 | G | 3 | CC.1.G.3 Reason with shapes and their attributes. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.  |  |  |  |  |  |

**Common Core State Standards Vocabulary**

**Addition and subtraction within 5, 10, 20, 100, or 1000**. Addition or subtraction of two whole numbers with whole number answers, and with sum or minuend in the range 0-5, 0-10, 0-20, or 0-100, respectively. Example: 8 + 2 = 10 is an addition within 10, 14 – 5 = 9 is a subtraction within 20, and 55 – 18 = 37 is a subtraction within 100.

**Additive inverses**. Two numbers whose sum is 0 are additive inverses of one another. Example: 3/4 and – 3/4 are additive inverses of one another because 3/4 + (– 3/4) = (– 3/4) + 3/4 = 0.

**Associative property of addition**. See Table 3 in this Glossary.

**Associative property of multiplication.** See Table 3 in this Glossary.

**Bivariate data.** Pairs of linked numerical observations. Example: a list of heights and weights for each player on a football team.

**Box plot**. A method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. A box shows the middle 50% of the data.1

**Commutative property**. See Table 3 in this Glossary.

**Complex fraction**. A fraction *A*/*B* where *A* and/or *B* are fractions (*B* nonzero).

**Computation algorithm**. A set of predefined steps applicable to a class of problems that gives the correct result in every case when the steps are carried out correctly. *See also:* computation strategy.

**Computation strategy**. Purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another. *See also:* computation algorithm.

**Congruent**. Two plane or solid figures are congruent if one can be obtained from the other by rigid motion (a sequence of rotations, reflections, and translations).

**Counting on**. A strategy for finding the number of objects in a group without having to count every member of the group. For example, if a stack of books is known to have 8 books and 3 more books are added to the top, it is not necessary to count the stack all over again. One can find the total by *counting on*—pointing to the top book and saying “eight,” following this with “nine, ten, eleven. There are eleven books now.”

**Dot plot.** *See:* line plot*.*

**Dilation**. A transformation that moves each point along the ray through the point emanating from a fixed center, and multiplies distances from the center by a common scale factor.

**Expanded form**. A multi-digit number is expressed in expanded form when it is written as a sum of single-digit multiples of powers of ten. For example, 643 = 600 + 40 + 3.

**Expected value.** For a random variable, the weighted average of its possible values, with weights given by their respective probabilities.

**First quartile**. For a data set with median *M*, the first quartile is the median of the data values less than *M*. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the first quartile is 6.2 *See also:* median, third quartile, interquartile range.

**Fraction**. A number expressible in the form *a*/*b* where *a* is a whole number and *b* is a positive whole number. (The word *fraction* in these standards always refers to a non-negative number.) *See also:* rational number.

**Identity property of 0**. See Table 3 in this Glossary.

**Independently combined probability models**. Two probability models are said to be combined independently if the probability of each ordered pair in the combined model equals the product of the original probabilities of the two individual outcomes in the ordered pair.

**Integer**. A number expressible in the form *a* or –*a* for some whole number *a*.

**Interquartile Range**. A measure of variation in a set of numerical data, the interquartile range is the distance between the first and third quartiles of the data set. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the interquartile range is 15 – 6 = 9. *See also:* first quartile, third quartile.

**Line plot**. A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. Also known as a dot plot.3

**Mean**. A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.4 Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean is 21.

**Mean absolute deviation**. A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean absolute deviation is 20.

**Median**. A measure of center in a set of numerical data. The median of a list of values is the value appearing at the center of a sorted version of the list—or the mean of the two central values, if the list contains an even number of values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 90}, the median is 11.

**Midline.** In the graph of a trigonometric function, the horizontal line halfway between its maximum and minimum values.

**Multiplication and division within 100**. Multiplication or division of two whole numbers with whole number answers, and with product or dividend in the range 0-100. Example: 72 ÷ 8 = 9.

**Multiplicative inverses**. Two numbers whose product is 1 are multiplicative inverses of one another. Example: 3/4 and 4/3 are multiplicative inverses of one another because 3/4 × 4/3 = 4/3 × 3/4 = 1.

**Number line diagram.** A diagram of the number line used to represent numbers and support reasoning about them. In a number line diagram for measurement quantities, the interval from 0 to 1 on the diagram represents the unit of measure for the quantity.

**Percent rate of change.** A rate of change expressed as a percent. Example: if a population grows from 50 to 55 in a year, it grows by 5/50 = 10% per year.

**Probability distribution.** The set of possible values of a random variable with a probability assigned to each.

**Properties of operations**. See Table 3 in this Glossary.

**Properties of equality**. See Table 4 in this Glossary.

**Properties of inequality**. See Table 5 in this Glossary.

**Properties of operations**. See Table 3 in this Glossary.

**Probability**. A number between 0 and 1 used to quantify likelihood for processes that have uncertain outcomes (such as tossing a coin, selecting a person at random from a group of people, tossing a ball at a target, or testing for a medical condition).

**Probability model.** A probability model is used to assign probabilities to outcomes of a chance process by examining the nature of the process. The set of all outcomes is called the sample space, and their probabilities sum to 1. *See also:* uniform probability model.

**Random variable.** An assignment of a numerical value to each outcome in a sample space.

**Rational expression.** A quotient of two polynomials with a non-zero denominator.

**Rational number**. A number expressible in the form *a*/*b* or – *a*/*b* for some fraction *a*/*b*. The rational numbers include the integers.

**Rectilinear figure.** A polygon all angles of which are right angles.

**Rigid motion**. A transformation of points in space consisting of a sequence of one or more translations, reflections, and/or rotations. Rigid motions are here assumed to preserve distances and angle measures.

**Repeating decimal**. The decimal form of a rational number. *See also:* terminating decimal.

**Sample space**. In a probability model for a random process, a list of the individual outcomes that are to be considered.

**Scatter plot**. A graph in the coordinate plane representing a set of bivariate data. For example, the heights and weights of a group of people could be displayed on a scatter plot.5

**Similarity transformation**. A rigid motion followed by a dilation.

**Tape diagram**. A drawing that looks like a segment of tape, used to illustrate number relationships. Also known as a strip diagram, bar model, fraction strip, or length model.

**Terminating decimal.** A decimal is called terminating if its repeating digit is 0.

**Third quartile**. For a data set with median *M*, the third quartile is the median of the data values greater than *M*. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the third quartile is 15. *See also:* median, first quartile, interquartile range.

**Transitivity principle for indirect measurement.** If the length of object A is greater than the length of object B, and the length of object B is greater than the length of object C, then the length of object A is greater than the length of object C. This principle applies to measurement of other quantities as well.

**Uniform probability model**. A probability model which assigns equal probability to all outcomes. *See also:* probability model*.*

**Vector.** A quantity with magnitude and direction in the plane or in space, defined by an ordered pair or triple of real numbers.

**Visual fraction model.** A tape diagram, number line diagram, or area model.

**Whole numbers**. The numbers 0, 1, 2, 3, ….5