First Grade Mathematics Teaching & Learning Framework 2021-22

Quarter 1			Quarter 2	Quarter 3	Quarter 4	
Unit 1 1-2 weeks	**Unit 2** 4-5 weeks	**Unit 3** 3 weeks	**Unit 4** 9 weeks	**Unit 5** 9 weeks	**Unit 6** 5 weeks	**Unit 7** 4 weeks
Creating Routines Using Data	**Developing Base Ten Number Sense**	**Sorting, Comparing and Ordering**	**Operations and Algebraic Thinking Addition and Subtraction**	**Understanding Place Value Addition and Subtraction**	**Understanding Shapes and Fractions**	**Review, Mastery and Extend**
Topic 1: Create routines using data **MGSE1.MD.4** (Category data) ***MGSE1.NBT.1** (Count to 120)	**Topic 1: Developing base-ten number sense** ***MGSE1.NBT.2** (Two-digits represent tens and ones) **MGSE1.NBT.7** (Dimes) ***MGSE1.NBT.1** (Count to 120) **Topic 2: Addition and subtraction** ***MGSE1.OA.6** *(Fluently add and subtract within 10)* ***MGSE1.OA.1** (Word problems within 10)	**Topic 1: Measurement attributes** ***MGSE1.MD.2** (Determining length) ***MGSE1.MD.1** (Ordering objects) **Topic 2: Time and data** **MGSE1.MD.3** (Time) **MGSE1.MD.4** (Category data)	**Topic 1: Problems with addition and subtraction** ***MGSE1.OA.1** (Word problems within 20) **MGSE1.OA.2** (Word problems of three whole numbers) **Topic 2/3: Add and subtract within 20** ***MGSE1.OA.6** (Add and subtract within 20; *fluent within 10*) ***MGSE1.OA.3** (Apply properties) **MGSE1.OA.4** (Subtraction as unknown-addend) **MGSE1.OA.5** (Counting on for addition and subtraction) **MGSE1.OA.8** (Determine unknown) **Topic 4: Addition and subtraction equations** ***MGSE1.OA.7** (Meaning of equal sign) **MGSE1.OA.8** (Determine unknown) *Addtional standards on report card: NBT.1-2, MD.4*	**Topic 1: Problem solving with addition and subtraction** ***MGSE1.OA.1** (Word problems within 20) **MGSE1.OA.2** (Word problems of three whole numbers) **Topic 2: Addition and subtraction** ***MGSE1.OA.6** (Add and subtract within 20; *fluent within 10*) **MGSE1.OA.7** (Meaning of equal sign) **MGSE1.OA.4** (Subtraction as unknown-addend) **Topic 3: Place value** ***MGSE1.NBT.3** (Compare numbers) **MGSE1.NBT.2** (Two-digits represent tens and ones) **MGSE1.NBT.7** (Dimes) **Topic 4: Apply place value concepts to addition and subtraction** ***MGSE1.NBT.4** (Add within 100 w/wo regrouping) ***MGSE1.NBT.5** (Mentally find 10 more/less) ***MGSE1.NBT.6** (Subtract multiples of 10) *Additional standard on report card: OA.8*	**Topic 1: Understanding shapes and fractions** ***MGSE1.G.3** (Partitioning) ***MGSE1.G.2** (Compose shapes) ***MGSE1.G.1** (Defining attributes) **Topic 2: Data** ***MGSE1.MD.4** (Category data) *Additional standards on report card: OA.1-2, 6-8; NBT.3-5*	**Review all standards based on student needs.** **Mastery:** **MGSE1.OA.1** (Word problems within 20) **MGSE1.OA.6** *(Fluently add and subtract within 10)* **MGSE1.NBT.2** (Place value) **MGSE1.NBT.4** (Add within 100) **Extend:** **MGSE2.NBT.3** (Read and write numbers to 1,000) **MGSE2.OA.1** (Word problems) **MGSE.2.NBT.1** (Place value – 100s)

These units were written to build upon concepts from prior units, so later units contain tasks that depend upon the concepts addressed in earlier units. All units will include the Mathematical Practices and indicate skills to maintain.

NOTE: *Mathematical standards are interwoven and should be addressed throughout the year in as many different units and tasks as possible in order to stress the natural connections that exist among mathematical topics.*

Grades K-2 Key: MGSE = Mathematics Georgia Standards of Excellence, CC = Counting and Cardinality, G= Geometry, MD=Measurement and Data, NBT= Number and Operations in Base Ten, OA = Operations and Algebraic Thinking

*Assessed on report card for that quarter

The 100-chart is a useful tool for a first grade student who is working with addition.

1	2	3	4	5	6	7
11	12	13	14	15	16	17
21	22	23	24	25	26	27
31	32	33	34	35	36	37
41	42	43	44	45	46	47
51	52	53	54	55	56	57

14 + 30 = 44

This section of the 100-chart shows how a student has started at a two-digit number (14) and added a multiple of ten (30) to find a total of 44.

Once students understand the concrete models, they move to the written form. A student could solve a problem using the *partial sums* strategy.

54 + 9

50 + 4 + 9

50 + 13 = 63   **OR**

$$54$$
$$+\ 9$$
$$13$$
$$+\ 50$$
$$63$$

---

25 + 9 = 34

Tens (10)   Ones (1)

+
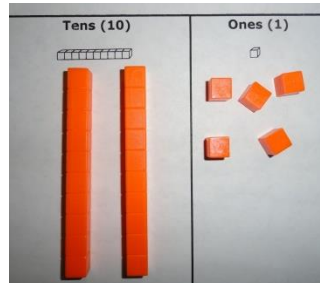
2 tens and 5 ones + 9 more ones

Once again, the *open number line* can be used when doing subtraction.   **52 – 20 = 32**
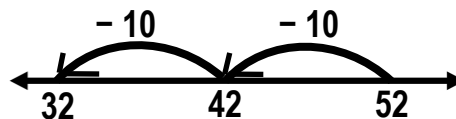
− 10   − 10

32   42   52

The above example shows how a student may do the subtraction problem 52 – 20. The example below shows the same problem using the *adding up* strategy.

+ 10   + 10   + 10   + 1 + 1

20   30   40   50 51 52
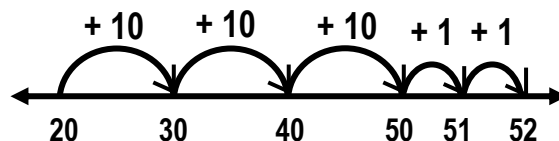
The student has started at 20 and counted up to 52, which results in a solution of 32. All first graders have to continually explain their thinking.

As with addition, the 100-chart is a valuable model when doing a subtraction problem.

41	42	43	44	45
51	52	53	54	55
61	62	63	64	65
71	72	73	74	75
81	82	83	84	85
91	92	93	94	95

93 – 40 = 53

This student has started at 93 and subtracted 40 to get 53.

First grade students will add and subtract within 20, demonstrating fluency for addition and subtraction within 10.

Parent Math Strategy Guide

Grade 1

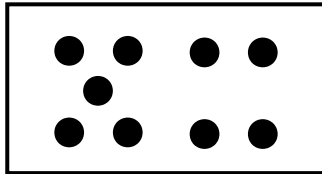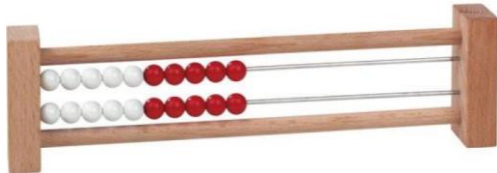**Strategies for Addition and Subtraction**

Cobb County Schools

Math

First grade students need to be able to count all, count on or rearrange the dots in order to add. In this example, a child may start with five dots and count on four dots to make nine dots. It is also possible to see four groups of two dots to make eight dots and one extra dot to see nine dots.
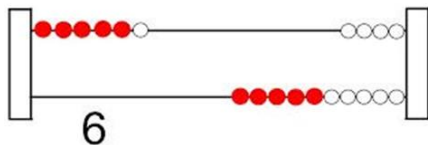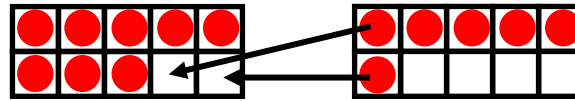
Rekenreks
(Beads used for counting)

First grade students have to be able to mentally rearrange beads to model strategies for addition and subtraction. The use of rekenreks fosters instant recognition of sets (subitization), fluency and computation with addition and subtraction. In this example, the student may see 6 as 5 red beads and 1 white bead.
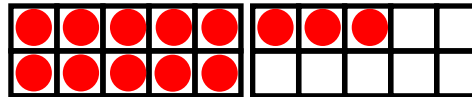
Making a Ten

$$8 + 6$$
$$8 + 2 + 4$$
$$10 + 4 = 14$$

The goal is for students to *make a ten*. In this example, the child moved two dots from the second ten-frame to completely fill one ten-frame. Four dots were left over. After much practice with the ten-frames, the written model should be included.

Decompose to a Ten

$$13 - 5 =$$
$$(13 - 3) - 2$$
$$10 - 2 = 8$$

In this example, students will decompose the 5 into 3 and 2. When the 3 is subtracted, the students can easily see the 10 that is left. Next, the 2 can be subtracted from the 10 to make 8.

First graders also add using the *doubles* strategy. This example shows two ways in which students can do the problem 6 + 8.
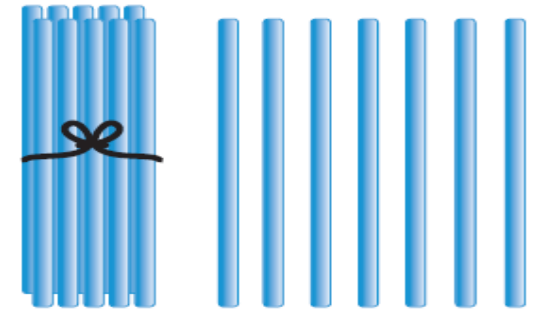
$$6 + 8$$

$6 + 6 + 2$	$6 + 2 + 8$
$6 + 6 = 12$	$8 + 8 = 16$
$12 + 2 = 14$	$16 - 2 = 14$

OR

10   **7**
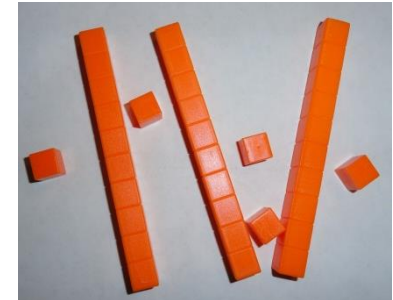
Students start by building representations of a collection of 10 things to make a bundle of ten ones called a *ten.* This picture shows one ten and some more ones (7).
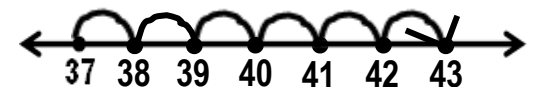
Working with Base 10 Blocks

Students build numbers using base tens. Here, a student has built the number 35 using 3 tens and 5 ones.

A first grader learns to use an *open number line* for addition and subtraction problems.

$$37 + 6 = 43$$

37 38 39 40 41 42 43

Grade 1 Unit 1
Creating Routines Using Data

References

Helpful Links:

http://www.oswego.org/ocsd-web/games/DogBone/gamebone.html

http://www.oswego.org/ocsd-web/games/Estimate/estimate.html

http://www.amblesideprimary.com/ambleweb/mentalmaths/countersquare.html

http://www.learningbox.com/Base10/BaseTen.html

Math Grade 1 Textbook Connection:
Ch. 5, lesson 13 – 14
Ch. 7 lesson 2

Textbook Online:
http://connected.mcgraw-hill.com/connected/login.do

Ask your teacher for the online passcode.

Dear Parents,

Welcome to the new school year! We are eager to work with you and your students as we learn new mathematical concepts. Your student's math class is calling for students to be actively engaged in doing math in order to learn math. In the classroom, students will frequently work on tasks and activities to discover and apply mathematical thinking. Students will be expected to explain or justify their answers and to write clearly and properly. Your students will receive a consumable My Math textbook and online access from their teacher.

Concepts Students will Use and Understand

- Establish daily math routines to be carried out throughout the year, such as lunch count, daily questions, calendar activities, working with a 0-99 chart, etc.
- Rote count forward to 120 by Counting On from any number less than 120.
- Represent the number of a quantity using numerals.
- Locate 0-120 on a number line.
- Use the strategies of counting on and counting back to understand number relationships.
- Explore with the 99 chart to see patterns between numbers, such as all of the numbers in a column on the hundreds chart have the same digit in the ones place, and all of the numbers in a row have the same digit in the tens place.
- Read, write and represent a number of objects with a written numeral (number form or standard form).
- Build an understanding of how the numbers in the counting sequence are related— each number is one more or one less than the number before or after.
- Work with categorical data by organizing, representing and interpreting data using charts and tables.
- Pose questions with 3 possible responses and work with the data that they collect.

Vocabulary
Place Value: The value of the place of the digit in a number
Compose: To create a number using tens and ones
http://intermath.coe.uga.edu/dictnary/homepg.asp or
http://www.amathsdictionaryforkids.com/ for further examples.

Symbols

lll tally

↔ number line

Example 1
Give students a blank hundreds chart and have them fill the chart starting at 25 and ending at 98.

Example 2
Draw a number line with endpoints of 0 and 120. Place a dot on the number line. What number on the number line does the dot represent?

Example 3
Ask students to start counting at a given number such as 15 and count to 43. Ask students to count back from a given number to 0.

Example 4
Ask students to represent 82 using tens and ones.

Example 5
Ask students do 4 tens and 8 ones have the same value as 3 tens and 18 ones? Explain your thinking

Activities At Home:

- Count objects such as jellybeans in a bowl, pennies in a jar, cheerios in a baggie, etc.
- Find numbers in newspapers, magazines, or on items around the house.
- Practice counting with your student while doing various activities-driving in the car, jumping rope, waiting in line at a store, etc.

Grade 1 Unit 2
Developing Base-Ten Number Sense

References

Helpful Links:

http://www.gregtang.com

http://www.learningbox.com/Base10/BaseTen.html

https://www.youtube.com/watch?v=EzzQ8x-9HTo

Dear Parents,

Your student's math class is calling for students to be actively engaged in doing math in order to learn math. In the classroom, students will frequently work on tasks and activities to discover and apply mathematical thinking. Students will be expected to explain or justify their answers and to write clearly and properly.

Concepts Students will Use and Understand

- Rote count forward to 120 by counting on from any number less than 120.
- Represent a quantity using numerals.
- Locate 0-100 on a number line.
- Use the strategies of counting on and counting back to understand number relationships.
- Explore with the 99 chart to see patterns between numbers, such as, all of the numbers in a column on the hundreds chart have the same digit in the ones place, and all of the numbers in a row have the same digit in the tens place.
- Read, write and represent a number of objects with a written numeral (number form or standard form).
- Build an understanding of how the numbers in the counting sequence are related— each number is one more, ten more (or one less, ten less) than the number before (or after).
- Work with categorical data by organizing, representing and interpreting data using charts and tables.
- Pose questions with 3 possible responses and then work with the data that they collect.
- Begin working with dimes and understand a dime is worth ten cents.
- Explore counting by tens with dimes.
- Add and subtract within 10.

Vocabulary

- **Place Value:** The value of the place of the digit in a number
- **Compose:** To create a number using tens and ones
Try http://www.amathsdictionaryforkids.com/ for further examples.

Symbols

+ add

↔ number line

Example 1
Give students a blank hundreds chart and have them fill the chart starting at 25 and ending at 98.

Example 2
Draw a number line with endpoints of 0 and 120. Place a dot on the number line. What number on the number line does the dot represent?

Example 3
Ask students to start counting at a given number such as 15 and count to 43. Ask students to count back from a given number to 0.

Example 4
Ask students to represent 82 using tens and ones.

Example 5
Ask students: "Do 4 tens and 8 ones have the same value as 3 tens and 18 ones? Explain your thinking."

Example 6
A zoo has 4 spider monkeys and 3 swamp monkeys. How many spider and swamp monkeys does the zoo have in all?

Activities At Home:

- Count objects such as jellybeans in a bowl, pennies in a jar, cheerios in a baggie, etc.
- Find numbers in newspapers, magazines, or on items around the house.
- Practice counting with your student while doing various activities-driving in the car, jumping rope, waiting in line at a store, etc.

MATH + FUN

Grade 1 Unit 3
Order of Operations and Whole Numbers

References

Math Grade 1 Textbook Connection:
Ch. 8, lesson 1-9

Textbook Online:
http://connected.mcgraw-hill.com/connected/login.do

Ask your teacher for the online passcode.

Dear Parents,

Your student's math class is calling for students to be actively engaged in doing math in order to learn math. In the classroom, students will frequently work on tasks and activities to discover and apply mathematical thinking. Students will be expected to explain or justify their answers and to write clearly and properly. Your students will receive a consumable textbook and online access from their teacher.

Concepts Students will Use and Understand

- Develop an understanding of linear measurement.
- Measure lengths as iterating length units.
- Tell and write time to the hour and half hour.
- Represent and interpret data.

Vocabulary

Length: The distance between two points or objects
Clock: Shows time to the minute
Hour: A period of time lasting 60 minutes
Half-Hour: A period of time lasting 30 minutes
Non-Standard Units of measurement: Any real item that can be used to measure. Examples include paper clips, cookies, pennies or yarn
Try http://intermath.coe.uga.edu/dictnary/homepg.asp or http://www.amathsdictionaryforkids.com/ for further examples.

Activities At Home:

- Measure the length of various items around the house using different objects (crayons, pennies, etc.)
- Keep track of your child's growth each month by measuring his/her height using standard and non-standard units of measurement.
- Use an analog clock to show the time to the hour and half-hour.
- Show your child the time on an analog clock and have them write what the time would look like on a digital clock.
- Talk with your child about specific times that activities occur- eating breakfast, going to school, dinner time, bed time, etc.
- Talk about graphs in newspapers and magazines.
- Take a family survey and make a graph based on the data.
- Use toothpicks or popsicle sticks to show tally marks

Example 1

Which is longer: the height of the bookshelf or the height of a desk?

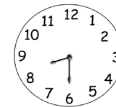| **Student 1:**	**Student 2:**
I used inch cubes to measure the height of the bookshelf and it was 36 cubes long. I used the same pencil to measure the height of the desk and the desk was 24 inch cubes long. Therefore, the bookshelf is taller than the desk.	I used a 1 foot piece of string to measure the bookshelf and it was 3 strings long. I used the same string to measure the height of the desk and it was 2 strings long. Therefore, the bookshelf is taller than the desk.

Example 2

How long is the paper in terms of 1 inch paper clips?

Example 3

In the clock below, the time is 8:30. The hour hand is between the 8 and 9, but the hour is 8 since it is not yet on the 9.

Example 4

Which is your favorite flavor of ice cream? Chocolate, vanilla, or strawberry? Students collect their data by using tallies or another way of keeping track. Students organize their data by totaling each category in a chart or table. Picture and bar graphs are introduced in 2nd Grade.

What is your favorite flavor of ice cream?	
Chocolate	12
Vanilla	5
Strawberry	6

Students interpret the data by comparing categories.
Examples of comparisons:

- What does the data tell us? Does it answer our question?
- More people like chocolate than the other two flavors.
- Only 5 people liked vanilla.
- Six people liked Strawberry.
- 7 more people liked Chocolate than Vanilla.
- The number of people that liked Vanilla was 1 less than the number of people who liked Strawberry.
- The number of people who liked either Vanilla or Strawberry was 1 less than the number of people who liked chocolate.

Grade 1 Unit 4
Operations and Algebraic Thinking

References

Helpful Links:

https://smart.wikispaces.hcpss.org/Grade+1

http://www.thinkingblocks.com/tb_addition/addition.html

https://smart.wikispaces.hcpss.org/Grade+1+Operations+and+Algebraic+Thinking

Math Grade 1 Textbook Connection:
Ch. 1, lesson 1-12
Ch. 2, lesson 1-14
Ch. 3, lesson 1-9
Ch. 4 , lesson 1-8

Textbook Online:
http://connected.mcgraw-hill.com/connected/login.do

Ask your teacher for the online passcode.

Dear Parents,

Your student's math class is calling for students to be actively engaged in doing math in order to learn math. In the classroom, students will frequently work on tasks and activities to discover and apply mathematical thinking. Students will be expected to explain or justify their answers and to write clearly and properly. Your students will receive a consumable textbook and online access from their teacher.

Concepts Students will Use and Understand

- Explore, understand and apply the commutative and associative properties as strategies for solving addition problems.
- Share, discuss and compare strategies as a class.
- Connect counting on to solving subtraction problems. For the problem "15-7 = ?" they think about the number they have to count on from 7 to get to 15.
- Work with sums and differences than or equal to 20 using the numbers 0 to 20.
- Identify and then apply a pattern or structure in mathematics. For example, pose a string of addition and subtraction problems involving the same three numbers chosen from the numbers 0 to 20, such as 4 + 13 = 17 and 13 + 4 = 17.
- Analyze number patterns and create conjectures or guesses.
- Choose other combinations of three numbers and explore to see if the patterns work for all numbers 0 to 20.
- Understand that addition and subtraction are related and that subtraction can be used to solve problems where the addend is unknown.
- Use the strategies of counting and counting back to understand number relationships.
- Organize and record results using tallies and tables.
- Determine the initial and change unknown in problem solving situations.

Vocabulary

Addition: Combining groups to find the total.
Subtraction: Taking away from a group.
Difference: Answer to a subtraction problem.
Equation: Number sentence that uses the equal sign.
Sum: Total when numbers are added.
Symbol: A character other than a number used to mark the unknown in an equation.

Symbols

+ Addition

- Subtraction

= Equal

♥ ☺ = Symbol

Example 1

The 100-chart is a useful tool for a first grade student who is working with addition.

1	2	3	4	5	6	7
11	12	13	14	15	16	17
21	22	23	24	25	26	27
31	32	33	34	35	36	37
41	42	43	44	45	46	47
51	52	53	54	55	56	57

14 + 30 = 44

This section of the 100-chart shows how a student has started at a two-digit number (14) and added a multiple of ten (30) to find a total of 44.

Example 2

Once again, the *open number line* can be used when doing subtraction.   **52 – 20 = 32**
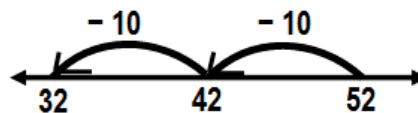
The above example shows how a student may do the subtraction problem 52 – 20. The example below shows the same problem using the *adding up* strategy.
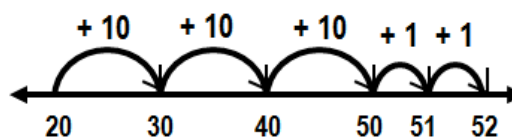
The student has started at 20 and counted up to 52, which results in a solution of 32. All first graders have to continually explain their thinking.

Example 3

Tens (10) | Ones (1)

$25 + 9 = 34$

2 tens and 5 ones + 9 more ones

Example 4

Addition: Making Tens

Making tens is an important strategy for fluency. Students work with ten-frames (below). They combine dots to fill a ten-frame. Below, we moved 2 dots from 5 to make a ten. The result is 10 + 3.

8 + 5

2 3

10 + 3

We can apply the combinations of tens to add other numbers. In 58 + 5, we might break apart 5 into 2 + 3 and then add the 2 to 58 making the next ten which is 60.

58 + 5

2 3

60 + 3

Activities At Home:
- Roll single digit numbers and add them together.
- Roll 2-digit or 3-digit numbers and add them together.
- Add all the digits of your house number together.
- Make a train with Legos or colored blocks. Write a number sentence for the different colors in the train.
- Add the price of two items at a store.
- Compare gas prices to find the lowest amount.
- Start with 20 counters (beans, pennies, etc.) and roll two dice to make a 2-digit number. Subtract counters until you get to 0.
- Give your student an addition or subtraction number sentence and ask them to make up a story problem to go with the number sentence.

References

Helpful Links:

https://smart.wikispaces.hcpss.org/Grade+1

http://www.thinkingblocks.com/tb_addition/addition.html

https://smart.wikispaces.hcpss.org/Grade+1+Operations+and+Algebraic+Thinking

https://smart.wikispaces.hcpss.org/Grade+1+Number+and+Operations+Base+Ten

Math Grade 1 Textbook Connection:
Ch. 5, lesson 1, 2, 4-8, 10, 11
Ch. 6, lesson 1-8

Textbook Online:
http://connected.mcgraw-hill.com/connected/login.do

Ask your teacher for the online passcode.

Dear Parents,

Your student's math class is calling for students to be actively engaged in doing math in order to learn math. In the classroom, students will frequently work on tasks and activities to discover and apply mathematical thinking. Students will be expected to explain or justify their answers and to write clearly and properly. Your students will receive a consumable textbook and online access from their teacher.

Concepts Students will Use and Understand

- understand the order of the counting numbers and their relative magnitudes
- use a number line and 99 chart to build understanding of numbers and their relation to other numbers
- unitize a group of ten ones as a whole unit: a ten
- compose and decompose numbers from 11 to 19 into ten ones and some further ones
- think of whole numbers between 10 and 100 in terms of tens and ones
- explore the idea that decade numbers (e.g., 10, 20, 30, 40) are groups of tens with no left over ones
- compare two numbers by examining the amount of tens and ones in each number using words, models and symbols greater than (>), less than (<) and equal to (=)
- create concrete models, drawings and place value strategies to add and subtract within 100 (*Students should not be exposed to the standard algorithm of carrying or borrowing in first grade*)
- use place value understanding and properties of operations to add and subtract
- mentally add ten more and ten less than any number less than 100
- use concrete models, drawings and place value strategies to subtract multiples of 10 from decade numbers (e.g., 30, 40, 50)
- work with categorical data by organizing, representing and interpreting data using charts and tables
- pose questions with 3 possible responses and then work with the data collected

Vocabulary

Place Value: the value of the place of the digit in a number
Dimes: value of money that is worth 10 pennies or 10¢
Greater Than: (>) a symbol used to compare two numbers, with the greater number listed first. 8 > 6
Less Than: (<) a symbol used to compare two numbers, with the lesser number given first. 6 < 9
Equal To: (=) having the same value 3 + 2 = 4 + 1
Addition: Combining groups to find the total.

Subtraction: Taking away from a group.

Difference: Answer to a subtraction problem.

Equation: Number sentence that uses the equal sign.

Sum: Total when numbers are added.

Symbol: A character other than a number used to mark the unknown in an equation.

Try http://intermath.coe.uga.edu/dictnary/homepg.asp or

http://www.amathsdictionaryforkids.com/ for further examples.

Symbols

+ Addition

- Subtraction
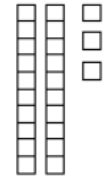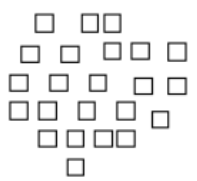
= Equal

< Less than

> Greater than

♥ ☺ = Symbol

Example 1

Tens	Ones
2	3

23

Twenty-three

Group of ones	Group of 2 tens and 3 ones	Place value table	Write the number	Read and say the number

Example 2: Compare the following using > , <, or =
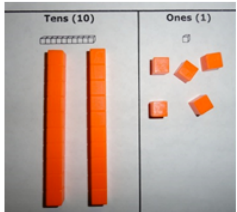
Students will compare numbers
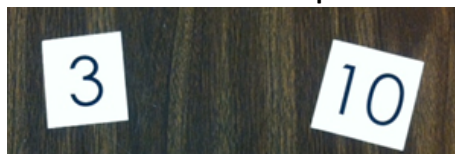
3 < 10

Example 3: model the addition of 25 + 9

25 + 9 = 34

Tens (10)   Ones (1)

+

2 tens and 5 ones + 9 more ones

Example 4

Addition: Making Tens

Making tens is an important strategy for fluency. Students work with ten-frames (below). They combine dots to fill a ten-frame. Below, we moved 2 dots from 5 to make a ten. The result is 10 + 3.

$$8 + 5$$
$$2 \quad 3$$
$$10 + 3$$

We can apply the combinations of tens to add other numbers. In 58 + 5, we might break apart 5 into 2 + 3 and then add the 2 to 58 making the next ten which is 60.

$$58 + 5$$
$$2 \quad 3$$
$$60 + 3$$

Activities At Home:

- Ask your child to compare who has greater/less or equal amount of items (compare candy, books, toys etc.)
- Roll dice and compare the two numbers using >, < or =.
- Roll single digit numbers and add them together.
- Roll 2-digit or 3-digit numbers and add them together.
- Add all the digits of your house number together.
- Make a train with Legos or colored blocks. Write a number sentence for the different colors in the train.
- Add the price of two items at a store.
- Compare gas prices to find the lowest amount.
- Start with 20 counters (beans, pennies, etc.) and roll two dice to make a 2-digit number. Subtract counters until you get to 0.
- Give your child an addition or subtraction number sentence and ask them to make up a story problem to go with the number sentence.
- Give your child a bag of the following and ask them to complete the chart:

Bag of	Number Word	Tens and Ones	Draw in base tens	Expanded Form	How many ones altogether?
Toothpicks		Tens ☐ Ones ☐			
Beans		Tens ☐ Ones ☐			
Cubes		Tens ☐ Ones ☐			

Grade 1 Unit 6
Understanding Shapes and Fractions

MATH + FUN

References

Helpful Links:

https://www.abcya.com/games/shapes_geometry_game

http://www.harcourtschool.com/activity/solid_figure_factory/

http://www.shodor.org/interactivate/activities/ShapeSorter/

Dear Parents,

Your student's math class is calling for students to be actively engaged in doing math in order to learn math. In the classroom, students will frequently work on tasks and activities to discover and apply mathematical thinking. Students will be expected to explain or justify their answers and to write clearly and properly.

Concepts Students will Use and Understand

- study and compose two- and three-dimensional figures
- identify basic figures within two- and three-dimensional figures
- compare, contrast, and/or classify geometric shapes using position, shape, size, number of sides, and number of angles
- solve simple problems, including those involving spatial relationships
- investigate and predict the results of putting together and taking apart two- and three-dimensional shapes
- create mental images of geometric shapes using spatial memory and spatial visualization
- relate, identify, partition, and label fractions (halves, fourths) as equal parts of whole objects
- apply terms such as half of, quarter of, to describe equal shares
- work with categorical data by organizing, representing and interpreting data using charts and tables
- pose questions with 3 possible responses and then work with the data collected

Vocabulary

- **Face:** the flat surface of a solid figure
- **Attributes:** a characteristic such as shape or size
- **Two-Dimensional:** the outline of a shape such as a triangle, square or rectangle
- **Composite:** made up of several different things
- **Quarter:** 4 equal parts
- **Rectangle:** a shape with four square corners
- **Triangle:** a shape with three sides and three corners
- **Cube:** a solid with 6 faces all the same size
- **Cone:** a solid with one curved surface, one flat surface that comes to a point
- **Whole:** all, everything, total amount
- **Side:** a line segment joining two corners of a figure
- **Angle:** two rays that share an endpoint

- **Three-Dimensional:** a solid figure
- **Half:** 2 equal parts
- **Circle:** a closed round figure
- **Square:** a rectangle that has four equal sides
- **Rectangular Prism:** a solid with two identical rectangular bases
- **Cylinder:** a solid with one curved surface and two identical circle bases

Try http://www.amathsdictionaryforkids.com/ for further examples.

Symbols

■ square

● circle

□ square

▼ triangle

◤ triangle

▯ rectangle

⬡ hexagon

⬭ cylinder

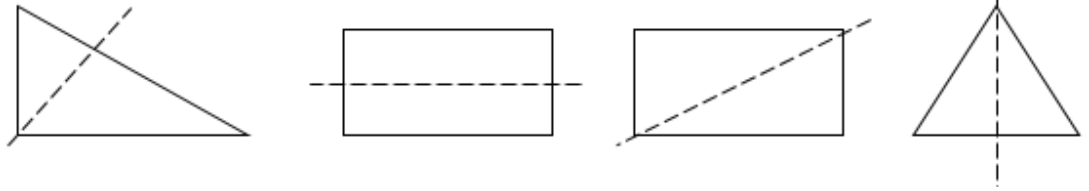▭ rectangular prism

Example 1

How are the items alike?

How are these items different?
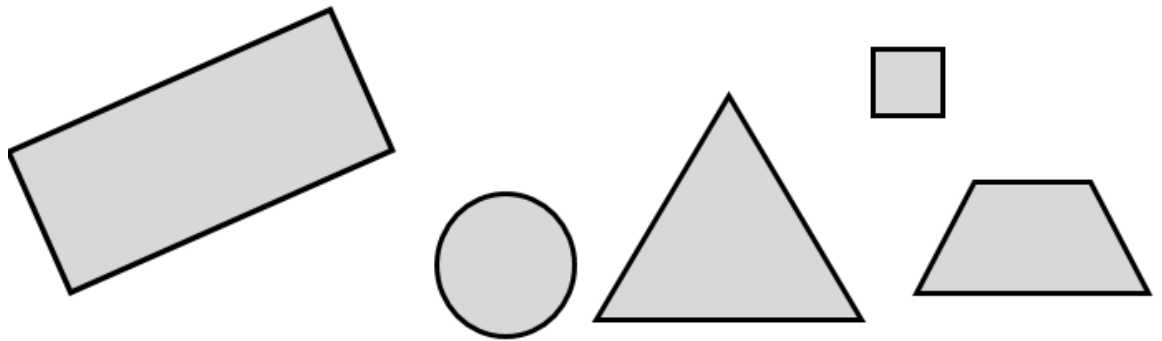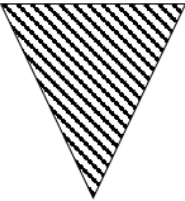

Example 2: What shapes can you make using a geo-board

Example 3 Partition the shapes into halves

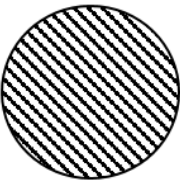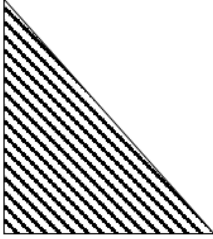## Example 4

Which One Doesn't Belong?

| A | B | C | D |

Shape _____ doesn't belong because _____

_____

_____.

Activities At Home:

- Go on a shape hunt outside, ask your student to name the shapes of doors, windows, bicycle wheels, etc.
- Ask your student to identify the shapes of various road signs while traveling in the car.
- Talk with your student about the various shapes of items packaged in the grocery store.
- Build with blocks. Discuss what shapes were used to create the structure.

First Grade Unit 7
Review, Mastery, and Extend

References

Helpful Links:

Links for Parents to build background knowledge to preview 2nd Grade:

https://learnzillion.com/resources/72377-understand-three-digit-place-value-by-counting-grouping-and-using-base-ten-blocks-2-nbt-a-1

https://www.abcya.com/games/base_ten_fun

https://www.abcya.com/games/base_ten_bingo

Dear Parents,

First Grade is coming to an end! At this time, students are reviewing standards learned, mastering standards, and possibly previewing standards for second grade. The first-grade focus was to:

- Solve problems involving addition and subtraction within 100
- Understand and apply properties of operations with addition and subtraction
- Extend the counting sequence to 120
- Understand and use place value to add/subtract and compare numbers
- Measure lengths by comparing length units
- Tell and write time
- Represent and interpret data
- Reason with shapes and their attributes

Concepts students may preview for 2nd Grade

- 2.NBT.1 Understand that 3-digits of a 3-digit number represents place value
- 2.NBT.3 Read and write numbers to 1,000
- 2.OA.1 Use addition and subtraction within 100 to solve 1-step word problem

Example 1
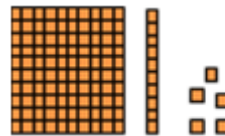
Represent the number 115: 100+10+5

Example 2

Represent the number 215: is written as two hundred fifteen; expanded form as 200+10+5; or 1 hundred, 11 tens, 5 ones (note that "and" is not used between the numbers).

Example 3

There are some students on the playground. Then 18 more students came. There are now 47 students. How many students were on the playground at the beginning? (__+18 = 47) There were 29 students in the beginning on the playground.

Home Activities

- Lay cards numbered from 0-9 face down on the table. Have your child pick out 3 of the cards and make the largest number that they can. Then have them make the lowest number that they can.
- Put 100 counters (macaroni, buttons, etc.) into a container.
    - Have your child write a story problem that has an answer of "58". Let your child take out a handful (or more) of the counters and count them. Ask him to add up or subtract to find out how many marbles are left in the container.
    - Ask your child to write a story problem that has an answer of "68".