



Kindergarten Math Newsletter

What are students learning in unit 2?

The new curriculum (Curriculum 2.0) is built around developing students' critical and creative thinking skills, as well as essential academic success skills, which will lead to college and career readiness in the 21st century.

The creative thinking skill is fluency.

Students need to:

- Think fluently.
- Come up with lots of new ideas.
- Express the ideas or thoughts in their head by writing, drawing, talking, or acting.
- Show the same thing in many different ways.
- Know many ways to answer a question.
- Ask a question in many different ways.

The academic success skill is intellectual risk taking.

Students need to:

- Take intellectual risks.
- Ask questions to help them understand - every day.
- Share what they are thinking in a group.
- Share their ideas and answer questions, even when they are unsure.
- Challenge themselves to rise to the next level.

OBJECTIVES

COUNTING AND CARDINALITY

Students need to:

- Know number names and the count sequence.
- Count to 100 by ones and by tens.
- Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- Count to tell the number of objects.

- Understand the relationship between numbers and quantities; connect counting to cardinality (the total number in a set.)
- Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.
- Compare numbers.
- Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies (include groups with up to ten objects.)
- Compare two numbers between 1 and 10 presented as written numerals.

OPERATIONS AND ALGEBRAIC THINKING

Students need to:

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
- Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$ and $5 + 0 = 5$ and $1 + 4 = 5$, etc.)

VOCABULARY

Students need to know:

- Addition - joining, putting together two or more sets/groups (adding to)
- Combine - put together
- Compare - describe numbers as equal to, less than, greater than
- Count - number of objects in a set
- Create - make something
- Digit - symbols for numbers (0, 1, 2, 3, 4, 5, 6, 7, 8, 9)
- Eighth - number 8 (eight) in line
- Equal - the same
- Equation - algebraic/numerical sentence that shows that two quantities are equal ($3+4=7$ or $4=7-3$)
- Fifth - number 5 (five) in line
- First - number 1 (one) in line
- Fourth - number 4 (four) in line
- Greater - number that is larger than another number (has the most or has more)
- Least - smallest in a group (has less or smaller amount)
- Ninth - number 9 (nine) in line
- Number - digit or digits that represent an amount (13, 25, 54, etc.)
- Ones - first/lowest place value (19 has 9 ones or 19 ones)



- Quantity - amount of number of something or a set
- Second - number 2 (two) in line
- Set - collection of items
- Seventh - number 7 (seven) in line
- Sixth - number 6 (six) in line
- Subtraction - take away smaller number from the larger number (take apart or take from)
- Tens - second (2nd) place value (37 has 3 tens)
- Tenth - number 10 (ten) in line
- Third - number 3 (three) in line
- Value - numerical worth or amount (what is the value of 4 tens - 40)

BOOK LIST - This list of book titles can help your child better understand the concepts.

Addition:

- 12 Ways to Get to 11
- House for Hermit Crab
- I Know An Old Lady Who Swallowed A Fly
- Napping House
- One Duck, Another Duck
- Rooster's Off to See the World
- Seven Eggs
- Take a Number
- Ten Tall Oak Trees
- Turnip

Counting:

- Roll Over: A Counting Song
- Two Ways to Count to Ten
- Count-a-saurus
- Children's Zoo
- Ten, Nine, Eight
- 1, 2, 3, to the Zoo
- Don't Count Your Chicks
- Mojo Means One
- Millions of Cats
- Each Orange Had Eight Slices
- Ten What?
- Dozen Dizzy Dogs
- Over in the Meadow
- Numblers



- Counting Wildflowers
- Mouse Count
- Twelve Circus Rings
- What Comes in 2's, 3's, and 4's
- Anno's Counting Book
- Ten Apples Up on Top
- Two Ways to Count to Ten
- The Very Hungry Caterpillar
- Where's That Bus?
- The Wolf's Chicken Stew

Ordinal Numbers:

- Five Chinese Brothers
- Freight Train

Subtraction:

- Ten Bears in My Bed
- Five Pennies
- Only Six More Days
- Bag Full of Pups
- Five Little Monkeys Jumping on the Bed
- Have You Seen My Duckling?
- Hello, Goodbye
- Little Rabbit's Loose Tooth
- Much Bigger Than Martin

WEBSITES - This is a list of generic websites that can help your child better understand the concepts. Please help your child choose an appropriate game for their level.

<http://www.brainpopjr.com/math/>

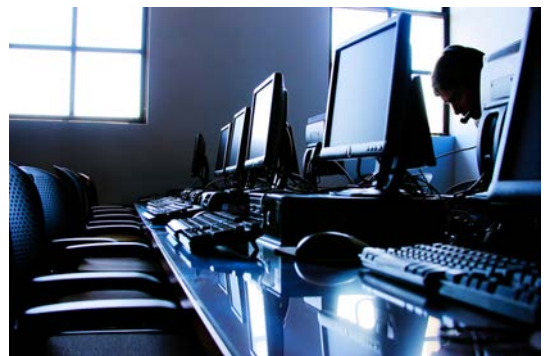
<http://www.funbrain.com/kidscenter.html>

<http://illuminations.nctm.org/Activities.aspx?grade=1>

<http://www.mathsisfun.com/index.htm>

<http://www.softschools.com/counting/>

<http://www.woodlands-junior.kent.sch.uk/maths/>



http://www.abcya.com/kindergarten_computers.htm

<http://www.harcourtschool.com/menus/math2002/na/grk.html>

<http://www.harcourtschool.com/menus/auto/13/1.html>

<http://www.teachrkids.com/>

WAYS PARENTS CAN HELP (HANDS-ON ACTIVITIES)

- Create simple combining and removing story problems for your child to solve using objects (beans, nuts, raisins, and pasta make great counters.) E.G., "You have how many raisins? I have 17 raisins. Who has the greatest amount? How do you know?" or "You have 5 beans. Can you show me 5 a different way? (2 beans and 3 raisins)" or "Three candles are on the birthday cake. I place three more candles on the cake. How many candles are on the cake now?" or "You have 9 raisins. You eat 4 of the raisins. How many raisins do you have now?"
- Count toys with your child when cleaning up. Say, "You put away (number) toys." Repeat this with other objects and when your child is finished counting ask, "how many?"
- Encourage your child to sort a variety of objects: laundry, toys, or objects collected from a walk. Say, "Tell me how you sorted." Then say, "How many are in each group? Which group has the greatest amount? Which group has the least? How do you know?"
- Count 100 or fewer objects with you child (e.g., silverware, food containers, books, pasta, raisins, cereal.)
- While playing with your child ask questions such as: "Are there more cars or more trucks? How do you know?" or "Do you have an equal amount of big teddy bears and little teddy bear? How do you know?" or "Which tower has fewer blocks in it? How do you know?"
- For additional activities, visit http://www.free.ed.gov/subjects.cfm?subject_id=33 or <http://mathforum.org/mathtools/sitemap2/k/>



ENRICHMENT/ACCELERATION

Curriculum 2.0 focuses on building stronger math students by building a stronger foundation. The standards are new and internationally driven. Grade level material is challenging and leads to deeper understanding of math. The content is rigorous and aligned with nations that are known for high math achievement (Japan and Singapore). As a result, students are spending more time in the primary grades on number sense and number concepts; these include counting, place value, addition and subtraction. Instead of having students' rote count and

memorize facts as well as answers, students are expected to show mastery on these standards. Students who have mastery or a deep understanding of numbers can demonstrate the concept in a variety of ways. For example, a student is given 19 objects and asked to count them. "I have 19 bears," says the student. The teacher then asks, "How do you know there are 19 objects?" The child answers in a variety of ways, such as:

- I counted them (the student then counts them for the teacher.)
- I know that I have a group of 10 and 9 more (the student models this for the teacher.)
- I know that if I put 5 in each group, I will have 4 left over (student models and counts for the teacher - 5, 10, 15, 19.)
- I know that if I make 2 equal groups I would have 1 left over (student models - 9, 18, 19.)
- I know that the 1 in the number 19 means 10 and there are 9 left over.

These student answers are not the only answers that are possible. Again, mastery of a standard means students demonstrate the concept in a variety of ways. If you would like more information please visit [http://www.montgomeryschoolsmd.org/curriculum/2.0/math/.](http://www.montgomeryschoolsmd.org/curriculum/2.0/math/))

With this said, we know that children can and will meet mastery at different times throughout the year. Therefore it is necessary to enrich/accelerate their learning. For this unit, here are a few suggestions to do at home:

- Have students count by ten starting at a different number (13, 23, 33, 43, 53, 63, 73, 83, 93)
- Have students count backwards from a given number instead of having to begin with 10, begin with 25.
- Have students represent a number of objects with the written numeral up to 100.
- Compare two or three numbers between 0-100 with objects as well as numerals.
- Have students decompose numbers less than or equal to 20 into pairs in more than one way.
- Have students show any number between 0-100 in a variety of ways.
- Have students demonstrate their fluency with numbers by explaining what they know in a variety of ways (writing, acting, drawing, or talking.) Students can also get creative - build it or sing it.

