

ELEMENTARY MATHEMATICS

Parent Presentation

NORWOOD
December 1, 2015

JILL K. MILTON

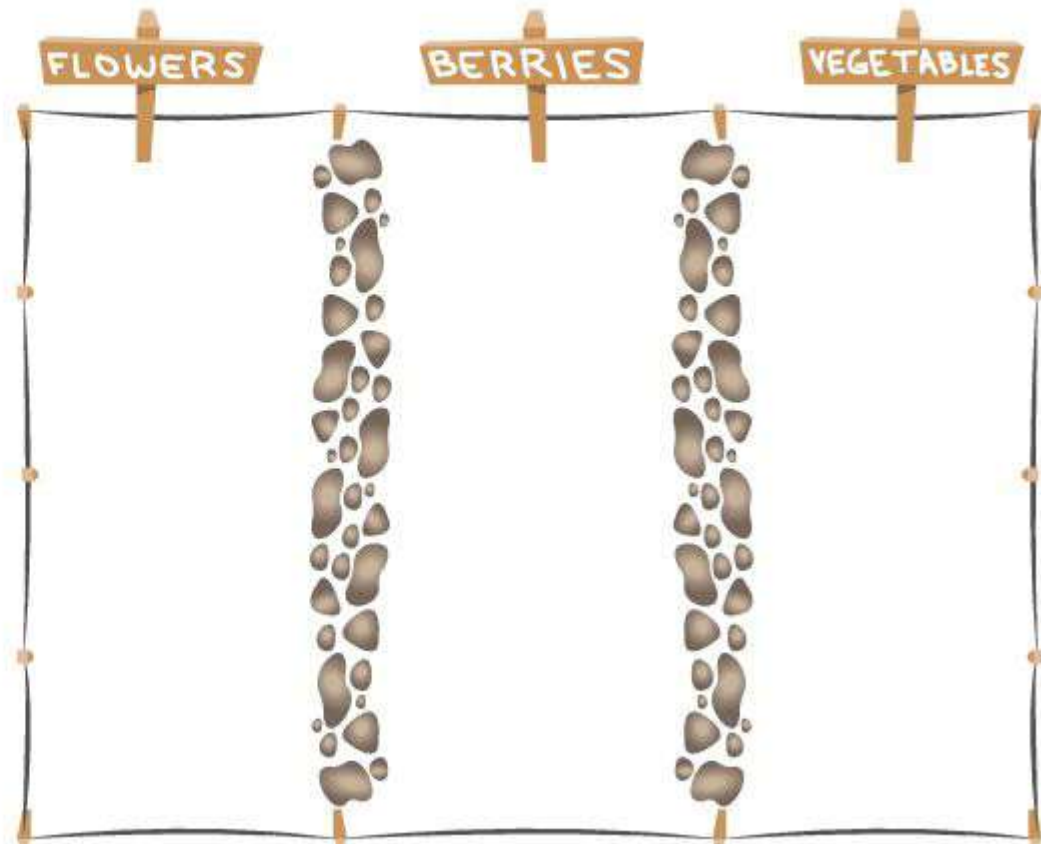
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ELEMENTARY MATH COORDINATOR, PreK-5



**NORWOOD
PUBLIC
SCHOOLS**



» The Brown family is planting $\frac{1}{3}$ of their garden with flowers, $\frac{1}{3}$ with berries, and $\frac{1}{3}$ with vegetables. The vegetable section has equal parts of carrots, onions, peppers, and tomatoes. What fraction of the garden is planted with carrots?





Elementary Math Night
for Parents/Guardians of
students in Grades K-5

Norwood High School
TUESDAY, DECEMBER 1 6:00 – 7:30

AGENDA:
AUDITORIUM 6:00-6:45
Presentation will include:
expectations on Massachusetts Elementary Math State Standards and
services Math 2.0 Program Overview.

CAFÉ 6:50-7:30
Hands-on, interactive opportunity with the wireless Math 2.0 program
components, including technology used to support lessons.

Partnering for Success
As part of our elementary math program
implementation, we are welcoming the Norwood
Parents and community to an informational presentation
to learn more about what has changed in mathematics.

RSVP HERE:
<http://www.norwoodhills.org/elementarymathnight>

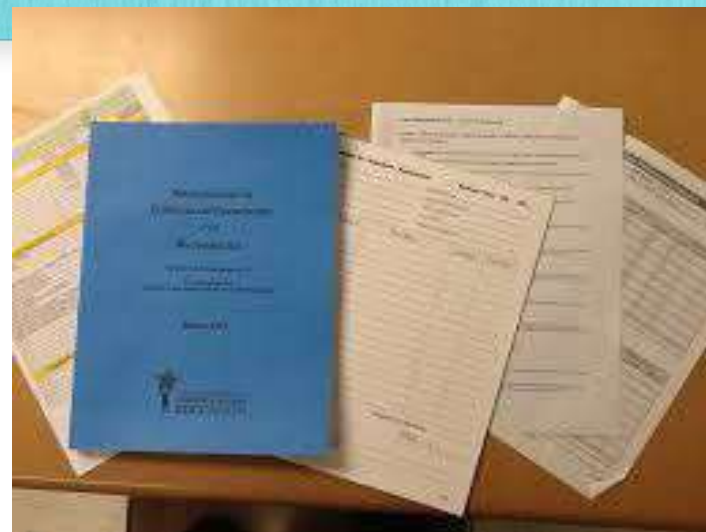
QR CODE
A QR Code is a two-dimensional barcode that is readable by smartphones. To read QR Codes with your smartphone, you need an appropriate software installed on your phone.

A wooden surface with colorful 3D letter blocks spelling 'THANK YOU'. The letters are arranged in two rows: 'THANK' on top and 'YOU' on the bottom. The letters are orange, blue, black, red, green, light green, orange, and yellow respectively.

THANK
YOU

Partnering for Success

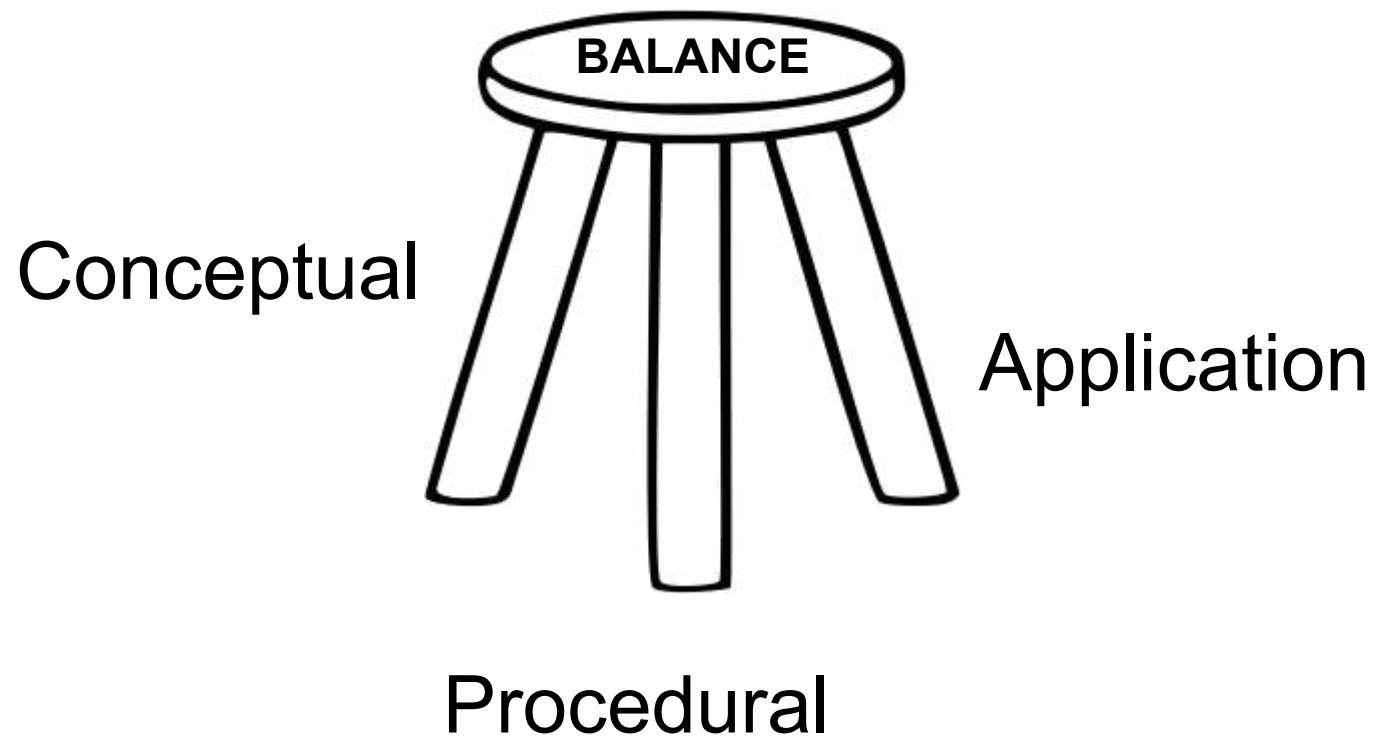
As part of our elementary math program implementation, we thank **you** the Norwood parents and community for attending our informational presentation to learn more about what has changed in mathematics instruction.



In March 2011, that state of Massachusetts joined the vast majority of states in the country in adopting a new set of standards in the area of Mathematics based on the Common Core State Standards.



Math as a 3 legged stool



Standards for Student Mathematical Practice

1

Make sense of problems and persevere in solving them.



Keep on going!

2

Reason abstractly and quantitatively.

Write a story for the mathematical equation



$$\frac{1}{2} \times 4$$

DeJen exercises $\frac{1}{2}$ hour a day for 4 days. How many total hours does she exercise?

Think what makes sense.

3

Construct viable arguments and critique the reasoning of others.



Talk and explain.

4

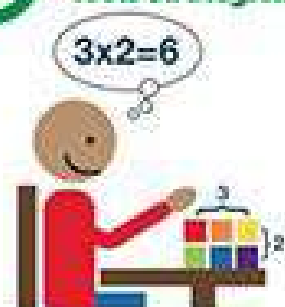
Model with mathematics.



Show your thinking.

5

Use appropriate tools strategically.



Use the right tools.

6

Attend to precision.



Check your work.

7

Look for and make use of structure.



See the pattern or connection.

8

Look for and express regularity in repeated reasoning.



See the pattern or connection.

Common Core is not a curriculum

There are consistent “standards” – which refer to the skill and knowledge a student should know.

- For example: 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.

Curriculum involves classroom lessons and how the material is taught in the classroom.

- enVision Math 2.0
- Guided Math Workshop

Decisions about how the Massachusetts Curriculum Framework For Mathematics standards are taught are made locally.

- Elementary Math Program Review Committee
 - 42 pilot classrooms during the 2014-15 school year



enVisionmath[®]2.0
SCOTT FORESMAN • ADDISON WESLEY

Components



- Student's Edition, 2-Volume
- Teacher's Edition, 2-Volume
- Teacher's Edition Program Overview
- Teacher's Resource Masters, 2-Volume
- Math Practices Posters
- Problem-Solving Reading Mats with Activity Masters and Activity Guide
- Today's Challenge Teacher's Guide
- ELL Toolkit
- Assessment Sourcebook
- Math Diagnosis and Intervention System 2.0
- Interactive Math Story Books and Animated Stories (K-2)
- Animated Glossary
- Math Tools
- Math Games
- Listen and Look For Lesson Videos
- Topic Overview Professional Development Videos
- eText Student Edition
- eText Teacher Edition
- Online Assessments
- Online Assessment Handbook (3-6)
- ExamView Test Generator CD-ROM
- Daily Common Core Review Editable Files
- Math Practices Animations
- Offline Teacher Resource DVD-ROM
- Centers Manipulative Kit
- Teacher Demonstration Manipulatives Kit
- Individual Student Manipulatives Kit
- Quick and Easy Centers Kit for Differentiated Instruction

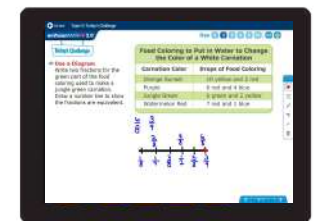
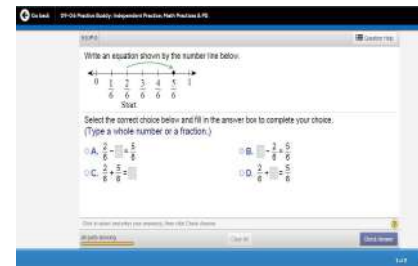
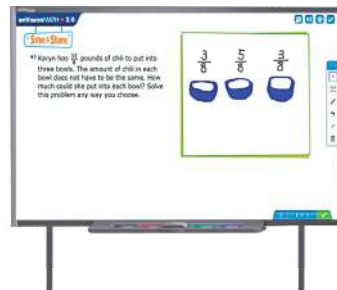
Visual Learning Animations Plus

Another Look Homework Video

Solve & Share

Practice Buddy Personalized Practice (3-6)

Today's Challenge and Teacher Guide





NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

Classroom Resources

Publications

Standards & Positions

Research & Advocacy

Mathematics in Early Childhood Learning



(PDF)

A position of the National Council of Teachers of Mathematics

Question: Why is mathematics important for early childhood learners?

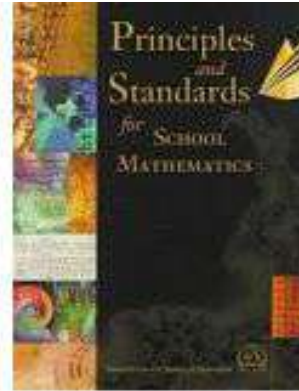
NCTM Position

Young learners' future understanding of mathematics requires an early foundation based on a high-quality, **challenging**, and accessible mathematics education. Young children in every setting should experience mathematics through effective, research-based curricula and teaching practices. Such practices in turn require that teachers have the support of policies, organizational structures, and resources that enable them to succeed in this **challenging** and important work.

Principles and Standards for School Mathematics

Book

Principles and Standards for School Mathematics are guidelines produced by the National Council of Teachers of Mathematics in 2000, setting forth recommendations for mathematics educators.



Principles and Standards calls for all partners—students, teachers, administrators, community leaders, and parents—to contribute to building a high-quality mathematics program for all students.

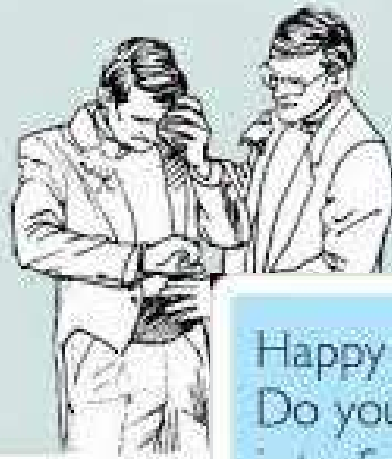


Partnering for Success

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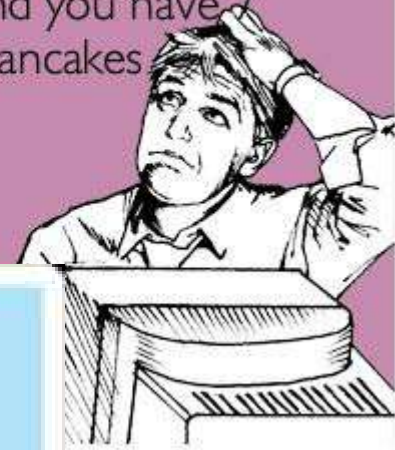
"Are you taking any foreign language classes this year?"

"Yes, Math."



someecards
user card

How I see math word problems...
If I have 4 pencils and you have 7
apples how many pancakes
will fit on the roof?



Happy Birthday!
Do you know how hard it
is to find an 85th birthday
card? I almost bought an
80th and a 5th for you but
figured no one wants to
do math on their birthday.
XOXO!

someecards
user card



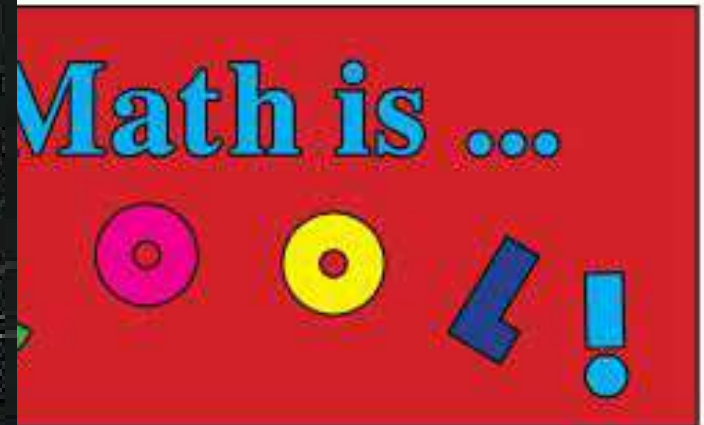
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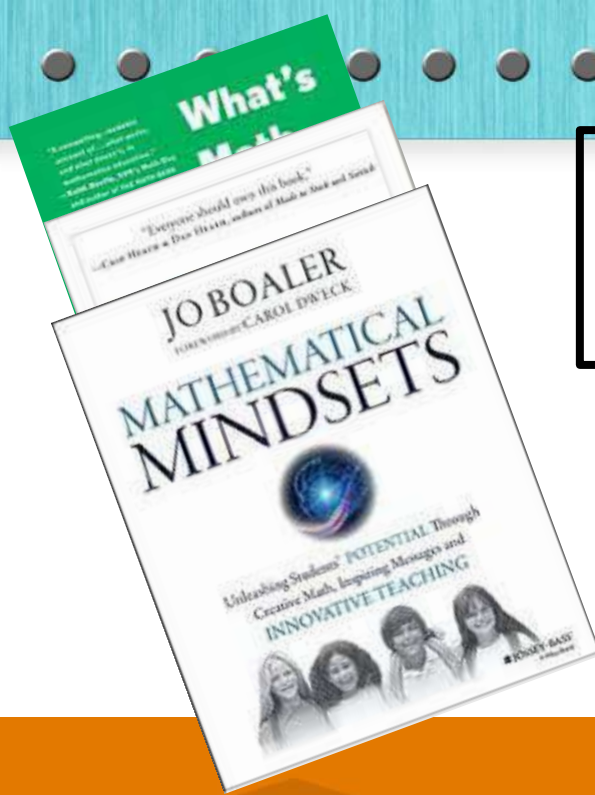


MATH

SUX!

whole new world sacrifice hard work
 a class I neither love nor hate a mystery exhilarating like a sister compelling
 Whoa so cool the universal language
 what mu alpha theta spells key to success
 complicated effort difficult love hate relationship simplistic magical
MATH IS a puzzle important
 like a good friend
 thousands of amaz
 everything to me simple intimidating
 to me like flying is to a bird
 every question has a definite answer
 critical thinking mu favorite **challenging** headaches the same in every language
 way useful
 id of variables
 a relationship
 my achilles heel





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Anyone Can Learn to High Levels

Mistakes Grow Your Brain

When You Believe In Yourself Your
Brain Operates Differently

Ideas of "Giftedness" Hurt Students

Speed and Time Pressure Block
Working Memory

Visual Math Improves Math
Performance

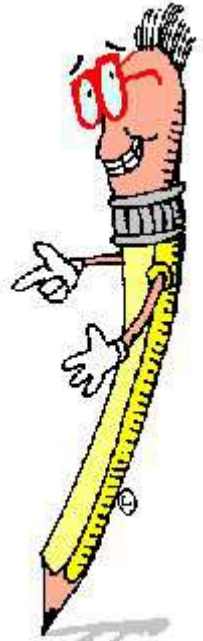
When You Believe In Your Students
They Do Better

Parents' Beliefs about Math Change
Their Children's Achievement

Aligning Assessment to Brain Science



I used to think
mathematicians
were super smart people
who knew everything but
now I think they are
everyone who does math.



Derek Pipkorn @mrpipkorn · May 12

A student thanked me in class today for not providing the formula, but instead allowing her to explore. Win! #edchat #MTBoS #MSMathChat



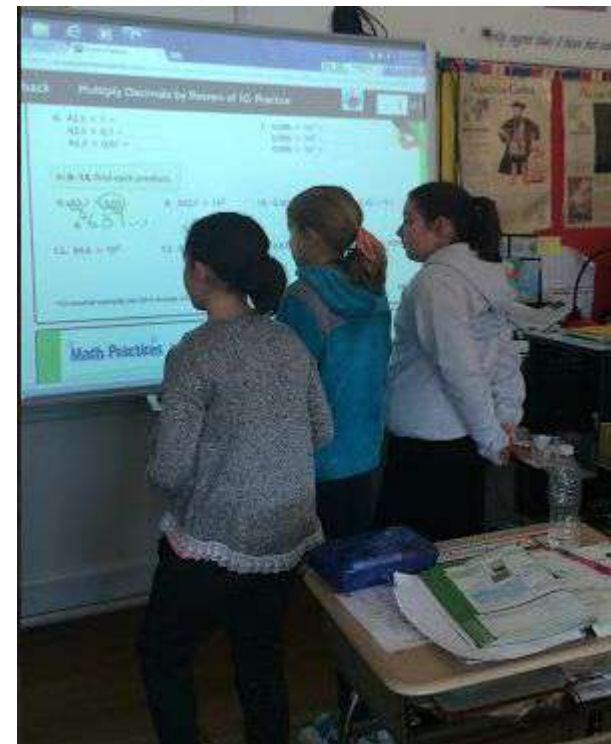
27 5



18



We have an opportunity to make learning math concepts a better experience for our children.





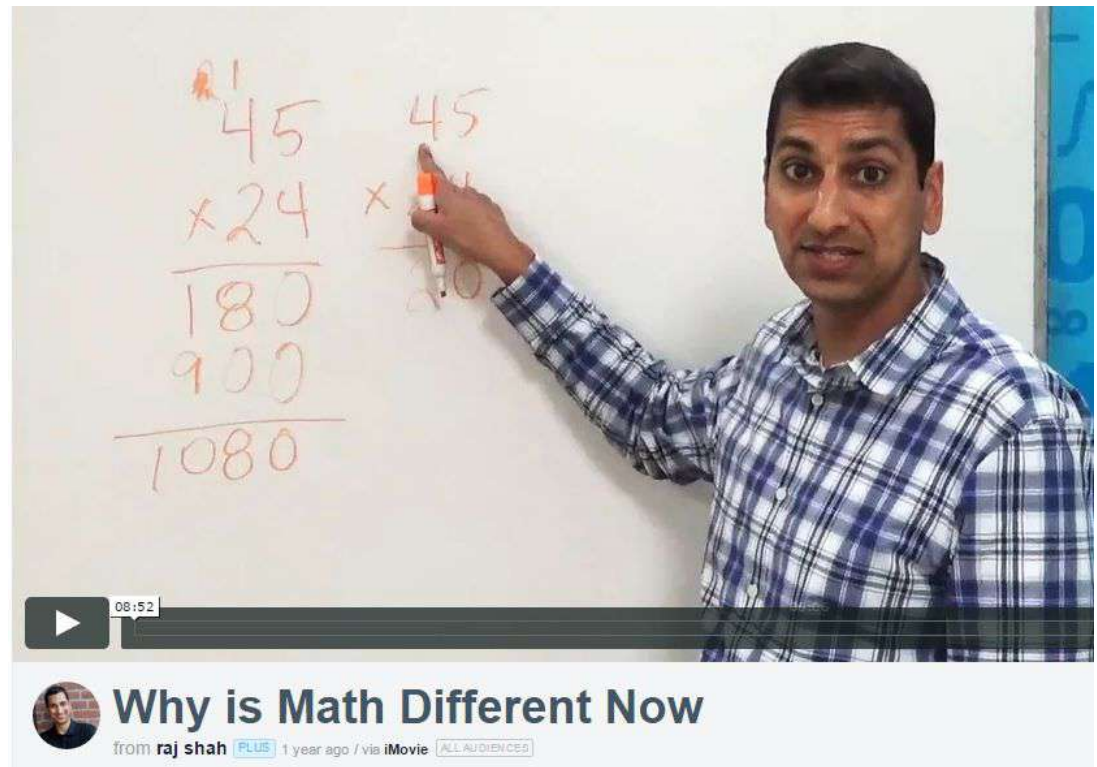
try this problem...

$$45 \times 24$$

Why is Math Taught So Differently Now?

LINK:

[How to help your child with mathematics at home](#)





The Math isn't New

The math is the same; students are just being taught to understand math concepts more deeply.

Instead of rote memorization, the new standards push students to understand why the right answers are right and why the math works.

When students just learn tips and tricks for getting the right answer, those tricks break down when they do more advanced math in later grades.



A few more things to know....

the standards expect students to understand what they are doing so they are able to use and apply mathematics when they leave the classroom

children in elementary school still have to learn to add, subtract, multiply and divide, the same way their parents did

Learning how to add and subtract with manipulatives, drawings, visual models and equations strengthens a student's understanding of what is happening and why.

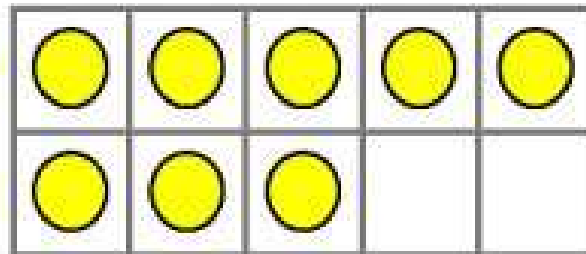
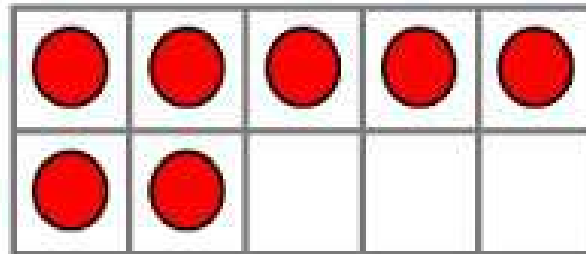
**This stand on sense-making
verse traditional solution
methods is critical to your
child developing a solid
understanding of numbers....
and hopefully a love for math.**

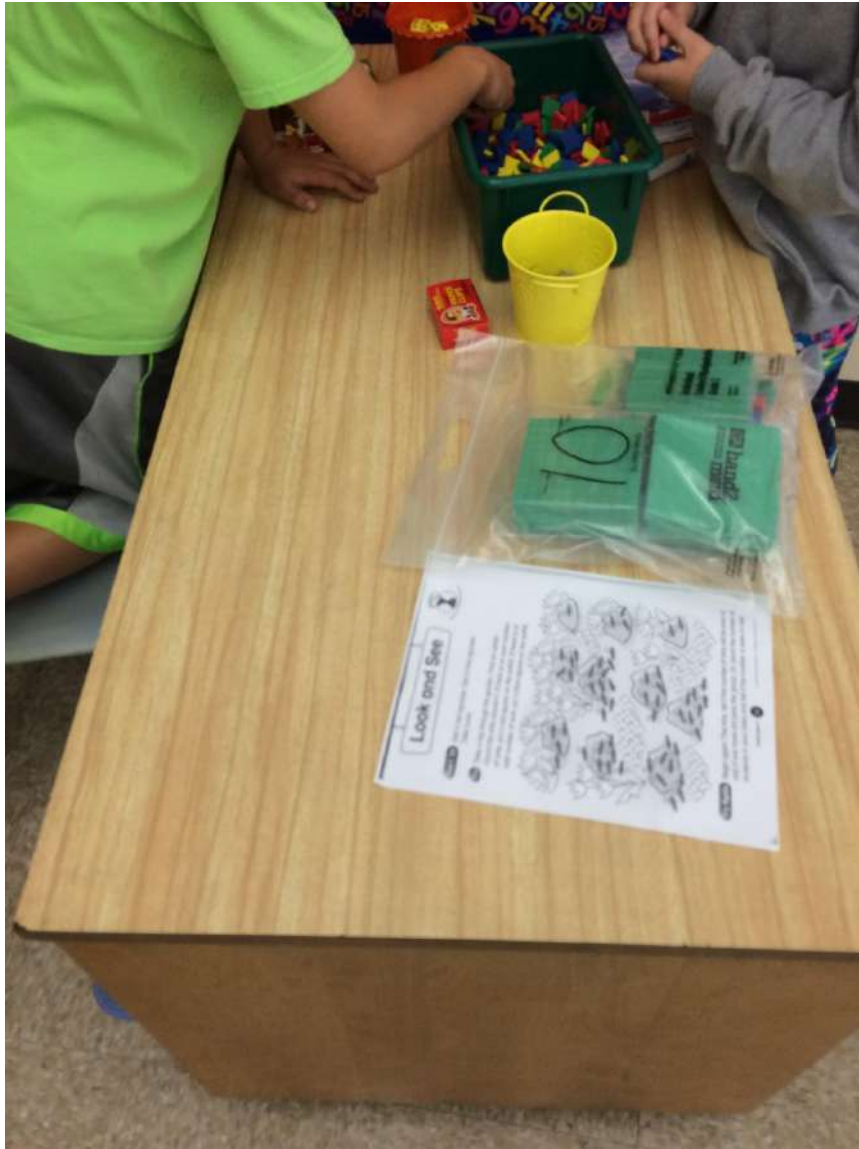
**If not a love of math, maybe
just a little less frustration.**



What would you tell a friend who was having difficulty with this addition fact $7+8$?

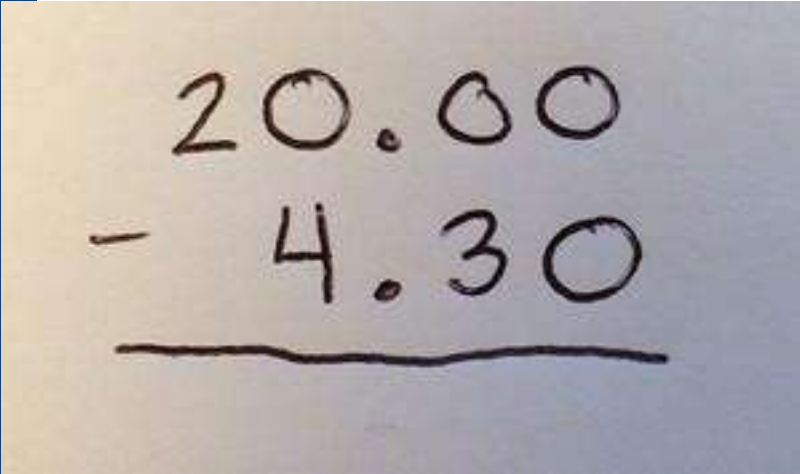
Grade 2 student





When we teach children basic facts, we teach them to understand what is happening, it is not just memorization process.

We must continue to build understanding for our students when they work with multi-digit numbers.



A photograph of a piece of paper with a handwritten subtraction problem. The top line is '20.00' and the bottom line is '4.30'. A minus sign is to the left of the bottom line. A horizontal line is drawn below the bottom line.


$$\begin{array}{r} 20.00 \\ - 4.30 \\ \hline \end{array}$$

Suppose you buy coffee and it costs \$4.30 but all you have is a \$20 bill. How much change should the barista give you back?

(Assume for a second the register is broken.)

“....take 70 cents to get to \$5... and another \$10 to get up to \$20... so you should get back \$15.70”





By developing problem solving skills, we learn not only how to tackle math problems, but also how to logically work our way through any problems we may face.

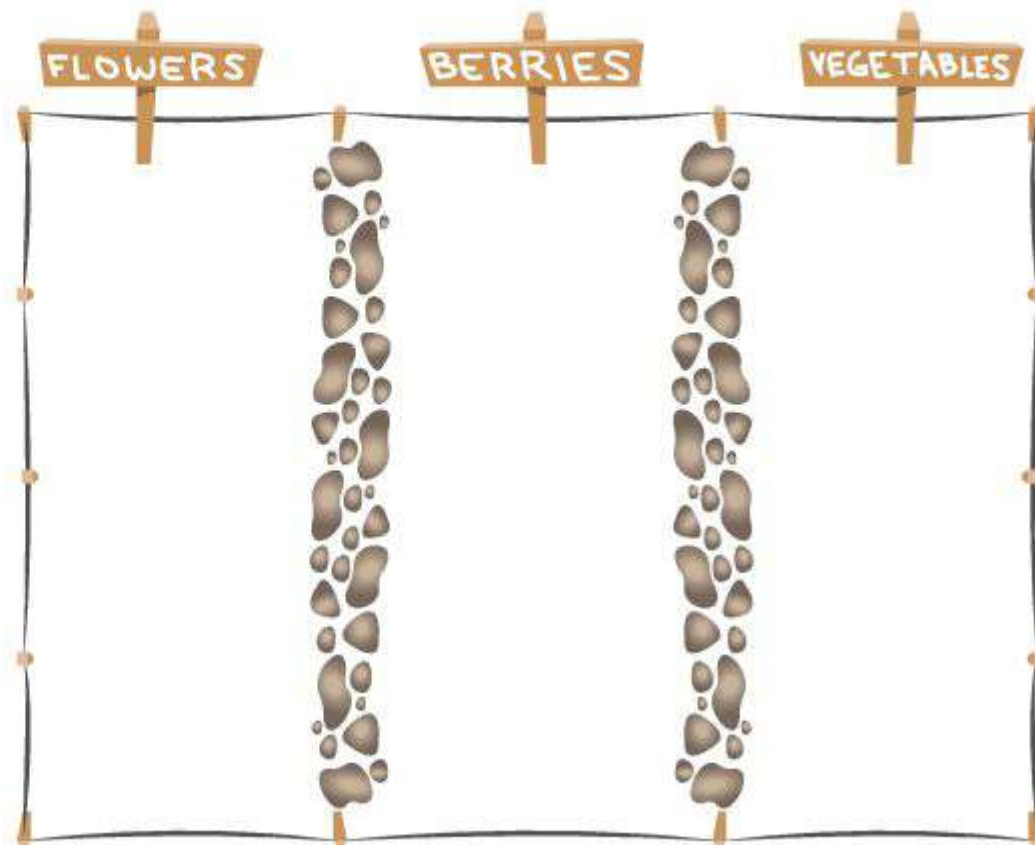
The **memorizer can only solve problems they've encountered already, but the problem solver can solve problems they've never seen before.**

The **problem solver is flexible; they can diversify. Above all, they can create.**

~ Richard Rusczyk, Founder, Art of Problem Solving Company



» The Brown family is planting $\frac{1}{3}$ of their garden with flowers, $\frac{1}{3}$ with berries, and $\frac{1}{3}$ with vegetables. The vegetable section has equal parts of carrots, onions, peppers, and tomatoes. What fraction of the garden is planted with carrots?



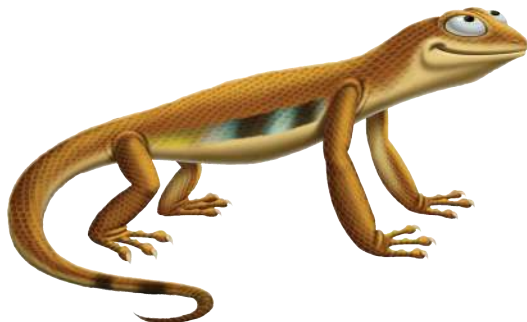
Share solutions

Step 1: Problem-Based Learning

Solve and Share

Problem-Based Learning

- Step 1 of every lesson
- New math ideas are embedded
- Connect prior knowledge to new ideas
- Solve in multiple ways



Name _____

Solve & Share

Sebastian has $\frac{6}{8}$ of the full charge left on his phone. He uses $\frac{2}{8}$ of the full charge playing a game. What fraction of the full charge does Sebastian have left? *Solve this problem any way you choose.*

You can use appropriate tools such as a number line to show this problem.

Lesson 9-6
Add and Subtract Fractions with Like Denominators

I can ...
use a number line to add and subtract fractions when the fractions refer to the same whole.

© Content Standard 4.NF.B.3a
Mathematical Practices MP.2, MP.4, MP.5

Look Back! © MP.2 Reasoning Write a fraction that is equivalent to the amount of a full charge that Sebastian used when playing the game.

Digital Resources at PearsonRealize.com Topic 9 | Lesson 9-6 495

Visual learning

LESSON STEP 2

- Visual instruction on student page allows concepts to be accessed by more students.
- Interactive animations engage learners, deepen understanding, and make important lesson concepts explicit.



Visual Learning Animation Plus

How Do You Add and Subtract Fractions on a Number Line?

Mary rides her bike $\frac{2}{10}$ mile to pick up her friend Marcy for soccer practice. Together, they ride $\frac{5}{10}$ mile to the soccer field. What is the distance from Mary's house to the soccer field?

You can use jumps on the number line to add or subtract fractions.

Use a number line to show $\frac{2}{10} + \frac{5}{10}$.

Draw a number line for tenths. Locate $\frac{2}{10}$ on the number line.

To add, move $\frac{5}{10}$ to the right.

Write the addition equation.

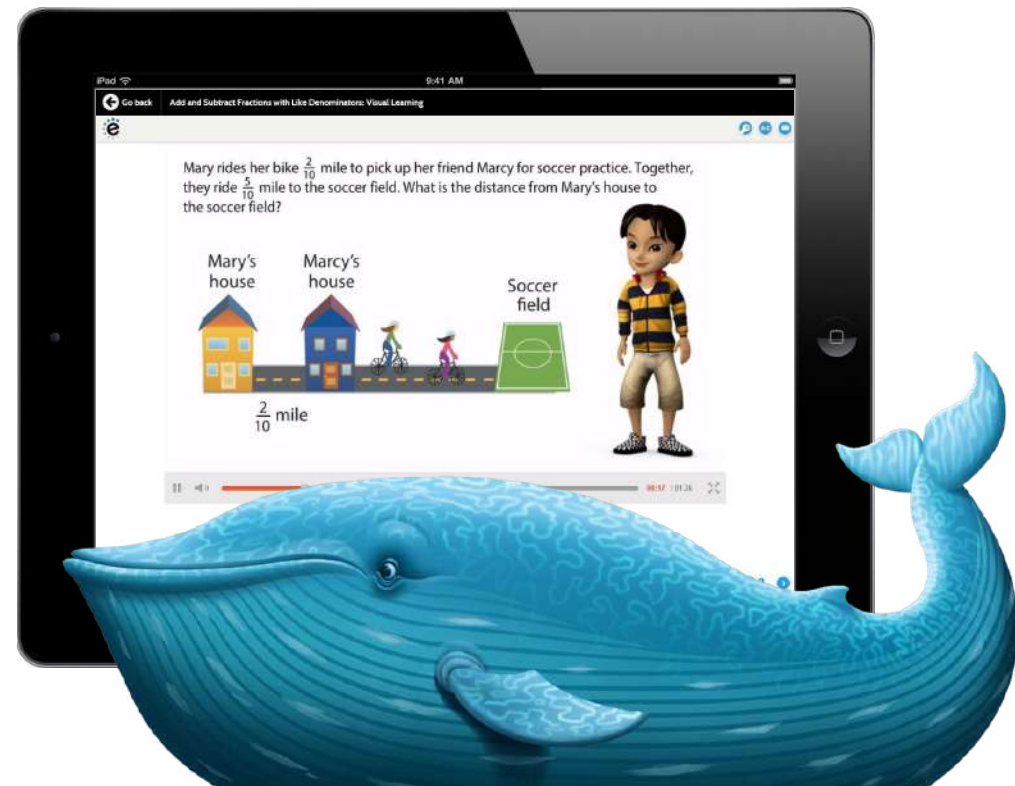
Add the numerators. Write the sum over the like denominator.

$$\frac{2}{10} + \frac{5}{10} = \frac{2+5}{10} = \frac{7}{10}$$

The distance from Mary's house to the soccer field is $\frac{7}{10}$ mile.

Convince Me! **MP5 Use Appropriate Tools** Use the number line below to find $\frac{5}{8} + \frac{2}{8}$. Can you also use the number line to find $\frac{5}{8} - \frac{2}{8}$? Explain.

$\frac{5}{8} + \frac{2}{8} = \frac{7}{8}$. Yes, I used the number line to subtract by moving to the left: $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$.



Independent Practice – Math Practices and Problem Solving

- Every lesson in Student's Edition
- Builds proficiency
- Higher Order Thinking
- Enhanced items target Common Core Standards.

Another Example!
First $\frac{1}{2} - \frac{1}{4}$
Start at $\frac{1}{2}$. To subtract, move $\frac{1}{4}$ to the left.
The ending point is $\frac{1}{4}$.
So, $\frac{1}{2} - \frac{1}{4} = \frac{1}{4}$.


Guided Practice


Do You Understand?

1. In the example above, how is the denominator illustrated on the number line?
2. **MP4 Model with Math** Draw a number line to represent $\frac{3}{4} - \frac{1}{4}$.

Do You Know How?

For 3–6, write the equation shown by each number line.

3. 

4. 

Independent Practice


For 5–8, write the equation shown by each number line.

Math Practices and Problem Solving

9. **Number Sense** How do you know the quotient of $639 \div 6$ is greater than 100 before you actually divide?

10. **MP2 Reasoning** Maria saved $\frac{1}{3}$ of her allowance. Tomaso saved $\frac{1}{4}$ of his allowance. Who saved a greater part of his or her allowance? Explain your reasoning.

11. Isaac started his bike ride at the trailhead. He reached the picnic area and continued to the lookout tower. If Isaac rode his bike for a total of $\frac{1}{2}$ miles, how much farther did he ride beyond the lookout tower?



12. **MP4 Model with Math** Ricky completely filled a bucket to wash his car. After he finished washing the car, $\frac{3}{4}$ of the water remained in the bucket. Write and solve an equation to show the fraction of the water Ricky used.

13. **Higher Order Thinking** Sarah and Jenny are running an hour-long endurance race. Sarah ran $\frac{1}{4}$ hour before passing the baton to Jenny. Jenny ran $\frac{1}{2}$ hour, then passed the baton back to Sarah. What fraction of the hour does Sarah still need to run to complete the race?

Common Core Assessment

14. Choose numbers from the box to fill in the missing numbers in each equation. Use each number once.

a. $\frac{1}{4} - \frac{2}{4} = \frac{3}{4}$

1	3
4	6
8	12

b. $\frac{3}{12} - \frac{1}{12} = \frac{2}{12}$

c. $\frac{5}{8} - \frac{1}{8} = \frac{4}{8}$

15. Choose numbers from the box to fill in the missing numbers in each equation. Use each number once.

a. $\frac{1}{10} + \frac{1}{10} = \frac{2}{10}$

2	3
4	6
10	12

b. $\frac{9}{12} - \frac{3}{12} = \frac{6}{12}$

c. $\frac{1}{4} + \frac{1}{8} = \frac{3}{8}$

488 Topic 9 | Lesson 9-4

Students may be working alone, in pairs, or in small groups.

Students who finish early may be working in differentiated centers.

Quick Check, Intervention Activity, Centers and Technology integration


The image shows two devices displaying the Math Tools application. The monitor displays a menu of 12 tools, each with an icon and a label. The tablet displays a game interface with a desert background, a robot, and a 'MATH' sign.

Math Tools Menu:

- Counters
- Money
- Bar Diagrams
- Fractions
- Data and Graphs
- Measuring Cylinders
- Geometry
- Number Line
- Number Charts
- Place-Value Blocks
- Input-Output Machine
- Pan Balance

Tablet Game Interface:

- Background: Desert landscape with a robot.
- Sign: MATH
- Buttons: Question Bank, Play, Microbit, Play, Play, Play



Toss and Talk

Start

Get 10 squares in one color and 10 in another color. Get two number cubes. Take turns with another player or team. Talk about math as you play!

At Your

Toss two number cubes. Add the dots. Find your toss below. Follow the directions. Explain your thinking. Cover the answer if the answer is taken. Keep your team. Have fun!

Toss	Explain how to compute the difference. Find the answer.			
2	$\frac{5}{10} - \frac{2}{10}$	7	$\frac{15}{16} - \frac{1}{16}$	
3	$\frac{7}{10} - \frac{1}{10}$	8	$\frac{6}{8} - \frac{2}{8} = \frac{1}{2}$	
4	$\frac{9}{12} - \frac{2}{12}$	9	$\frac{8}{10} - \frac{6}{10}$	
5	$\frac{5}{6} - \frac{1}{6}$	10	$\frac{10}{12} - \frac{8}{12}$	
6	$\frac{8}{12} - \frac{5}{12}$	11	$\frac{8}{10} - \frac{8}{10}$	
		12	$\frac{3}{4} - \frac{3}{4}$	

How to Win

You win if you are the first to get four connected rectangles, like:

(Play again!)

Center Game # 62

Copyright © 2002 by The Math Learning Center

enVisionCENTERS

- Problem-Solving Reading Mats
- Problem-Solving Reading Activities
- Center Games
- Math and Science Activities
- Digital Math Tools Activities

The bottom section features four small images of colorful geometric shapes, including red, yellow, and blue cubes and pyramids, arranged in a row.

Helping at home:

Homework, Home-School Connection activity

Name _____

Help Practice Test Score

Homework & Practice 9-6

Add and Subtract Fractions with Like Denominators

Another Look!
There were 7 slices remaining of an apple pie divided into eighths. Katie and her 3 friends each ate a slice of the remaining pie. Calculate $\frac{7}{8} - \frac{4}{8}$ to find how much of the apple pie is now left.

What You Show

Subtract to find how much of the pie is left.

What You Write

$$\frac{7}{8} - \frac{4}{8} = \frac{3}{8}$$

$\frac{3}{8}$ of the pie is left.

For 1–4, write the equation shown by each number line.

-
-
-
-

For 5–13, add or subtract the fractions. Use a number line if needed.

5. $\frac{2}{6} + \frac{1}{6}$	6. $\frac{7}{12} - \frac{2}{12}$	7. $\frac{1}{8} + \frac{5}{8}$
8. $\frac{1}{4} + \frac{3}{4}$	9. $\frac{9}{10} - \frac{3}{10}$	10. $\frac{2}{3} + \frac{3}{3}$
11. $\frac{4}{5} + \frac{1}{5}$	12. $\frac{9}{8} - \frac{5}{8}$	13. $\frac{1}{3} + \frac{5}{3}$

Digital Resources at PearsonRealize.com

Name _____

Home-School
Connection
Topic 1

Understand Multiplication and Division of Whole Numbers

Topic 1 Standards

3.OA.A.1, 3.OA.A.2, 3.OA.A.3, 3.OA.B.5

See the front of the Student's Edition for complete standards.

Dear Family,

Your child is learning how to multiply. Help him or her think of multiplication as joining equal groups. For example, 5×2 is 5 groups of 2. So, $5 \times 2 = 10$.

Your child is also learning how to divide. Help him or her think of division as sharing equally. For example, $42 \div 7$ can be thought of as 42 crayons and 7 boxes. Each box has an equal number of crayons. There are 6 crayons in each box.

Do the activities below with your child to help him or her learn multiplication and division concepts and facts.

Multiplication Stories

Give your child a multiplication fact, such as 4×3 . Have your child tell you a multiplication story for that fact. Sample story: Jake has 4 bags of apples. There are 3 apples in each bag. How many apples does Jake have in all? Repeat the activity with a different multiplication problem.

Division Stories

Give your child a division fact, such as $32 \div 8$. Have your child tell you a division story for that fact. Sample story: Sally has 32 pictures. She puts an equal number of pictures on 8 pages. How many pictures does Sally put on each page? Repeat the activity with a different division problem.

Observe Your Child

Focus on Mathematical Practice 8

Look for and express regularity in repeated reasoning.

Help your child become proficient with Mathematical Practice 8. Ask your child to explain the relationship of the factors in multiplication to the number of equal groups and the number in each group.

Use the online components:

- Another Look Video
- Visual learning Animation
- Student e-text to frame the homework within the lesson

Helping at home:

Homework

Home-School Connection

Ask -- What do you think you know...

Watch the spent on the amount of **time** spent on the assignment and stick to the handbook guidelines



Write a note to the teacher





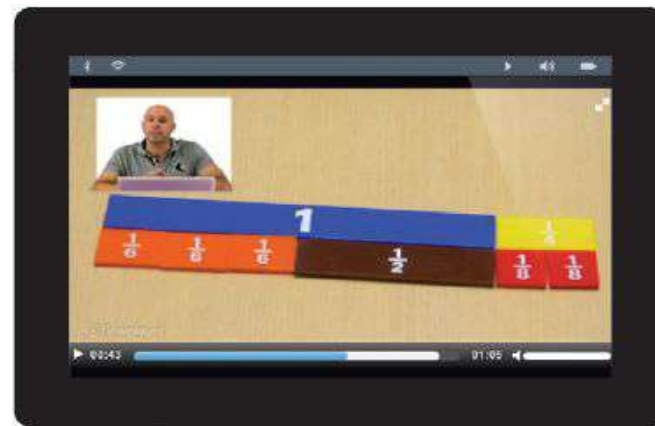
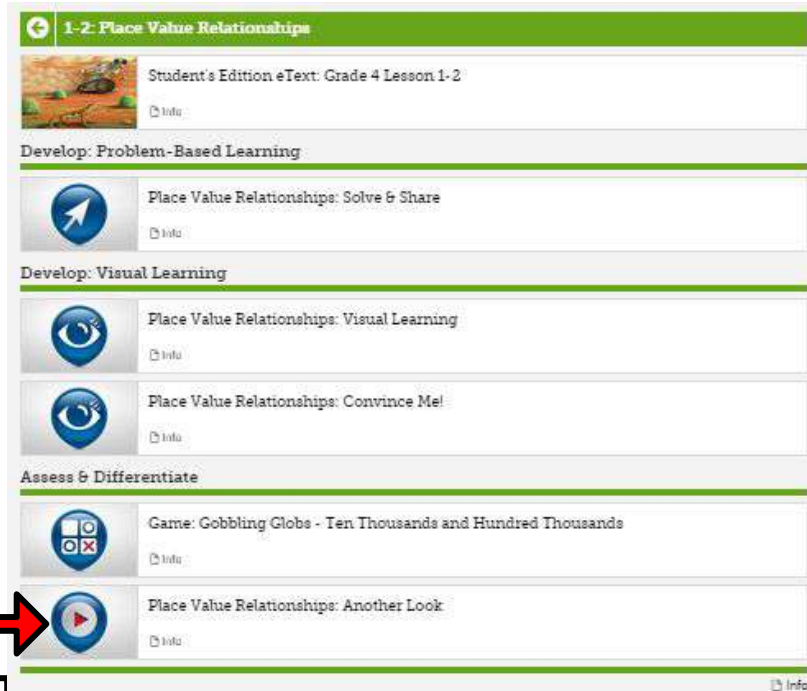
Another Look

**Homework Video -
available through
student account access**

**Daily video for students and
parents.**

**Presents an example as a
lesson refresher.**

**Reviews the math strategy
taught in class.**





**NORWOOD
PUBLIC
SCHOOLS**

275 Prospect Street, PO Box 67
Norwood, MA 02062
781.762.6804 Phone



Contact Us



Staff Directory



School Events



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Family Resources

Students

Staff

School Committee

Town Links

Careers

Students

Big Ideas Math

Elementary Library

Elementary Science Center

Google Drive

Google Apps For Education Resources

High School Guidance

High School Library

High School Program of Studies

Lexia Core5

Lexia Strategies

Pearson Realize Math

Summer Math

Summer Reading

Working Papers

LOG ON AT HOME!

You and your child can access the new math program online at www.pearsonrealize.com and sign-in using the username and password was sent home by the teacher.

A close-up photograph of several ants on a red raspberry. The ants are black and brown, and the raspberry is bright red with green leaves in the background.

Programs

Classes

Data

The cover of the enVisionmath2.0 Common Core Grade 4 2016 textbook, featuring a robot and a lizard in a desert setting.

enVisionmath2.0
Common Core
Grade 4 2016

[View program ▶](#)

0 New assignment(s) submitted
Grade 4 Kelly

[View class ▶](#)

0 New attachment(s) submitted
Grade 4 Kelly

1 of your 18 students have signed
in
Grade 4 Kelly

[View class ▶](#)

0 New test score(s)
Grade 4 Kelly



Ways to help at home

Practice counting money with real coins

Let your child help you cook -- cooking involves counting and measuring

Help your child learn the math vocabulary -- academic vocabulary

Point out math in our everyday lives

Provide paper or a whiteboard for your child to work on when you ask them difficult questions.

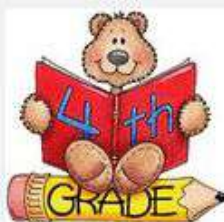
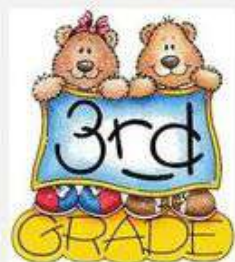
Study basic facts - 5 to 10 minutes a day -- establish a routine



There are two important documents that guide student's participation in summer math this year. The first document is the **Summer Math Activity Menu**. This document will guide students in choosing math activities that will keep their skills sharp! Students will keep track of their hard work on the second document, the **Summer Math Log**. These documents were sent home with students. Additional copies may be downloaded by clicking the blue boxes above.

Addition flash cards may be downloaded [here](#). Multiplication flash cards may be downloaded [here](#).

Click on your child's next year's grade level to download a special summer math game!



<http://www.norwood.k12.ma.us/curriculum/Summer-Math.cfm>



Ways to build a math culture

Be positive and supportive

Try to set aside your distaste for math and encourage your children as much as possible.

Remember young children are eager to learn.

ADDITION STRATEGIES:

Count on 1, 2 or 3 **YELLOW**

Doubles **GREEN**

Combination of TEN **RED**

Add onto 10

Near Doubles ($7+8$)

Doubles plus 2 ($5+7 = 5+5+2$)

Making Ten and add the rest
($9+5$)

Building on Known Facts

Having fluency with addition supports the knowledge of subtraction facts

Name _____

Teaching Tool
11

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10	11
2	2	3	4	5	6	7	8	9	10	11	12
3	3	4	5	6	7	8	9	10	11	12	13
4	4	5	6	7	8	9	10	11	12	13	14
5	5	6	7	8	9	10	11	12	13	14	15
6	6	7	8	9	10	11	12	13	14	15	16
7	7	8	9	10	11	12	13	14	15	16	17
8	8	9	10	11	12	13	14	15	16	17	18
9	9	10	11	12	13	14	15	16	17	18	19
10	10	11	12	13	14	15	16	17	18	19	20

Name _____

Teaching Tool
11

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10	11
2	2	3	4	5	6	7	8	9	10	11	12
3	3	4	5	6	7	8	9	10	11	12	13
4	4	5	6	7	8	9	10	11	12	13	14
5	5	6	7	8	9	10	11	12	13	14	15
6	6	7	8	9	10	11	12	13	14	15	16
7	7	8	9	10	11	12	13	14	15	16	17
8	8	9	10	11	12	13	14	15	16	17	18
9	9	10	11	12	13	14	15	16	17	18	19
10	10	11	12	13	14	15	16	17	18	19	20

Here's what I already know!

Use your highlighter to mark the problems you already know quickly. As you learn new facts, highlight them!



MULTIPLICATION STRATEGIES:

Zero Property
Identity Property
Doubles
Clock 5s
Nine facts
Doubles Doubled
Doubles Plus One
Set
Fives Plus One Set

Name _____

Teaching Tool
23

x	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100


Multiplication Table 23

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Will my child ever learn Math the way I did?

traditional algorithms “carrying” in addition and “borrowing” in subtraction are now introduced after students have built a strong understanding using place value strategies.



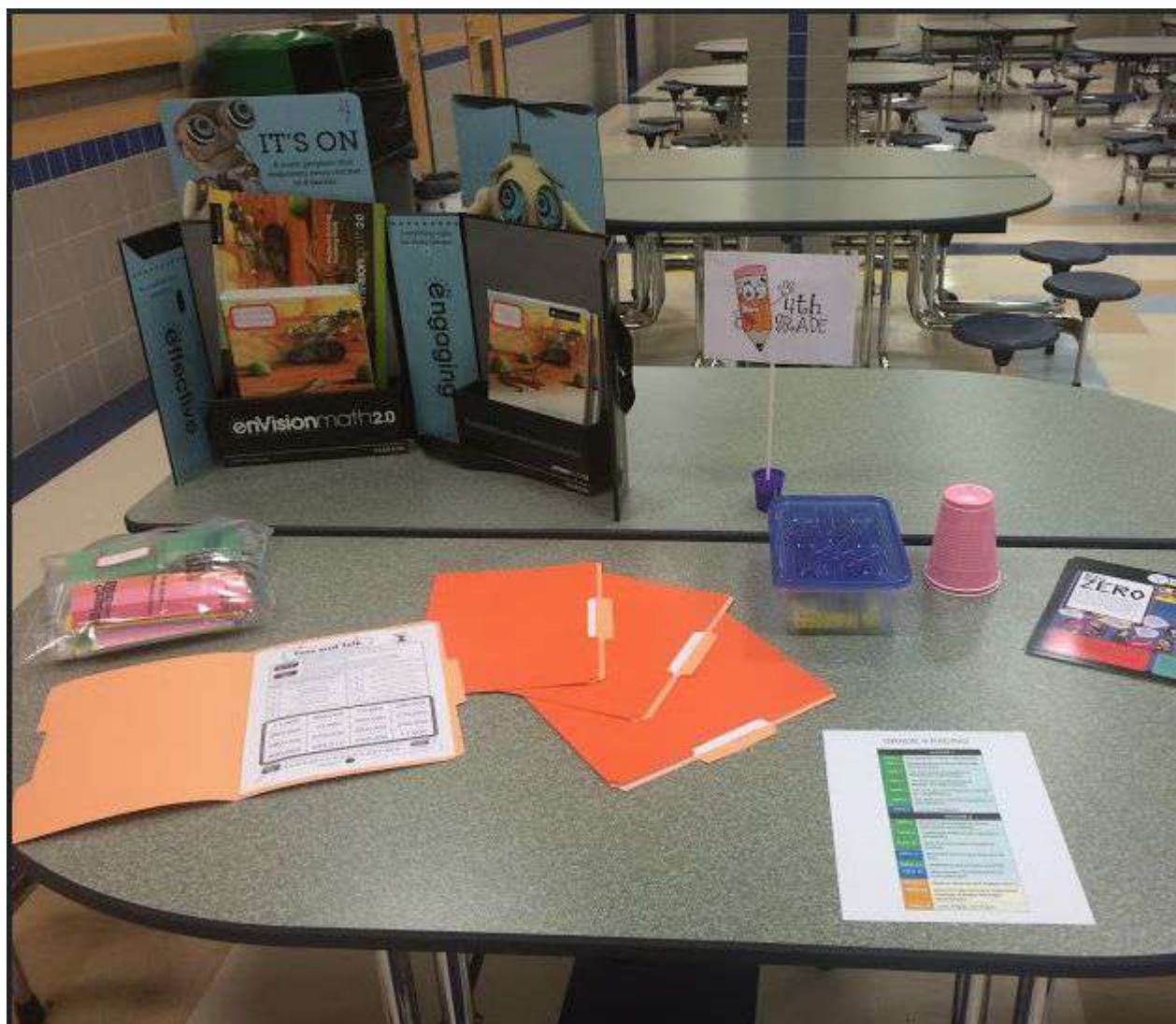
When it takes your child longer than '*just solving it the real way*' try not to get frustrated and worried.

Think about the deep mathematical understanding your child is developing while thinking about what they are doing, not just applying rules to numbers.



THE BIG TAKEAWAY

Elementary math strategies
are built for understanding,
not efficiency.



Please join us in the cafeteria for an opportunity to interact with the enVision 2.0 Math components and ask questions.

Each station is set up by GRADE LEVEL

- student workbooks
- game with materials
- chrome book to explore the online dashboard and play an online envision game
- student manipulative kit
- Problem Solving Reading mat
- scope and sequence

Jill Milton --

jmilton@norwood.k12.ma.us

Jill Milton -- jmilton@norwood.k12.ma.us

.....

Elementary Math Coordinator, Norwood Public Schools

In addition,

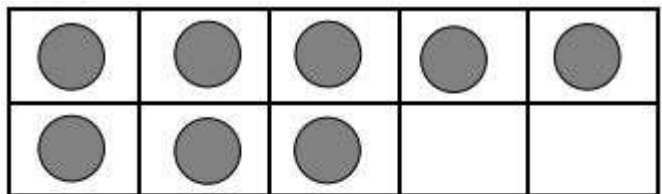
- ◆ Looney Math Consulting, Instructor
- ◆ Board member with MassMATE (Math Assoc of Math Teachers)
- ◆ Board member with MACS (Math and Computer Science @ Bridgewater State University)
- Classroom Teacher - K, 1, 2, 3, 4
- Math Specialist - K-5
- Private Tutor



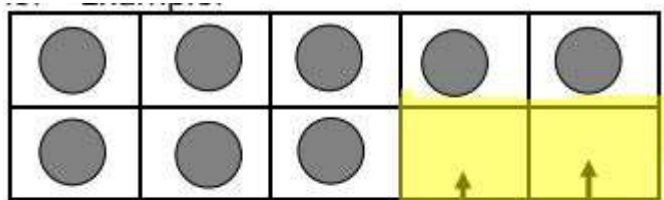
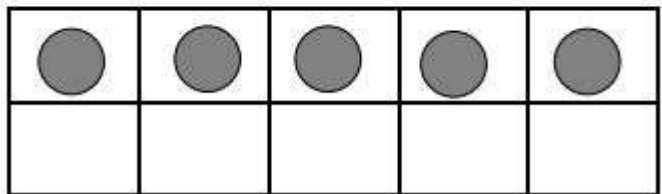
Future Presentations



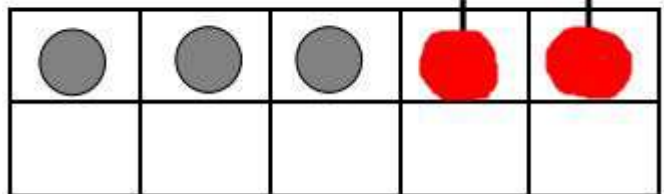
Teaching basic facts to young children



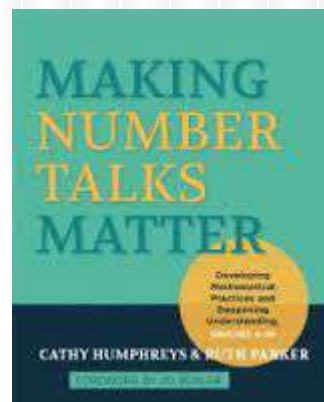
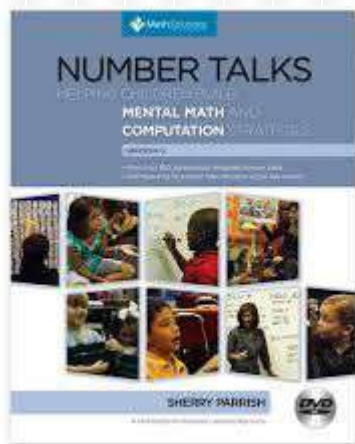
$$8 + 5 =$$



$$8 + 2 + 3 =$$

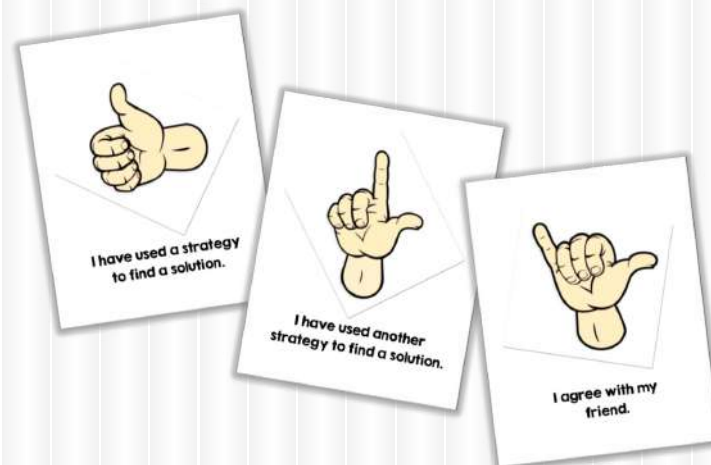
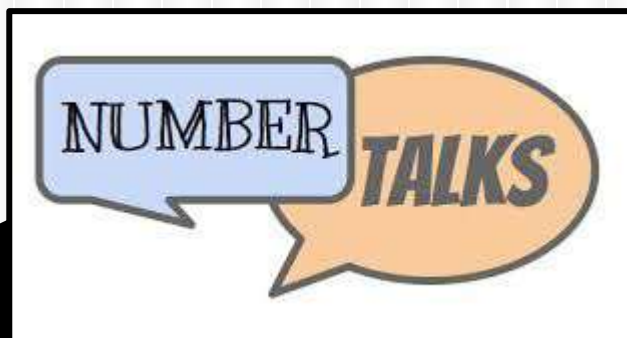


$$10 + 3 =$$



An intentionally planned Talk

A powerful tool for helping students develop computational fluency because the expectation is that they will use **Number** relationships and the structures of **Numbers** to add, subtract, multiply and divide.





NUMBER TALKS

GRADES K-5

[Why Number Talks?](#)

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[Subtitle Options](#)

[Credits](#)

[Classroom Clips](#)

[Teacher Clips](#)

[Author Clips](#)



3.2 Addition: $59 + 13$ (2:38)



5.6 Subtraction:

$1000 - 674$ (3:19)