Mathematics

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Math update

- Curriculum template
- Problem solving across the school (including Exemplars)
- Collaboration between Math coordinators and teachers
- Math committee work
- Work with outside math consultants
- Off site professional development
- Tri-State action plan
- Math Workshop
- Budgetary considerations

Workshop

- Approach to teaching that requires student-centered, responsive, assessment-based instruction

- Emphasis on creating life-long mathematicians who display independence and perseverance in future endeavors

WOODBRIDGE SCHOOL DISTRICT MATH UNIT ORGANIZER

Grade:	
Unit Title:	
Overview of Unit:	
Pacing:	

Background Information For The Teacher
Rationale
Key Learning
Changes from Past Practice

Essential Questions (and Corresponding Big Ideas)
• **Essential Questions** (Corresponding Big Ideas)

Core Content Standards	Explanations and Examples

Pacing Guide

	Grade 2	Grade 5
Unit 1	Addition and Subtraction	Multiplication, Division and Order of Operations
Unit 2	Geometry and Arrays	Decimals
Unit 3	Place Value	Addition and subtraction of fractions
Unit 4	Using Place Value understanding to add	Multiplication and division of fractions
Unit 5	Time and Money	Measurement
Unit 6	Using Place Value understanding to subtract	Volume
Unit 7	Measurement and Data	Geometry
Unit 8	Geometry	Logical and Algebraic Reasoning

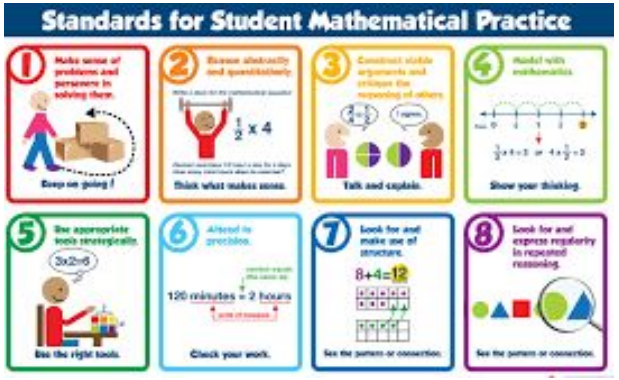
Resources

COMMON CORE
STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Curriculum vs. Resource

Resources:

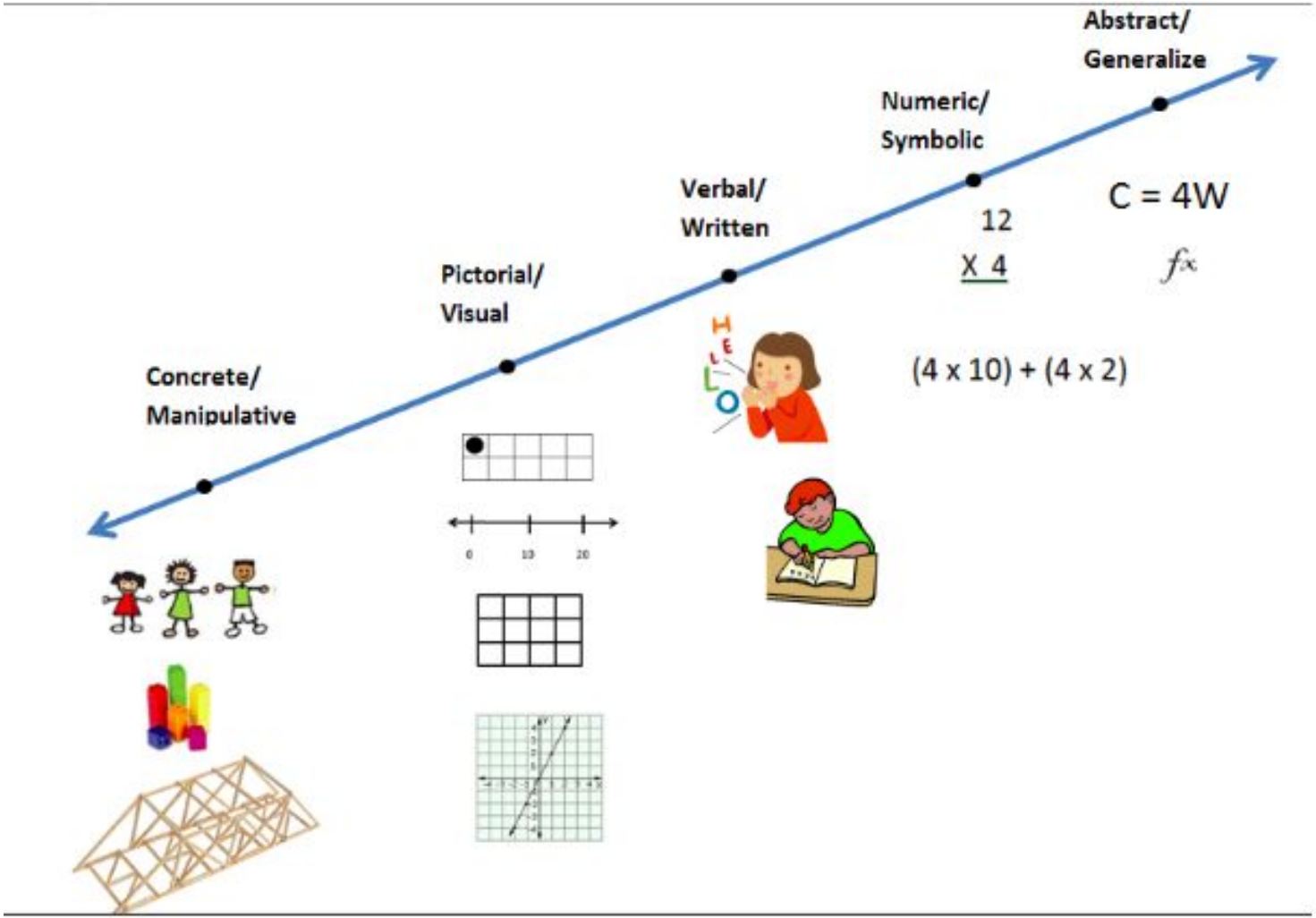
- Investigations
- Big Ideas
- Various others



BIG IDEAS MATH

NCTM NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

Exemplars® LIBRARY
We Set the Standards!


Abstract/
Generalize
Numeric/
Symbolic
Verbal/
Written
Pictorial/
Visual
Concrete/
Manipulative
C = 4W
12
X 4
(4 x 10) + (4 x 2)
0
10
20

Generalizing a concept

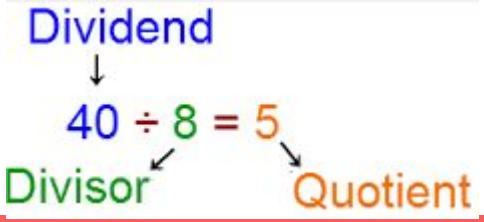
12 ÷ 2 =

12 ÷ 4 = (What did you notice about the dividend, divisor and quotient?)

24 ÷ 2 =

24 ÷ 4 = (Can you use what you noticed above to solve this equation?)

48 ÷ 8 = (Now what happened? Can you write a rule?)



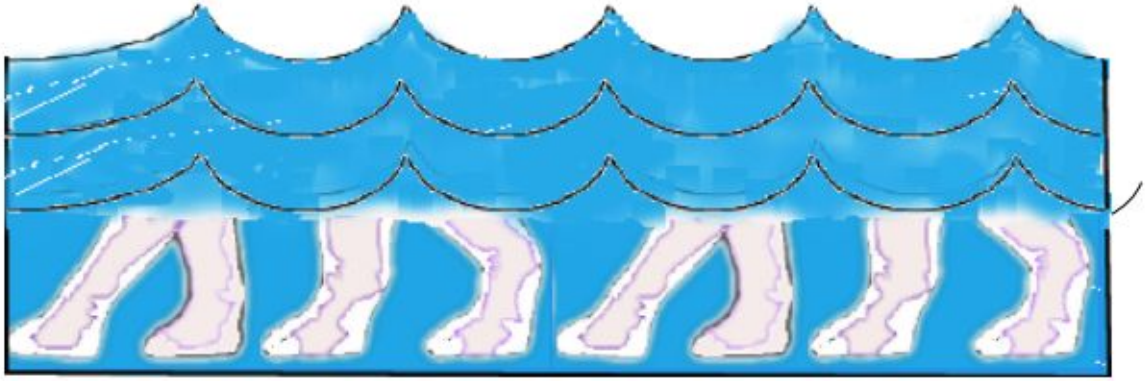
How many letters are in your name? Build a cube tower with one cube for each letter.

Problem Solving

Digging Dinosaurs

Level A:

You are swimming under water in a lake and you see dinosaur feet in the water. You don't want to go to the surface in case they are not friendly dinosaurs. Below is a picture of what you see.



How many dinosaurs are standing in the lake?
Explain how you know. Use words and mathematical language to explain your solution.

Continued:

Level B:

You want to go with your sister to the museum to see the dinosaur exhibit. The museum has three different plans to pay for going to see the dinosaurs.

Museum Rate Plans

Plan A: Pay $ 3.00 per person to visit the Museum.

Plan B: Monthly membership is $8.00 for each person, but you can go as many times as you like during the month.

Plan C: A family membership for a month is $17.00. Everyone in your family can go as often as they like for a month.

You and your sister want to go see the dinosaur exhibit three times this month. Which plan should you buy to save money?

Explain your reasoning.

Level C:

It is summer vacation and you can go to the museum more often. The rates change for a summer special.

Museum Summer Rate Plans

Plan A: Pay $ 2.75 per person to visit the museum.

Plan B: Monthly membership is $7.50 for each person, but you can go as many times as you like during the month.

Plan C: A family membership for a month is $15.25. Everyone in your family can go as often as they like for a month.

If you and your brother want to go to the museum eight times during the three months of summer, which one plan should you use and when should you go to save the most money?

What if you can't go as you originally planned? What other plans might you use? State when you would attend and the best plan(s) to use. Explain your thinking.

Still more....

Problem solving

Wooden Legs

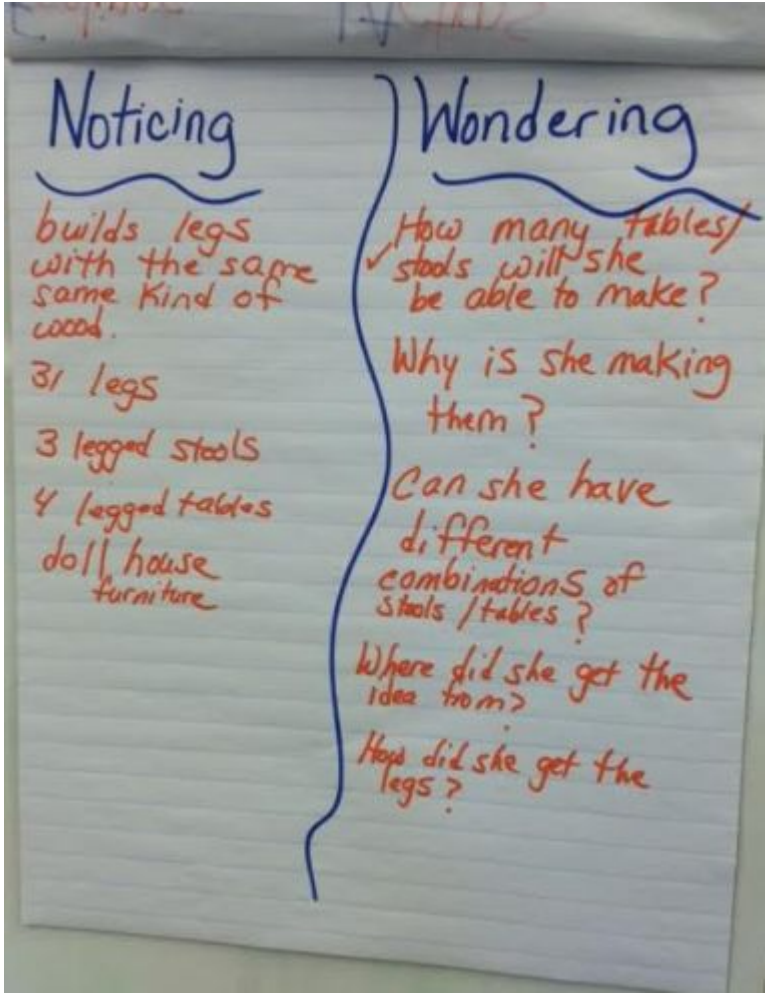
Wendy builds wooden dollhouse furniture. She uses the same kind of legs to make 3-legged stools and 4-legged tables. She has a supply of 31 legs and wants to use them all to make stools and tables.

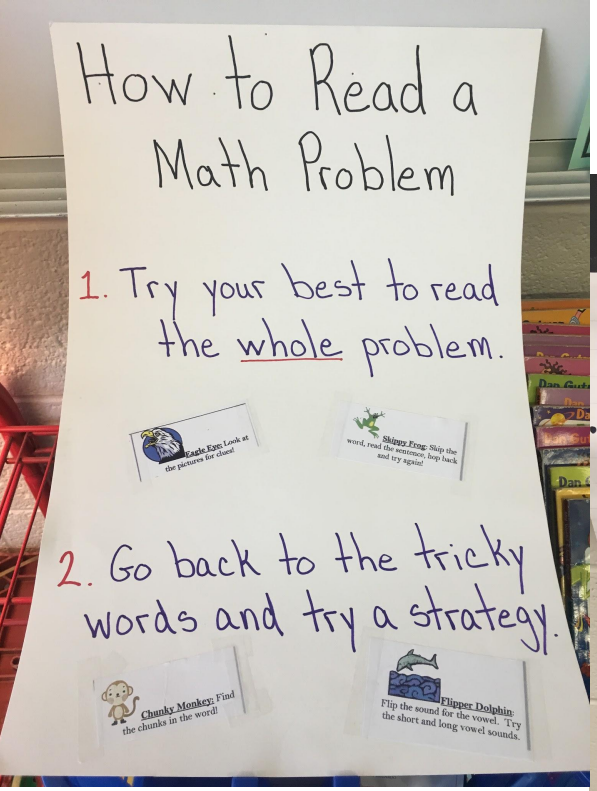
(Record what students are noticing and wondering.)

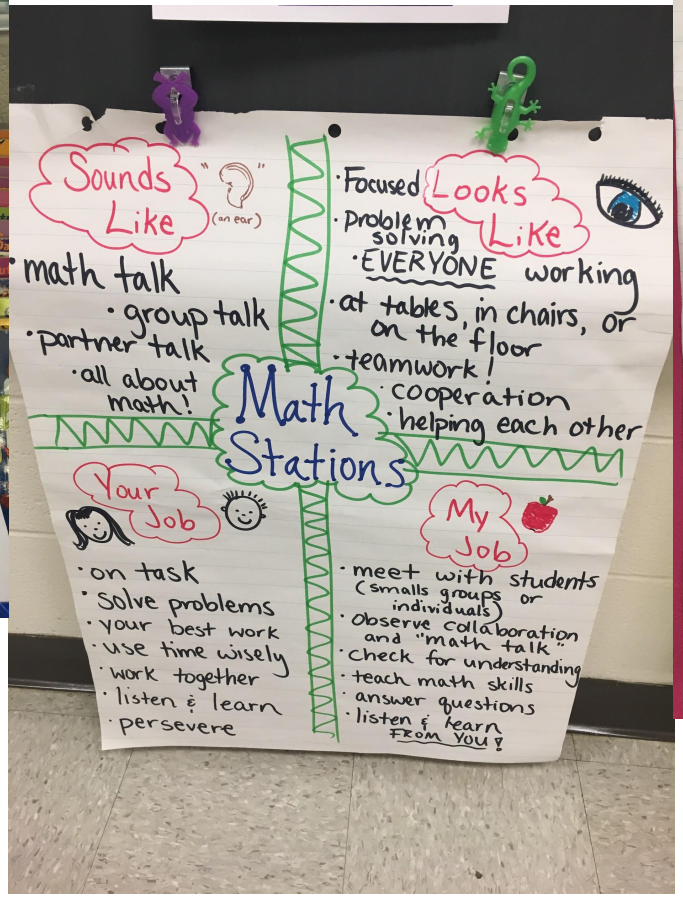
Find all the possible ways she can use all 31 legs.

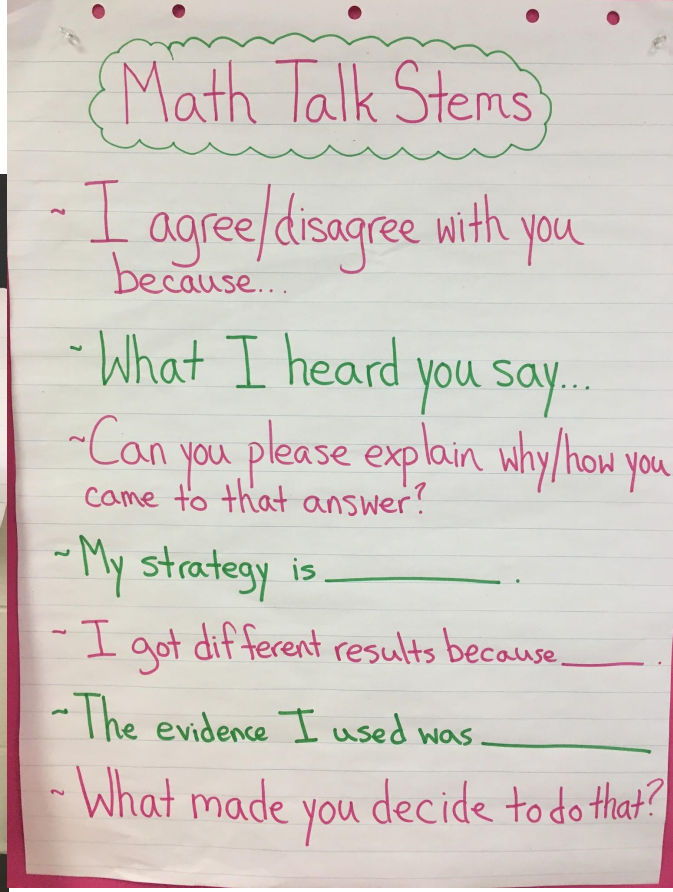
Explain how you solved the problem and how you know you have found all the solutions.

Extra: Wendy sells her furniture at the local toy store. She gets $2 for each stool and $3 for each table. Of all the ways you found, which would earn her the most money? Be sure to explain how you know.




How to Read a Math Problem
1. Try your best to read the whole problem.
Eagle Eyes: Look at the pictures for clues!
Skippy Frog: Skip the word, read the sentence, hop back and try again!
2. Go back to the tricky words and try a strategy.
Chunky Monkey: Find the chunks in the word!
Flipper Dolphin: Flip the sound for the vowel. Try the short and long vowel sounds.


Math Stations
Sounds Like
(an ear)
math talk
· group talk
· partner talk
· all about math!
Looks Like
· Focused problem solving
· EVERYONE working
· at tables, in chairs, or on the floor
· teamwork!
· cooperation
· helping each other
Your Job
· on task
· Solve problems
· your best work
· use time wisely
· work together
· listen & learn
· persevere
My Job
· meet with students (smalls groups or individuals)
· observe collaboration and "math talk"
· Check for understanding
· teach math skills
· answer questions
· listen & learn From YOU!


Math Talk Stems
~ I agree/disagree with you because...
~ What I heard you say...
~ Can you please explain why/how you came to that answer?
~ My strategy is _____.
~ I got different results because _____.
~ The evidence I used was _____
~ What made you decide to do that?

Thank you!