

NCTM 2008

Salt Lake City, UT

This session focuses on keeping students mindful of the skills you teach. Learn how to integrate such topics as data analysis, geometry, and more using a math workshop approach. Different techniques for implementing a spiral review will be shared.

Spiral Your Review!

*A Workshop
Approach to
Math
Instruction*

Presented by:
John Moritz and
Shelly Hartman

Objectives of the Session

- Why a workshop model for math?
- Planning is key
- Three components for a workshop model
 - Direct Instruction
 - Problem Solving
 - Skill Practice
 - Hands on- building conceptual knowledge
- Assessment
- Management strategies

Why a Workshop?



- No opportunity for a whole class lesson
- Very wide range of ability levels
- Small group instruction

- *Needs are the same in a straight grade level*

Workshop Model Approach

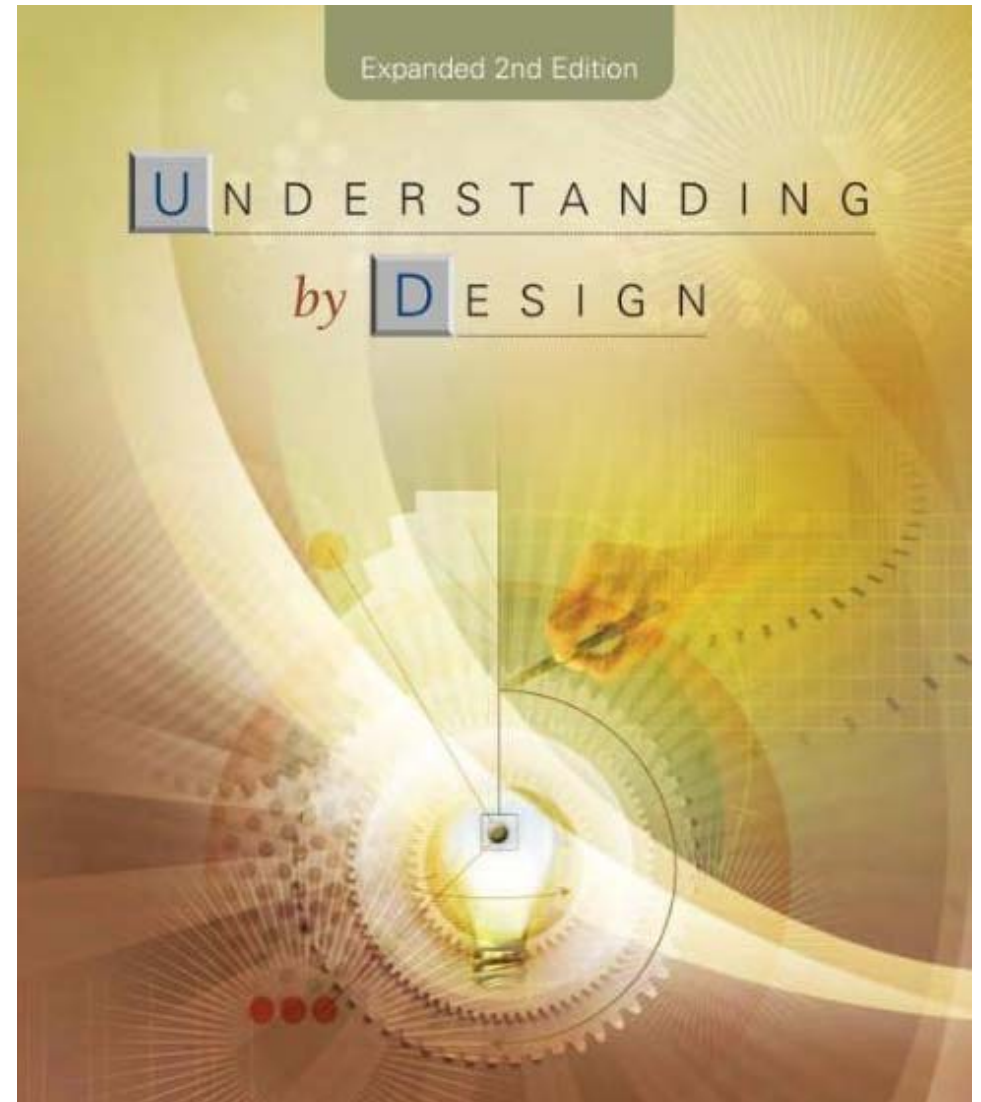


- Differentiation
- Constructivism
- Small group work
- Spiral review
- Independent tasks
- On-Going Assessment

Planning for Skills

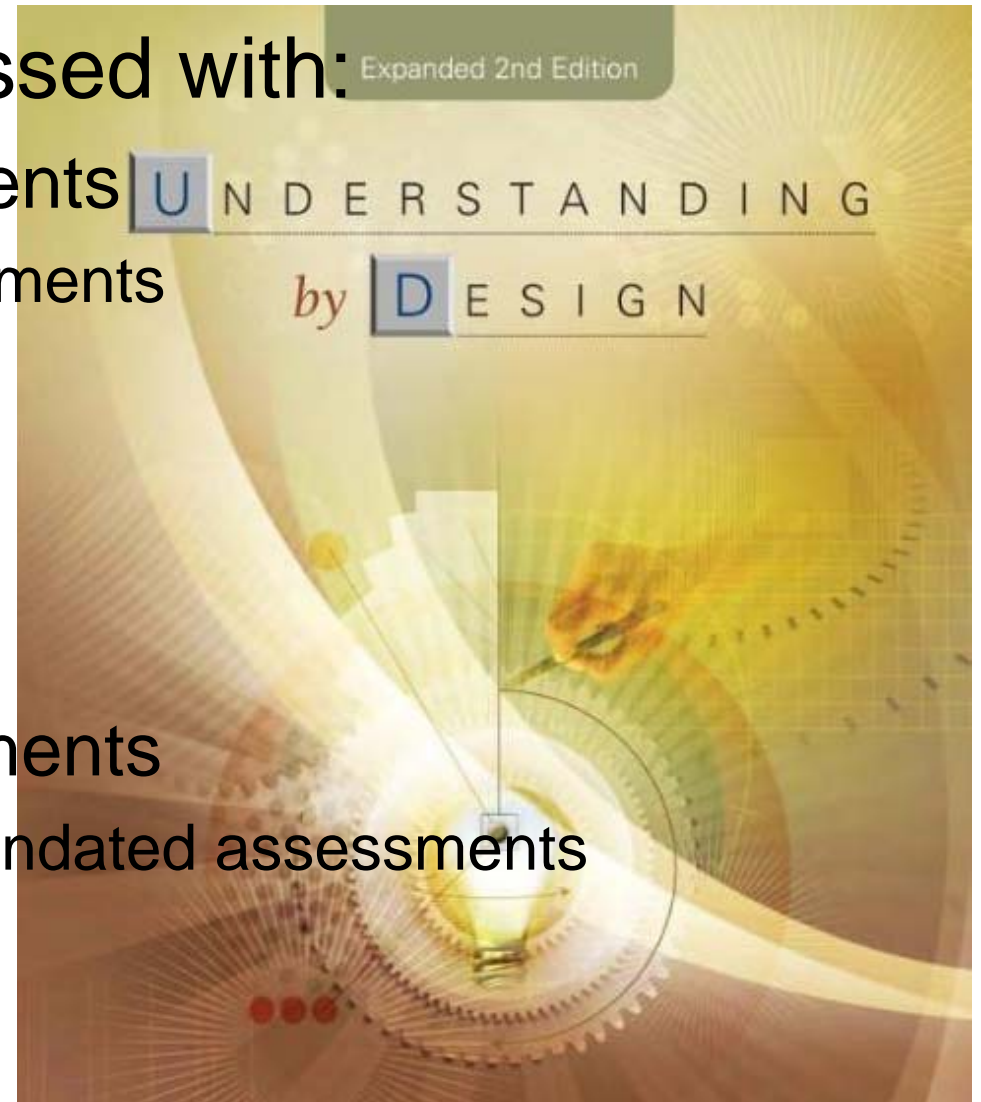
Upper Level Resources-

- Use of District Curriculum map
- Use of State Standards
- K-5 grade levels



Planning for Assessment

- Skills are best assessed with:
 - Formative Assessments
 - Performance assessments
 - Tests
 - Checklists
 - Written strategies
 - Modeling strategies
 - Summative Assessments
 - District and State mandated assessments



Planning Workshop Components

- Components of workshop need to include:
 - Time for direct instruction
 - Repetitive practice of basic skills
 - Problem solving
 - Independent practice
 - Hands-on learning



Planning for Flexibility

- Continuous assessment of student needs
- Continuous preparation for differentiation
- Monitor and adjust classroom structures

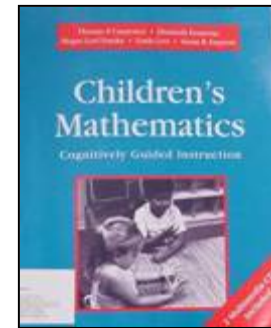


Four Components for the Workshop



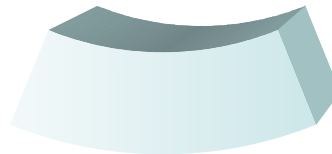
Teacher
Table

Word
Problems



Text
Book

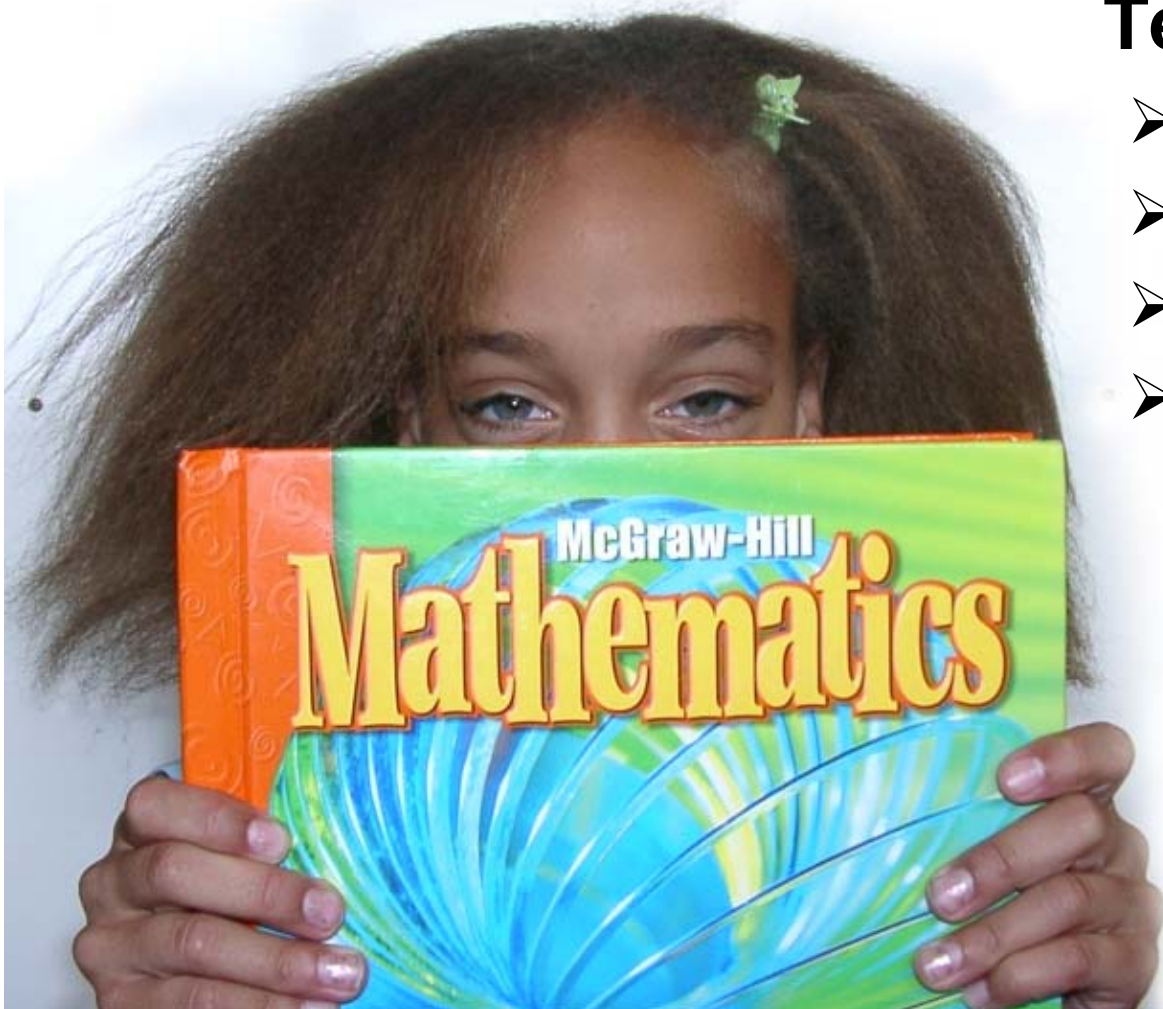
Spiral
Review



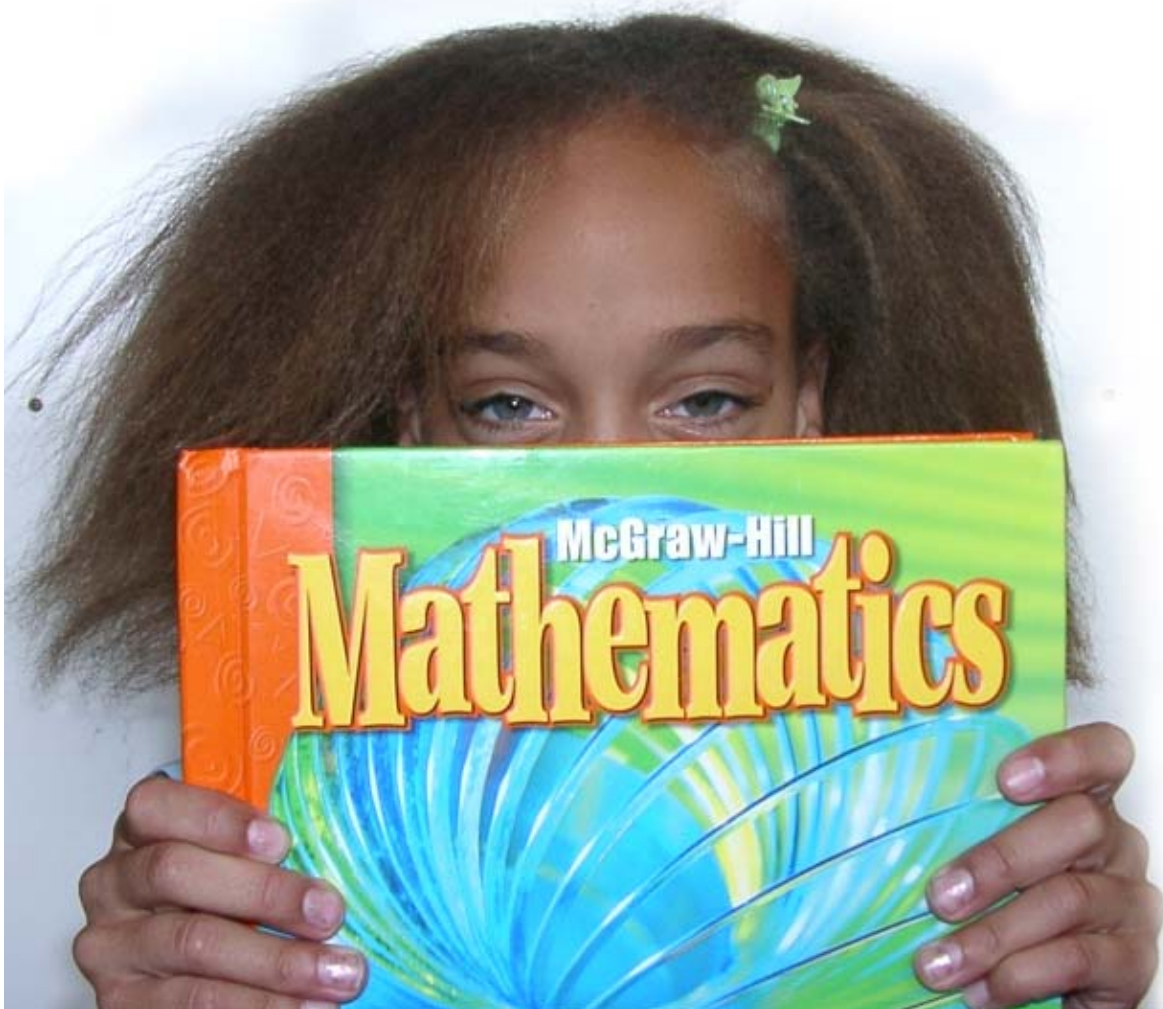
District Curriculum/Textbook

➤ District Adopted Text book

- district mandated
- skill drill
- algorithm practice
- standardized format



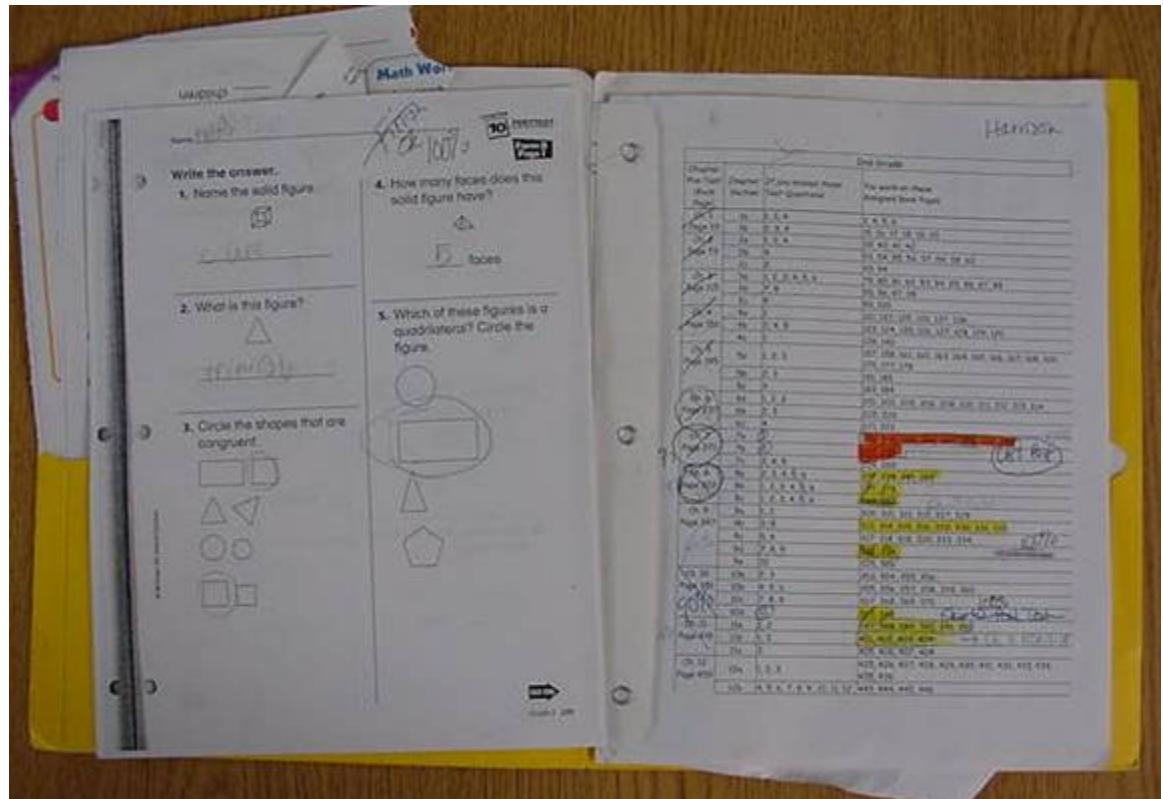
District Curriculum/Textbook



- Following standard;
 - Align Chapter
- Choose Pre Test for that Chapter
 - Align questions to standard
- Choose Test Questions
 - Align book work pages
- What standards are not addressed?

District Curriculum/Textbook

- McGraw Hill
 - high prep/low maintenance
 - differentiated/individualized
 - pre and post test by chapter
 - independent vs. instructional



Harrison

2nd Grade			
Chapter Pre-Test (Book Page)	Chapter Section	If you missed these Test Questions	You work on these Assigned Book Pages
Ch. 1	1a	1, 3, 4	3, 4, 5, 6
Page 33	1b	2, 3, 4	15, 16, 17, 18, 19, 20
Ch. 2	2a	1, 2, 4	39, 40, 41, 42
Page 73	2b	4	53, 54, 55, 56, 57, 58, 59, 60
	2c	3	43, 44
Ch. 3	3a	1, 2, 3, 4, 5, 6	79, 80, 81, 82, 83, 84, 85, 86, 87, 88
Page 115	3b	7, 8	95, 96, 97, 98
	3c	9	99, 100
Ch. 4	4a	1	121, 122, 125, 126, 137, 138,
Page 151	4b	2, 4, 5	123, 124, 125, 126, 127, 128, 129, 130
	4c	1	139, 140
Ch. 5	5a	1, 2, 3	157, 158, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 177, 178
Page 195	5b	2, 3	181, 182
	5c	3	183, 184
Ch. 6	6a	1, 2, 3	201, 202, 205, 206, 209, 210, 211, 212, 213, 214
Page 237	6b	2, 3	225, 226
	6c	4	221, 222
Ch. 7	7a	1	243, 244, 245, 246, 247, 248, 249, 250
Page 271	7b	2	257, 258
	7c	3, 4, 5	259, 260
Ch. 8	8a	2, 3, 4, 5, 6	277, 278, 281, 282
Page 303	8b	1, 2, 3, 4, 5, 6	277, 278
	8c	1, 2, 3, 4, 5, 6	289, 290
Ch. 9	9a	1, 2	309, 310, 311, 312, 327, 328
Page 347	9b	3, 4	313, 314, 315, 316, 329, 330, 331, 332
	9c	5, 6	317, 318, 319, 320, 333, 334,
	9d	7, 8, 9	333, 334
	9e	10	325, 326
Ch. 10	10a	2, 3	353, 354, 355, 356,
Page 381	10b	4, 5, 6	355, 356, 357, 358, 359, 360
	10c	7, 8, 9	367, 368, 369, 370
	10d	10	365, 366
Ch. 11	11a	1, 2	387, 388, 389, 390, 391, 392
Page 419	11b	1, 2	401, 402, 403, 404
	11c	3	405, 406, 407, 408
Ch. 12	12a	1, 2, 3	425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436
Page 459	12b	4, 5, 6, 7, 8, 9, 10, 11, 12	443, 444, 445, 446

Handwritten notes and corrections on the table:

- Ch. 7a: 105%
- Ch. 7b: 257, 258
- Ch. 7 Post
- Ch. 8a: 277, 278, 281, 282
- Ch. 8b: 277, 278
- Ch. 8c: 289, 290
- Ch. 8 Post
- Ch. 9a: 309, 310, 311, 312, 327, 328
- Ch. 9b: 313, 314, 315, 316, 329, 330, 331, 332
- Ch. 9c: 317, 318, 319, 320, 333, 334,
- Ch. 9d: 333, 334
- Ch. 9e: 325, 326
- Ch. 10a: 353, 354, 355, 356,
- Ch. 10b: 355, 356, 357, 358, 359, 360
- Ch. 10c: 367, 368, 369, 370
- Ch. 10d: 365, 366
- Ch. 10 Post Test
- Ch. 11a: 387, 388, 389, 390, 391, 392
- Ch. 11b: 401, 402, 403, 404 → Ch. 11 Post-Test
- Ch. 11c: 405, 406, 407, 408

Problem Solving

- Problem Solving
 - ✓ Small Group
 - ✓ Hands-on
 - ✓ Developmentally Appropriate
- Questioning
- Assess Understanding

Problem Solving

- Cognitively Guided Instruction (CGI)
 - Problem Solving
 - Differentiated
 - Constructivist
- Picking Numbers and Problem Types

Name _____ Date _____

CGI Math Problem (JCU)

Jeremy has ____ marbles. A friend gives him some more marbles. Now Jeremy has ____ marbles altogether. How many marbles did his friend give him?

(12, 20) (27, 36) (54, 72) (96, 191) (246, 783) (1099, 3548)

Show your work:

Explain your answer:

Try a number sentence:

MAR 15 2005

Name _____ Date _____

(SCU) David has _____ paper clips. He gave some to his teacher. Now he has _____ ~~marbles~~ ^{paper clips} left. How many paper clips did David give to his teacher?

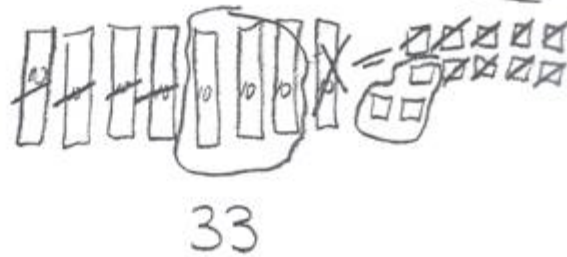
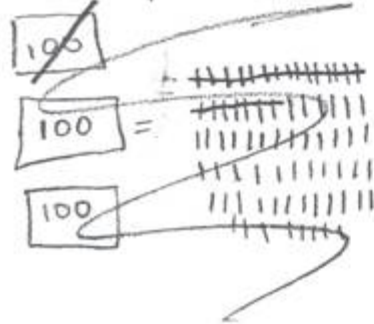
(41, 13)

(82, 49)

(120, 67)

~~(300, 157)~~

Show your work:



Explain your thinking:

I made 82 with base 10 blocks. I tried to take out 49 but I didn't have enough ones. I traded a 10 for 10 ones. Then I took out 49 he had left after giving some to the teacher. I counted 33 left.

Create a number sentence:

$$82 - 49 = 33$$

Independent Practice



- Focus on skills that students forget about after “the unit”
- Continually develop vocabulary and concepts through spiral review

Independent Piece

➤ Theory

- Practice at Independent level (Differentiated work)
- Sustained activity
- Meaningful / Standard Based
 - (NOT busy work)
- Hands On (Build Conceptual Knowledge)
- Hold accountable

Finding Independent Pieces

- Negatives:
 - Materials did not sustain students independently for 45 minutes
 - Coverage was not deep enough (surface skills only)
- Positives
 - A lot to choose from
 - Text book included minimal support
 - Many were flexible regarding implementation

Example of Data Analysis





K

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Name _____ Date _____

















































How Do You Get to School?

6				
5				
4				
3				
2				
1				

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1

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Name _____ Date _____

Vertical Bar Graph 1

My Survey Question: _____

How do you get to school? _____

Categories:





Topic	Tally	Count Total
1. Car 		
2. Bus 		
3. Walk 		
4. Bike 		

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to School

15				
14				
13				
12				
11				
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				

Categories: Car  Bus  Walk  Bike 

CATEGORY LABELS: Ways to get to School

Write three facts about your graph.

What got the most? _____

What got the least? _____

What would you choose? _____

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2

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Name _____ Date _____

My Survey Question: _____

Categories:

Topic	Tally	Total
1		
2		
3		
4		

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15				
14				
13				
12				
11				
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				

Please write three facts about your graph.

1. _____

2. _____

3. _____

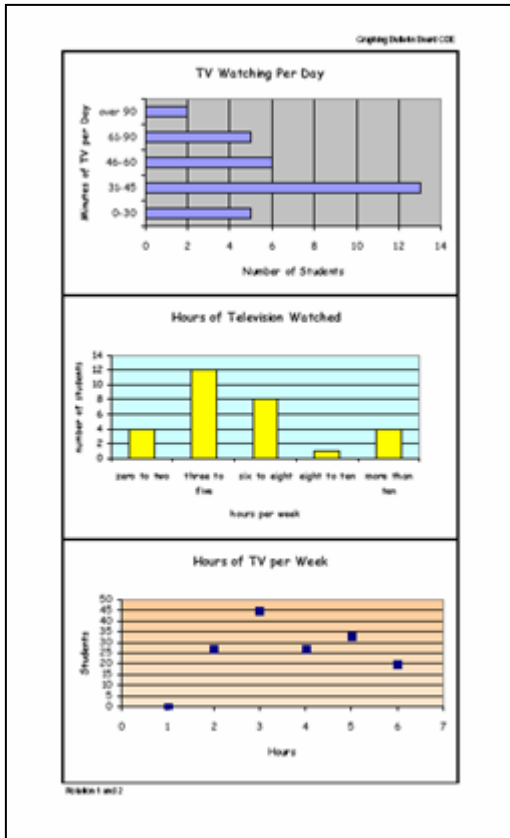
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Example of Data Analysis

3

4

5



Graphing 3.1

Name _____ Date _____

Use **Graph 3** on the bulletin board to answer the questions. You can use the student resources to help find the answers.

- Write a question that the creator of the graph would have used to collect data.
- Could this data be collected by any of the following methods?
 - Using observational skills _____
 - Polling or surveying people _____
 - Experimenting _____
 - Experimenting _____
- What method of collecting data was used to gather the information presented in the graph? _____
- What is the purpose of the graph? _____
- Name the type of graph it is. _____

Analyzing mode, median, mean

List the number of students from **Graph 3** in order from least to greatest to determine mode.

- Can the mode be determined in this graph? _____ What is it? _____
- Why would someone want to find out the mode in this graph? _____

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Graphing 3.1

Name _____ Date _____

Use **Graph 3** on the bulletin board to answer the questions. You can use the student resources to help find the answers.

- Write a question that the creator of the graph would have used to collect data.
- Could this data be collected by any of the following methods?
 - Using observational skills _____
 - Polling or surveying people _____
 - Experimenting _____
 - Experimenting _____
- What method of collecting data was used to gather the information presented in **Graph 3**? _____
- What is the purpose of **Graph 3**? _____
- What type of graph is **Graph 3**? _____
- Use **Graph 3**. How many students watch about an hour of TV per day? _____
- Use **Graph 3**. What is the range of hours students watch TV? _____

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Graphing 3.1

Name _____ Date _____

Use **Graph 3** on the bulletin board to answer the questions. You can use the student resources to help find the answers.

- Write a question that the creator of the graph would have used to collect data.
- Could this data be collected by any of the following methods?
 - Using observational skills _____
 - Polling or surveying people _____
 - Experimenting _____
 - Experimenting _____
- What method of collecting data was used to gather the information presented in **Graph 3**? _____
- What is the purpose of **Graph 3**? _____
- What type of graph is **Graph 3**? _____
- Use **Graph 3**. Thirteen students watch TV 33-48 minutes per day. How much TV do these students watch per week? _____
- Use **Graph 3**. How many students watch 23-38 hours of TV per week? _____

Analyzing mode, median, mean

List the data that was graphed on **Graph 3** in order from least to greatest to determine mode, median and mean. If more space is needed, attach a piece of paper to the answer sheet.

- Can the mode be determined in this graph? _____ What is it? _____
- Can the median be determined in this graph? _____ What is it? _____
- Can the mean be determined in this graph? _____ What is it? _____

- Why would someone want to know what the mean number is? _____

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Graphing 3.1

Data Analysis

What is the most surprising data that you notice on this graph? Describe what makes it surprising.

Comparing Data on Graph 3

What would happen if you surveyed adults and asked them the same question from **Graph 3**?

Would the data be the same? _____ Why or why not? _____

Would it be different? _____ Why or why not? _____

Looking Ahead

List on **Graph 3** and 4. What is the range of number of students for each graph?

Graph 3 _____

Graph 4 _____

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Graphing 3.1

Analyzing mode, median, and mean

List the number of students from **Graph 3** in order from least to greatest to determine mode.

- Can the mode be determined in this graph? _____ What is it? _____
- Can the median be determined in this graph? _____ What is it? _____
- Can the mean be determined in this graph? _____ What is it? _____

Why would someone want to find out the median in these graphs? _____

Data Analysis

- If you wanted to tell a group of parents that their children were watching too much TV, which graph from the board would you use? _____
- Why would you use that graph? _____

Comparing Data on Graph 3

- What would happen if you surveyed adults and asked them the same question? _____

Would the data be the same? _____ Why or why not? _____

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Graphing 3.1

Data Analysis

- Circle the frequency table that the data from **Graph 3** was made from.

- What does the distribution of the data tell you? _____

- If you wanted to tell a group of parents that their children were watching too much TV, which of the 2 graphs on the bulletin board would you use? _____ How would you use this graph to convince the parents you were right? _____

Comparing Data

Pretend you have a survey using adults the same question. Answer the following questions if this new data were added to **Graph 3** on the bulletin board.

Would the data be the same? _____ Why or why not? _____

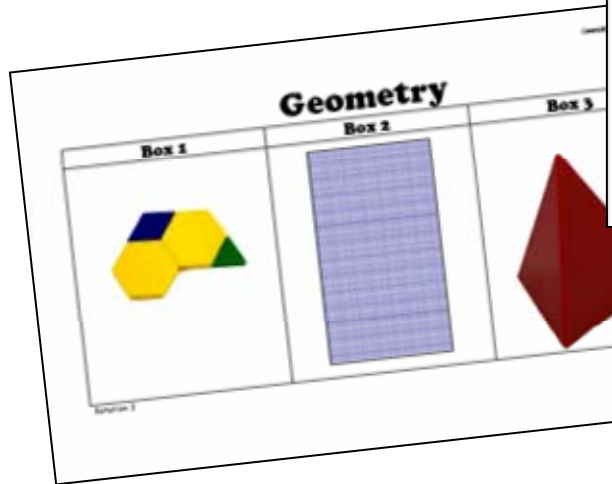
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Example of Geometry

K

1

2



Geometry 10001

Name: _____ Date: _____

Look Hear Trace Circle Rectangle

Count the shapes in the picture. Write the number below.

Trace the shapes on the picture.

Circles _____ Rectangles _____

Draw a line of symmetry through each shape below.

Name the shape in Geometry Box 1. Draw 4 more shapes with the same number of sides.

Trace the shape below.

How many sides? _____ How many angles? _____

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Geometry 101

Name: _____ Date: _____

Count the shapes in the picture. Write the number below.

Trace the shapes on the picture.

Circles _____ Rectangles _____

Draw a line of symmetry through each shape below.

Name the shape in Geometry Box 2. Draw 4 more shapes with the same number of sides.

Trace the shape below.

How many sides? _____ How many angles? _____

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Geometry 102

Name: _____ Date: _____

Draw a line of symmetry through each shape below.

Name shape in Box 3. Draw 4 more shapes with the same number of sides.

Draw the shape below.

How many sides? _____ How many angles? _____

*Make each one different!

Look at Box 3 on the Bulletin Board. Count the shapes with:

3 sides _____ 3 angles _____
4 sides _____ 4 angles _____
5 sides _____ 5 angles _____

Name and draw these secret shapes:
I have 4 sides that are all the same length. I have three sides, one is longer than the other two.

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Geometry 10002

Box 1 Box 2 Bulletin Board

Trace a scale.

Look at Box 3 on the Bulletin Board. Is one?

Yes No

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Geometry 101

Draw a Triangle 2 boxes above the Square.

Draw a Circle 2 boxes to the left of the Square.

Trace a face from Box 3.

What shape did you make? _____

How many sides does it have? _____

How many angles does it have? _____

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Geometry 102

1. Draw a circle 2 boxes above the square.
2. Draw a triangle 2 boxes to the left of the square.
3. Draw a square 4 boxes to the right of the square.
4. Draw a rectangle one box down, and two boxes to the right of the square.

Which of the four directions above is an example of a slide? _____

Is the shape in Box 3 a polygon? (yes or no) _____

Is it a quadrilateral? (yes or no) _____

Draw the shape with a line of symmetry.

Look at the shape in Box 3. Name of shape: _____

How many edges? _____

How many faces? _____

How many vertices? _____

List the 2-D shape of each face below.

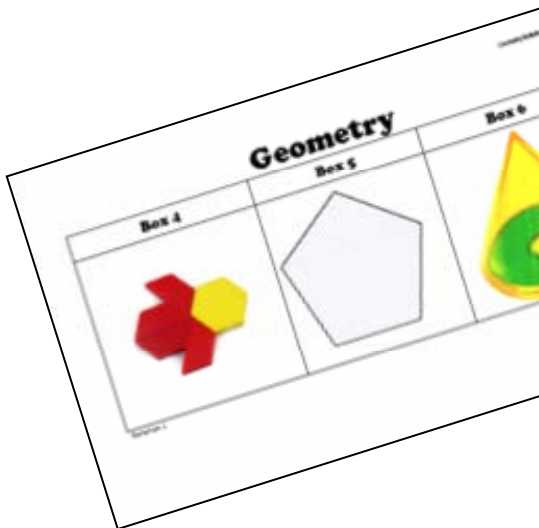
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Example of Geometry

3

4

5



Geometry 3.1

Name _____ Date _____

★ Trace shape in Box 4.
Count the shapes with:
Draw the shape below:
How many sides? _____
How many angles? _____

★ Is shape in Box 4 a polygon? _____
Is it a quadrilateral? _____
Draw the shape with a line of symmetry.

★ Trace one of the faces from the shape in Box 4 below:
Draw the face you traced here:
Parallel Lines? _____
Perpendicular Lines? _____
Right Angles? _____
Is the size of the shape similar to the shape in Box 4? _____
List other 3-dimensional shapes that have a congruent face to the face you traced.

★ Draw as many lines of symmetry as you are able to over the traced shape.

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Geometry 3.1

Name _____ Date _____

★ Is shape in Box 4 a polygon? _____
Is it a quadrilateral? _____
Draw the shape with a line of symmetry.
How many sides? _____ Angles? _____

★ Trace one of the faces from the shape in Box 4 below:
Draw the face you traced here:
Parallel Lines? _____
Perpendicular Lines? _____
Right Angles? _____
Is the size of the shape similar to the shape in Box 4? _____
List other 3-dimensional shapes that have a congruent face to the face you traced.

★ Draw as many lines of symmetry as you are able to over the traced shape.

★ Look at Geometry Box 4:
Name all the 2-dimensional shapes you see:
How many right angles are shown? _____
How many obtuse angles are shown? _____
How many acute angles are shown? _____

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Geometry 3.1

Name _____ Date _____

★ Is the shape in Box 4 a polygon? _____
Is it a quadrilateral? _____
Draw the shape with a line of symmetry.
Name: _____
How many edges? _____
How many faces? _____
How many vertices? _____
List the 2-D shape of each face below.

★ Trace one of the faces from the shape in Box 4 below:
Sketch other 3-dimensional shapes that have a congruent face to this shape.
Draw the traced face here:
Parallel Lines? _____
Perpendicular Lines? _____
Right Angles? _____
Is the size of the shape similar to the shape in Box 4? _____

★ Draw as many lines of symmetry as you are able to over the traced shape.

★ Look at Geometry Box 4:
Name all the 2-dimensional shapes you see:
How many right angles are shown? _____
How many obtuse angles are shown? _____
How many acute angles are shown? _____

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Geometry 3.1

1. Draw a translation of the square four units to the right.
2. Draw a reflection of the triangle below the triangle.
3. Draw a reflection of the rectangle to the left (draw each quarter turn).

★ List the ordered pair for the final position of:
- the reflected triangle (_____)
- the translated square (_____)
- the fully translated rectangle (_____)

★ Finish drawing the shape by using the line of symmetry.

★ Label the following shapes with one of the following geometric terms: acute angle, obtuse angle, right angle.

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Geometry 3.1

1. Draw a translation of the triangle four units to the right.
2. Draw a reflection of the trapezoid two units down.
3. Draw a reflection of the circle to the left (draw each quarter turn).

★ List the ordered pairs for:
The position of each angle for the reflected trapezoid: (_____) (_____) (_____) (_____)
The position of each angle for the translated triangle: (_____) (_____) (_____)

★ On the coordinate grid above, draw the following:
A line segment from (2, 7) to (4, 4) A line segment from (1, 4) to (3, 4)
A line segment from (2, 4) to (3, 7) A ray from (3, 7) to (3, 8)
A ray from (3, 4) to (3, 4)

★ Color all triangles as obtuse, isosceles, or equilateral.
Color all right triangles blue, obtuse triangles green, and acute triangles purple.
Outline each right angle in red, obtuse angle in yellow, and acute angle in orange.
With the rays you draw intersect? If so, at what point? _____

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Geometry 3.1

1. Draw a translation of the triangle four units to the right.
2. Draw a reflection of the trapezoid two units down.
3. Draw a reflection of the circle to the left (draw each quarter turn).

★ List the ordered pairs for the final position of each shape:
The position of each angle for the reflected trapezoid: (_____) (_____) (_____) (_____)
The position of each angle for the translated triangle: (_____) (_____) (_____)

★ On the coordinate grid above, draw the following:
A line segment from (2, 7) to (4, 4) A line segment from (1, 4) to (3, 4)
A line segment from (2, 4) to (3, 7) A ray from (3, 7) to (3, 8)
A ray from (3, 4) to (3, 4)

★ Label all triangles as obtuse, isosceles, or equilateral.
Color all right triangles blue, obtuse triangles green, and acute triangles purple.
Outline each right angle in red, obtuse angle in yellow, and acute angle in orange.
With the rays you draw intersect? If so, at what point? _____

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Independent Practice

Fractions

Fraction Resource

Graphing Resources

Number Operations

Number Operations
1,210
120

Geometry

Geometry Resources

Money Resource

Probability

Probability Resource

Algebra

Graphing

Algebra
 3×5
 $m = 5$
 $n = 3.10$

Money

Measurement Resource

Time

1-15

16-20

21-25

Algebra

Brain-teasers

Discrete Math

Fractions

Geometry

Graphing

Measurement

Money

Number Operations

Probability

Puzzles & Shapes

Time

Example: Focus on Data Analysis

- Teachers were informed of students ability through:
 - Student work on Data Analysis chapter in text
 - Student work on Data Analysis whole class lessons and projects
 - Student work on Data Analysis work from spiral review

Primary Assessment

3rd Quarter Math Groups

Problem #15,16,17: +/- Fractions

Direct Modeling Emergent	Base-10 Developing
<p>Gabby N. Mikayla Eric Megan L. Rylan Brashae Peggy Jorge</p> <p>Asata Alicia ITCO Megan S.</p>	<p>← Selena (D) Christian M. (mis calc.) Brytany (mis calc.)</p>
Derived Facts Fluent	Abstract Proficient
<p>Montel (-) (WARN SIGN) Hunter " "</p>	<p>Christian C. Alex Tared Anjelica Alison Alyandro</p>

3rd Quarter Math Groups

Problem #18: ¹⁹+ or X Pattern

Direct Modeling Emergent	Base-10 Developing
<p>Selena (x, +) Gabby N. (x, +) Eric Megan L. Rylan (+, x) Christian M. Hunter Brashae Peggy</p> <p>Alison Megan S. Jorge Asata Brytany Alicia</p>	<p>Alex (x, +)</p>
Derived Facts Fluent	Abstract Proficient
<p>Alex (x) Montel (x) Tared (x) Mikayla (x) Anjelica (+) Ives (x)</p> <p>Alyandro</p>	<p>Christian C. F</p>

Assessment

- Differing Objectives for:
 - Text book
 - Problem Solving
 - Independent



Models of Assessment

- Models of Assessment
 - Checklists
 - Observational notes
 - Percentage grades
 - Progress Reports
 - Make-up work
 - Effort vs. Skill



	Fractions The Math Workshop	P. 585 11, 12, 13 Math Book	CGI	P. 585 1-4 Computer	FROC to DEC	
Group 1					3-4	→ 3/21
Alicia		✓ 4		✓ 4	✓ 4	
Asata	✓ 3	✓ 4		✓ 4	✓ 4	✓ 4
Jorge	✓ 3				✓ 3	✓ 4
Erick	✓ 3	✓ 4		FIN 1	✓ 4	✓ 4
Christian M.	✓ 3	✓ 4		✓ 4	✓ 4	✓ 4
Atejandro						
Anthony	Fin 1	4 ✓		✓ 3	4	
Group 2						
Brytany		✓ 4		(A) ✓ 4	Fin 3	✓ 4
Tarod	✓ 3	✓ 4		✓ 4	4	✓ 4
Peggy	✓ 3	0		4	✓ 3	
Scott	✓	✓			✓ 3	✓ 4
Mikayla	✓ 3	✓ 3		FIN 4	✓ 4	✓ 4
Megan H.	✓ 3	0		FIN 4	✓ 4	✓ 4
Anjelica	✓ 4	✓ 4		✓ 3	✓ 4	✓ 4
Group 3						
Christian C.	✓ 4	✓ 4		✓ 4	✓ 4	✓ 4
Brashae		Fin 1		Fin 1	Fin 3	Fin 2
Ives	Fin 1				✓ 4	✓ 4
Selena	✓ 3	✓ 4		FIN 1	✓ 4	Fin 3
Gaby M.	✓ 3				✓ 4	✓ 3
Alison	✓ 4	✓			✓ 4	✓
Group 4						
Ryan	✓ 3				FIN 2	Fin 3
Bailey						
Hunter		(A)			(A)	4
Montel					Fin 2	✓ 4
Megan S.	✓ 1					✓ 3
Alex	✓ 3	0		Fin 3	Fin 2	✓ 4
Gabby N.	Fin 2	0		0	Fin 2	✓ 4
Gerra	✓ 3	✓		0	✓ 3	

Weekly Math Assignments
Week # _____

3rd Quarter Math Groups

Problem #15,16,17: +/- Fractions

Direct Modeling Emergent	Base-10 Developing
<p>Gabby N. Mikayla Eric Megan L. Rylan Brashae Peggy Jorge</p> <p>Asata Alicia ITC Megan S.</p>	<p>← Selena (D) Christian M. (mis calc.) Brytany (mis calc.)</p>
Derived Facts Fluent	Abstract Proficient
<p>Montel (-) (SIGN) Hunter " "</p>	<p>Christian C. Alex Tared Anjelica Alison Alyjandro</p>

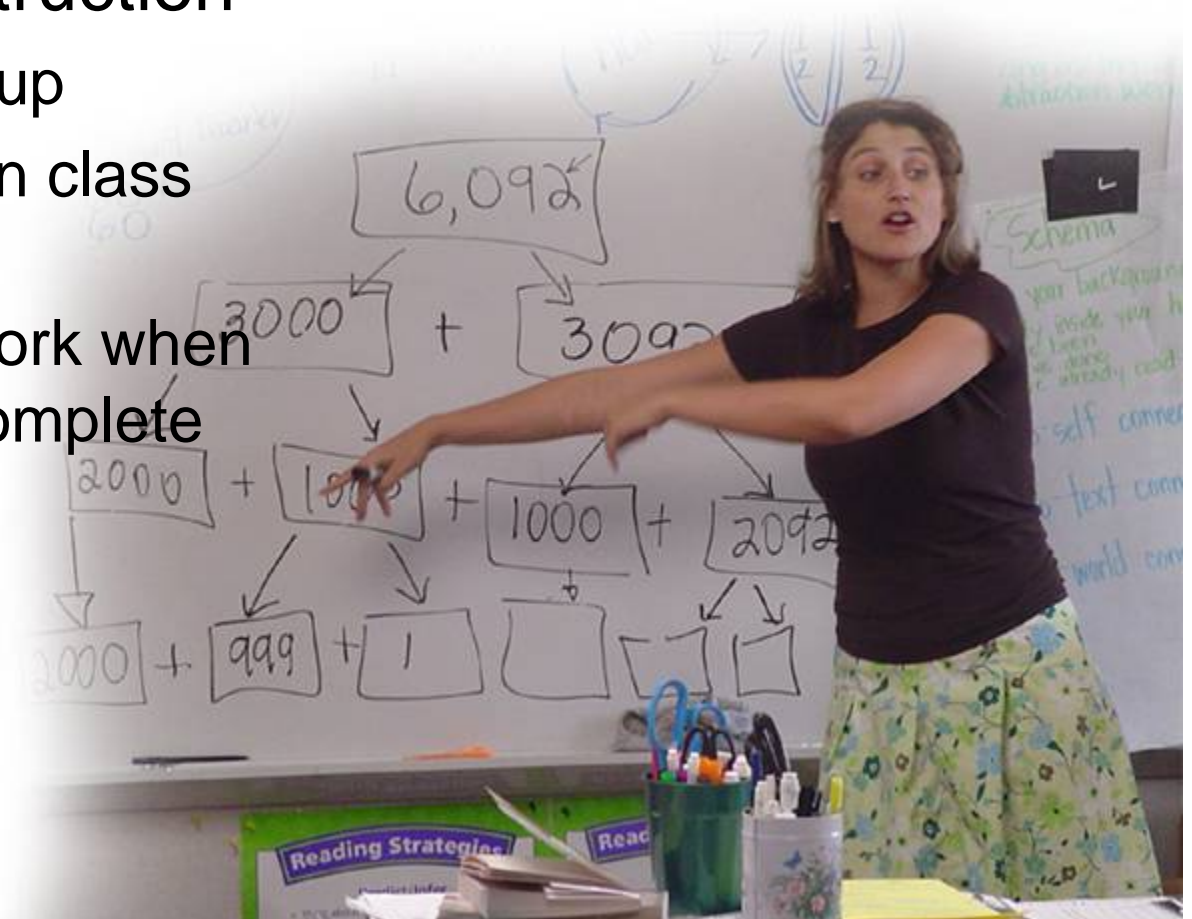
3rd Quarter Math Groups

Problem #18: ¹⁹+ or X Pattern

Direct Modeling Emergent	Base-10 Developing
<p>Selena (x, +) Gabby N. (x, +) Eric Megan L. Rylan (+, x) Christian M. Hunter Brashae Peggy</p> <p>Alison Megan S. Jorge Asata Brytany Alicia</p>	<p>Alex (x, +)</p>
Derived Facts Fluent	Abstract Proficient
<p>Alex (x) Montel (x) Tared (x) Mikaya (x) Anjelica (+) Ives (x)</p>	<p>Christian C. F</p>

Management Scenarios

- Scenario 1
- Whole Class Instruction
 - ✓ Begin whole group
 - ✓ Students work on class assignment
 - ✓ Differentiated Work when assignment is complete



Management Scenarios

- Scenario 2
- Alternating Whole class with small group



Key Points

- Planning is essential
- Differentiation is necessary
 - monitor and adjust plans as needed
- Include problem solving, skill practice and spiral review daily
- Make assessment a part of your daily habit
- Use assessments for planning
 - flexible groupings
- Have a predictable routine

Resources

- If you are interested in the resources discussed in this session, they are available at:
- McGraw Hill
- CGI- NCTM Bookstore (Children's Mathematical Thinking, by Carpenter)
- The Math Workshop
www.themathworkshop.com

Questions

