Teaching & Learning: November Monthly Meeting   
11.27.12 from 10:30am - 3:45pm

**Math Agenda: 10:30am-12:30pm**

1. Welcome & Outcomes for our Work Today
2. Scholastic Math Inventory + Quantiles
   1. Identifying a QTaxon (Intervention Grouping Report)
   2. Identifying prerequisite skills
   3. Related Terms
   4. Identifying with the Common Core
   5. Multi-media resources
   6. Additional resources
   7. The reverse look up method
3. Next Steps
   1. Looking Ahead to 2013…
   2. Instructional Materials Review
   3. Building Capacity with Teacher Content Knowledge and Instructional Strategies (CGI).
4. Balanced Math Framework
   1. Balanced Math Framework Overview
   2. Daily Math Review Update
      1. Key Statements
      2. Implementation Study
      3. Next Steps
5. The Role of the Instructional Coach
   1. Define the Role of the Elementary Math Coach: 2012 - 2013
   2. Literacy Coach by Day – Math Coach by Night (Showcase: Jamie O’Brien – Madison Elementary)
   3. Math Coach Meeting: January 23, 2013 from 2:30 – 3:45pm (Location: TBD)
   4. Action Planning for 2012 – 2013

**Designing a Conceptual Unit:**

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| 1. Establish a mathematical focus for the unit. 2. Locate the grade-specific math standards. 3. “Unwrap” those identified standards. 4. Determine the essential mathematical concepts. 5. Decide on the Big Ideas. 6. Write the Essential Questions. 7. Design an end-of-unit post-assessment. 8. Create a rubric or scoring guide. 9. Design a pre-assessment. | 1. Plan the instructional lessons. 2. Share the Essential Questions. 3. Administer the pre-assessments. 4. Score the pre-assessments. 5. Begin teaching the unit. 6. Assess student understanding. 7. Share with students. 8. Peer-, Self and Teacher-assess 9. Ask the students to write a self-reflection. |

Balanced Math Framework

**Daily Math Review**

* Number Sense = Success with Computation Skills
* Key to Effective Practice is Timely and Specific Feedback
* Daily Reflection Increases Responsibility for Learning
* Student Awareness of Misunderstanding

*More Info: Five Easy Steps Book*

*Pgs. 3 - 22*

**Problem Solving**

* Organize and consolidate mathematical thinking through communication.
* Analyze and evaluate the mathematical thinking of strategies.
* Use language of mathematics to express mathematical ideas precisely.

*More Info: Five Easy Steps Book*

*Pgs. 3 - 22*

**Mental Math**

* Three-problem computational brain workout (5 min)
* Mental Practice – Computing math facts + combining operations
* Daily practice to develop + retain number sense and computation skills

*More Info: Five Easy Steps Book*

*Pgs. 23 - 28*

**Fact Fluency**

* Teach and Practice Math Facts Daily
* Title I Schools: Fastt Math Program
* All Schools: Mastering Basic Facts Book – Full of activities and lessons

*More Info: Five Easy Steps Book*

*Pgs. 97 - 112*

**Conceptual Unit**

If we want students to know what mathematics is, as a subject, they must understand it. When we memorize rules for moving symbols around on a paper we may be learning something, but we are not learning mathematics.

*More Info: Five Easy Steps Book*

*Pgs. 71 - 96*

**Formative Assessment**

* Collaboratively designed by grade level team
* Uses results to evaluate student understanding
* Provide timely feedback needed to differentiate instruction
* Assessment informs instruction

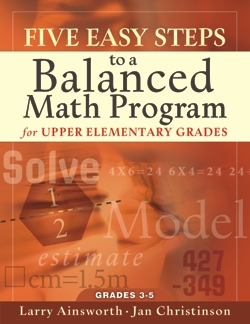
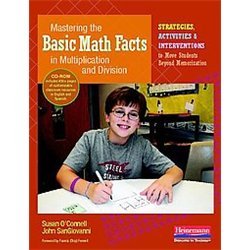
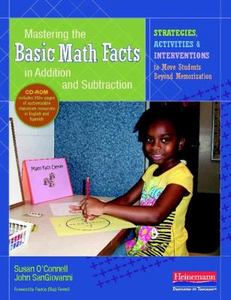
*More Info: Five Easy Steps Book*

*Pgs. 113 - 128*

**Sample Schedules are available in the Five Easy Steps Book: Pgs. 179 – 183**

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Resources:

Fact Fluency Online Free Resource: [www.xtramath.org](http://www.xtramath.org)

Key Statements

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| **Addition** | In a sum, only one digit can be written in each place value. |
| When a ones digit is larger than 9, regroup to the tens. |
| Numbers can be broken apart to add and subtract. |
| When adding we put ones with ones, tens with tens and hundreds with hundreds. |
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| **Fact Families** | Addition and subtraction are related. |
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| **Division** | Multiplication and division are inverse operations. |
| Division can be repeated subtraction. |
| Division is a process in which a quantity is made into equivalent smaller groups. |
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| **Division with Remainder** | The use of a remainder is determined by its context. |
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| **Equal Sign Equations (True/False Equations)** | The equal sign means “the same amount as”. |
| Equations can be used to represent problem situations. |
| In the equation, the expressions on the two sides of the equal sign are equivalent. |
| Equations with equal signs must be balanced. |
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| **Order of Operations** | PEMDAS (Parenthesis, Exponents, x, ÷,+, -) tells us in what order to solve the parts of the expression/equation. |
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| **Variables** | A variable is a symbol that stands for a number. |
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| **Associative Property**  **Ex. (3 + 4) + 5 = 3 + (4 + 5)** | When adding (3 or more numbers) changing the groupings of addends does not change the sum. |
| When multiplying (3 or more numbers) changing the groupings the factors does not change the products. |
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| **Commutative Property** | When adding (2 numbers) changing the order of addends does not change the sum. |
| When multiplying, (2 numbers) changing the order of factors does not change the product. |
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| **Distributive Property** | Numbers can be broken apart to make multiplication easier. | |
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| **Estimation/Rounding** | | When rounding to the nearest ten, the number in the ones place determines which ten it is closest to. |
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| **Fractions**  **(adding unlike)** | Equivalent fractions are different ways of showing the same quantity. |
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| **Geometry** | Shapes are classified by their attributes. |
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| **Measurement** | Different measurement tools are used to measure different sized objects. |
| Inches, feet and yards measure distance. |
| Perimeter is the distance around a shape expressed in linear units. |
| Area is a measure of covering expressed in square units. |
| Area measures the space in a two dimensional shape. |

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| **Multiplication** | Multiplication and division are inverse operations. |
| Multiplication is repeated addition. |
| A rectangular array can help solve a multiplication problem. |
| Multiplication: number of groups x number in each group. |
| Partial products can help determine an answer to a multiplication problem. |

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| **Money** | The decimal point separates dollars and cents. |
| Counting coins involves skip counting by 1s, 5s, 10s and 25s. |
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| **Subtraction** | Addition and subtraction are related operations. |
| Numbers can be decomposed to subtract. |
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| **Place Value** | Place value is based on groups of 10. |
| Numbers can be decomposed based on place value. |
| If the first number is larger than the second number use greater than (>). |
| If the first number is smaller than the second number use less than (<). |
| Every digit has a value determined by its place. |

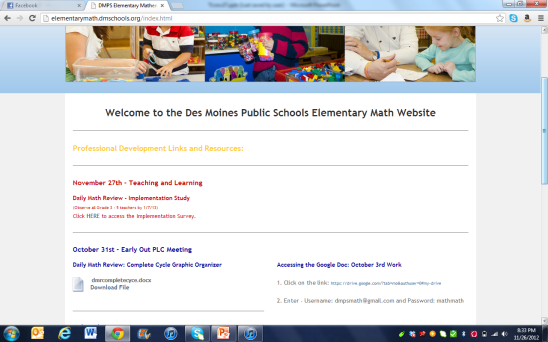
|  |  |
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| **Time** | The colon separates the hour from the minutes. |
| The small hand tells the hour. |
| The large hand tells the minutes. |
| We count by 1s and/or 5s when telling time by the minutes. |
| The hour hand determines the number that comes first when writing time. |
| Each number on a clock represents a group of 5 minutes. |
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This list, created by Jan Christensen, was adapted DMPS Math Coaches. If you have Key Statements to add to the list, please email Anna Taggart, Elementary Math Coordinator. This is a living document.

Daily Math Review – Implementation Study

**Observe ALL grade 3 – 5 teachers by Friday, January 4, 2013.**

<http://elementarymath.dmschools.org/index.html>



**1. Number of questions on the Daily Math Review:**

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| http://www.surveymonkey.com/i/t.gif1  http://www.surveymonkey.com/i/t.gif2  http://www.surveymonkey.com/i/t.gif3  http://www.surveymonkey.com/i/t.gif4  http://www.surveymonkey.com/i/t.gif5  http://www.surveymonkey.com/i/t.gif6+  http://www.surveymonkey.com/i/t.gifDaily Math Review does not occur in this classroom |
|  |

**2. The Questions:**

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| http://www.surveymonkey.com/i/t.gifThe questions on the DMR are misconceptions from different categories (Ex: Patterns, Time  and Coin Value).  http://www.surveymonkey.com/i/t.gifThe questions on the DMR are misconceptions from the same category (Ex. All questions are Coin Value) |
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**3. Teacher walks around during student work time.**

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| http://www.surveymonkey.com/i/t.gifYes  http://www.surveymonkey.com/i/t.gifNo |
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**4. Teacher works with a group of students during partner time.**

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| http://www.surveymonkey.com/i/t.gifYes  http://www.surveymonkey.com/i/t.gifNo |
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**5. DMR partner work time includes:**

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| http://www.surveymonkey.com/i/t.gif Students comparing answers (what did you get for number 1).  http://www.surveymonkey.com/i/t.gifStudents reflecting on the process of solving the problem (how did you get your answer for number 1).  http://www.surveymonkey.com/i/t.gifStudents did not work with partners. |
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**6. Who is leading the Daily Math Review error analysis?**

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| http://www.surveymonkey.com/i/t.gifTeacher  http://www.surveymonkey.com/i/t.gifStudent |
|  |

**7. Students star and circle/fix during the error analysis.**

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| http://www.surveymonkey.com/i/t.gifYes  http://www.surveymonkey.com/i/t.gifNo |
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**8. Key Statements**

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| http://www.surveymonkey.com/i/t.gifNo key statement is stated/written/referenced by teacher and/or students for any category.  http://www.surveymonkey.com/i/t.gifTeacher states/writes key statements in only one category (students do not write/state).  http://www.surveymonkey.com/i/t.gifTeacher states/writes key statements in more than one category (students do not write/state).  http://www.surveymonkey.com/i/t.gifStudents state/write key statements in only one category.  http://www.surveymonkey.com/i/t.gifStudents state/write key statements in more than one category. |
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**9. Reflection**

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| http://www.surveymonkey.com/i/t.gif No student reflection is evident.  http://www.surveymonkey.com/i/t.gifStudent reflections are not specific to the concepts (Ex. I am awesome at math).  http://www.surveymonkey.com/i/t.gifStudents use math vocabulary or their error analysis to write a personal reflection to describe  what they did or did not understand. The students write an overall reflection.  http://www.surveymonkey.com/i/t.gifStudents use math vocabulary or their error analysis to write a personal reflection to describe  what they did or did not understand. The students write reflections on each problem. |
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**10. The amount of time it takes to complete the DMR cycle:**

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| http://www.surveymonkey.com/i/t.gifLess than 15 minutes  http://www.surveymonkey.com/i/t.gif15 - 20 minutes  http://www.surveymonkey.com/i/t.gif21 - 25 minutes  http://www.surveymonkey.com/i/t.gif26 - 30 minutes  http://www.surveymonkey.com/i/t.gifMore than 30 minutes  ------------------------------------------------------------------------------------------------------------------------------------------------------------------ |

**DAILY MATH REVIEW**

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| **Phase One** | **Phase Two** |
| * Establishing a routine * Daily implementation * 1 – 5 questions * Teacher – Led * “Form” for students to use for DMR * DMR Assessment every 2 weeks * Partner work * Error Analysis * Reflection | * ***Phase One Plus…*** * Student - Led * Bonus Question * Partner Talk Sentence Starters * Special Education – different “form” * Data charts * Deeper understanding – reflection |

FEEDBACK

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| * Quantiles.com – how to use it to change instruction * Compare district benchmark data – where do we fall? What areas do we need to improve? * Content/Strategies discussions for upcoming units. * The role of the Math Coach: Time to meet with other math coaches * What to do on building-directed early outs with elementary math * Alignment + Curriculum + Instructional Materials * Balanced Math Overview – Sample Schedules - The Math Block * Time to plan as a math team | * Key statements – Daily Math Review * Small Groups: How to manage and set them up. * Unwrapping Common Core Standards – I Can Statements * Data Teams: So much data – how to structure the time * Be one step ahead of the teachers: District PLC meeting update * Ready to implement strategies * How do all the pieces fit together? |

**Elementary Math Website:**

<http://elementarymath.dmschools.org/>

**Virtual Parking Lot:**

<http://todaysmeet.com/elementarymath>