PARENT INTRODUCTION
TO EUREKA MATH

Grand Ridge Elementary - November 14, 2016
Agenda

- Welcome
- Why Eureka?
- Anatomy of a Eureka Lesson
- Common Eureka Strategies
- What to Expect at Home
- How to Help your Mathematician
Why Eureka?

- Everyday Math fell out of alignment when WA adopted new standards.
- Eureka is:
  - fully aligned with standards
  - a proven track record in boosting student achievement in math.
Why is Eureka so Different?

- The Eureka Math curriculum helps build **number sense** and **conceptual understanding**.
  - Past: Multiply and divide following a sequence of steps.
  - Eureka:
    - Think flexibly about numbers
    - Understand **why** the steps work
    - **When** to apply them
    - How to use **other strategies** when more efficient

Click light bulb for video
- Lessons build upon one another within a topic.
- Topics build within a module.
Anatomy of a Eureka Lesson

Fluency Practice

**Purpose:** To develop automaticity with basic math facts.
- Maintenance, preparation or anticipation of important skills
- Includes activities like sprints and happy/group counting.
- Highly engaging!
Counting and Fluency Every Day

- Counting to 20 the “Say Tens” Way
- Happy Counting/Group Counting
- Sprint

Subtraction

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<tbody>
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<td>44.</td>
<td>67 - 4 =</td>
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Anatomy of a Eureka Lesson

Application Problems

Purpose: To provide an opportunity to apply skills in new ways
- Authentic problem-solving, real world application
- Often a springboard to new learning
Anatomy of a Eureka Lesson

Concept Development

**Purpose:** Addresses the new content being studied
- Carefully sequenced problems with increasing complexity
- Gradual release of responsibility
- Includes 10 min of students working on Problem Set
Anatomy of a Eureka Lesson

K-1
- Debrief: 6-10min
- Fluency Practice: 10-15min
- Concept Development: 25-30min
- Application: 5min

GR 2-5
- Debrief: 10min
- Fluency Practice: 10-15min
- Concept Development: 30-35min
- Application: 5-10min

Student Debrief

Purpose: Reflect on learning, clarify misconceptions
- Another teachable moment and opportunity to solidify new learning
Common Eureka Strategies

- RDW (Read, Draw, Write)
- 10-Frames
- Number Bonds
- Place Value Charts
- Tape Diagrams
Common Eureka Strategies

- Read, Draw, Write
  1. Read.
  2. Draw and label.
  3. Write a number sentence.
  4. Write a word sentence (statement).

- What do I see?
- Can I draw something?
- What conclusions can I make from my drawing?
Common Eureka Strategies

- **10-Frames**
  - Visual representation of numbers
  - Organized around the number 10

![10-Frames example]

\[
9 + 7 = 10 + 6 \\
16 = 16
\]
Common Eureka Strategies

- **Number Bonds**
  - Understanding the relationship between number parts
  - “Decomposing” numbers
  - “Composing” numbers

\[15 = \text{Whole} = 10 + 5\]

\[32 = \text{Whole} = 8 + 8 + 8 + 8\]
Common Eureka Strategies

- **Number Bonds**
  - Practice with thinking about numbers flexibly allow students to reason as a means to solving more complex problems.

  **First Grade**
  
  \[
  \begin{align*}
  15 - 9 &= 6 \\
  5 + 10 &= 15 \\
  10 - 9 &= 1 \\
  1 + 5 &= 6
  \end{align*}
  \]

  **Second Grade**
  
  \[
  \begin{align*}
  465 - 198 &= 267 \\
  265 + 200 &= 465 \\
  200 - 198 &= 2 \\
  2 + 265 &= 267
  \end{align*}
  \]
Common Eureka Strategies

- Place Value Charts to support addition

<table>
<thead>
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<th>hundreds</th>
<th>tens</th>
<th>ones</th>
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</thead>
<tbody>
<tr>
<td>6</td>
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<td>1</td>
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</table>

37

+ 24

61
Common Eureka Strategies

- **Tape Diagrams**
  - Visual models that use rectangles to represent parts of a whole
  - Used to illustrate number relationships

Third Grade
There are 83 girls and 76 boys in the third grade. How many total students are in the third grade?

There are 159 students in third grade.
Common Eureka Strategies

First Grade
Willie saw 11 monkeys at the zoo. He saw 4 fewer monkeys than tigers. How many tigers did he see at the zoo?

Fifth Grade
Jing spent $\frac{1}{3}$ of her money on a pack of pens, $\frac{1}{2}$ of her money on a pack of markers, and $\frac{1}{8}$ of her money on a pack of pencils. What fraction of her money is left?

\[
\text{Jing had } \frac{1}{24} \text{ of her money left.}
\]
## What to Expect to Come Home

<table>
<thead>
<tr>
<th>All Teachers at Grand Ridge</th>
<th>Teacher/Grade Level Choice</th>
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<tbody>
<tr>
<td>- End-of-Module Assessments</td>
<td>- Homework</td>
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<tr>
<td>- No “overall grade.”</td>
<td>- May have “Must Do”</td>
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<tr>
<td>- Instead, graded by</td>
<td>- and “Can Do” problems</td>
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<td>- Cover sheet (summary)</td>
<td>- Mid-Module Assessments</td>
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<tr>
<td>- Communication regarding</td>
<td>- Sprints</td>
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<td>- student progress</td>
<td>- Application Problems</td>
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<td>- Timely feedback if any</td>
<td>- Exit Tickets</td>
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<td>- concerns</td>
<td>- Problem Set Booklets</td>
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How Can You Help?

- Practice counting with your child
  - Forward and backward
  - Different starting points
  - By 1, 10, 5, 2
- Reinforce partners that make 5, 10, the next ten
- Play math games and solve puzzles with your child!
How Can You Help?

- Share a growth mindset.
  - Embrace challenge – “You may not be able to do this yet, but your hard work will pay off!”
  - Celebrate hard work, not speed
  - Learn from feedback

- Use online resources to support your child’s learning.

http://connect.isaquah.wednet.edu/elementary/grand/
Thank You!

- Please leave any comments or questions on the provided notecard.

- Thank you for coming and for being a part of the great learning happening in every classroom!