Implementing the Mathematics Common Core
Essential Questions

How can district math resources support the implementation of our professional learning into unit/lesson planning and instruction?
Conceptual understanding means............

• Book bits.......  
  – Please select a color from the envelope on your table  
  – Find a partner from another table  
  – Read and discuss each “bit”. When you’re finished trade colors.  
  – Find a partner with another color. Repeat the process.  
  – Your goal is to read and discuss every color.
• “Benefits of Teaching through Problem Solving”
  
  By Diana Lambdin, Chapter 5

• Read

  • “What Does Understanding Mathematical Ideas Mean?" (Pg. 5)
  
  • “Problem Solving and Understanding” (Pg. 6-7)
  
  • “Benefits of Learning with Understanding” (Pg. 7, para 1)

• Highlight two sentences to discuss
Connections to Professional Learning

Math Practices

1. **Make sense** of problems and persevere in solving them.
2. **Reason** abstractly and quantitatively.
3. **Construct viable arguments** and critique the reasoning of others.
4. **Model** with mathematics.
5. Use **appropriate tools strategically**.
6. Attend to **precision**.
7. Look for and make **use of structure**.
8. Look for and express **regularity in repeated reasoning**.
Connections to Professional Learning

Connection to the Landscape

“While there are progressions and trajectories within mathematics, these often occur in a web-like format. Therefore, they are not necessarily linear.”

*Elementary and Middle School Mathematics* – *Van De Walle, 2010*
Connections to Professional Learning

District Performance Plan:

COMPONENT II: Inquiry Process & Action Plan Design- Priority Need/Goal 1

**Goal 1:** WCSD will ensure student success and narrowing achievement gaps by implementing a district-wide curriculum based on Nevada Academic Content Standards (NVACS), designed to meet the needs of all students and supporting the curriculum with aligned instruction, assessments, and appropriate curricular resources.

**Measureable Objective:**

- 2014-2015 will be a baseline year with SBAC assessments, thus there is no true current baseline from which to set objectives. We will expect a temporary increase in student performance rates during the baseline year of SBAC — our objective is to decrease at a rate less than the state and consortium.
- Each English language student population and each special program student population (i.e., English Language Learners, students with Individualized Education Plans, and students receiving Free/Reduced Lunch) will grow at or above the district’s overall Median Student Growth Percentile, as measured by the Nevada Growth Model of Achievement.
- The percentage of all administrators and teachers reporting consistent use of Instructional Practice Guides for lesson planning, and instructional observation and reflection, will increase by 20%.
- The percentage of all administrators, instructional coaches, teachers, and instructional EEs who report familiarity with WCSD Core NVACS materials and curriculum tools adopted and endorsed by WCSD will reach 50% by October 2014 and 75% by May 2015.

**Measurable Objectives**

- Familiarity with WCSD Core NVACS materials adopted and/or endorsed to 50% by October 2014.
- Use of Instructional Practice Guides for planning and reflection will increase by 20%
Connections to Professional Learning

District Performance Plan:

<table>
<thead>
<tr>
<th>Action Step</th>
<th>Monitoring Plan</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Action Steps</td>
</tr>
<tr>
<td></td>
<td>Resources and Amount Needed for Implementation (people, time, materials, funding sources)</td>
</tr>
<tr>
<td></td>
<td>Artifacts/Evidence of Progress/Information (Data) that will verify the action step is in progress or has occurred</td>
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<tr>
<td></td>
<td>Timelines, Benchmarks, and Position Responsible</td>
</tr>
<tr>
<td></td>
<td>Monitoring Status</td>
</tr>
<tr>
<td>1. Nevada Academic Content Standards will be implemented at all schools K-12, with adopted core materials as the base. Instructional Practice Guides will inform the use of materials to supplement the core. (Note: Current curriculum tools are vertically and horizontally aligned with the Nevada Academic Content Standards)</td>
<td>Already in place: Math K-5/WCSD pacing timelines and curriculum guides; Math (6-12) course guides; ELA (K-5) HM w/ basal Alignment Project (BAP) and the Read Aloud Project (RAP) supplement with close reading exemplars/ELA (6-12) ELA Guides. Maintain or increase implementation Specialist and/or coaches. Parent guides for standards to be created and distributed. Funding: Substitutes and stipends to continue to refine documents after gathering informal and instructional evidence.</td>
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<td>1.03:1.05</td>
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**Action Steps**

- WCSD Pacing timelines and Curriculum Guides
- Instructional Practice Guides (IPG)
What would you like to focus on for this school year?

• Instructional Practice Guides
  – IPG: Core Action 2

• Planning
  – Pacing & Unit Guides

• Differentiating Instruction:
  – Mathematical Tasks, Models, and Making Learning Visible
• Clarify Learning Targets
  – When planning teachers may write essential questions to support the learning.
  – How will you assess these understandings?

• Elicit Evidence
  – What does understanding look like?
  – What evidence will you observe or collect throughout the unit?

• Differentiating Instruction
  – Mathematical Tasks, Models, and Making Learning Visible
## Connections to Math District Resources

### Instruction Practice Guides

**CCSS INSTRUCTIONAL PRACTICE GUIDE**

**CORE ACTION 2:** Employ instructional practices that allow all students to master the content of the lesson.

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>EVIDENCE OBSERVED OR GATHERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The teacher uses explanations, representations, and/or examples to make the mathematics of the lesson explicit.</td>
<td>1. Teacher instruction is limited to what is written on the board. 2. Teacher instruction is limited to what is written in the textbook. 3. Teacher instruction goes beyondMinimal understanding of the concept. 4. Teacher instruction goes beyond improving minimal understanding of the concept.</td>
</tr>
<tr>
<td>B. The teacher poses high quality questions and problems that prompt students to share their developing thinking about the content of the lesson.</td>
<td>1. Questions and problems do not prompt students to share their developing thinking. 2. Questions and problems prompt students to share their developing thinking.</td>
</tr>
<tr>
<td>C. The teacher provides time for students to work with and practice grade-level problems and exercises.</td>
<td>1. Students are given problems to work with grade-level problems and exercises. 2. Students are given opportunities to work with grade-level problems and exercises.</td>
</tr>
<tr>
<td>D. The teacher uses variation in students’ solution methods to strengthen other students’ understanding of the content</td>
<td>1. A single solution method is provided and discussed. 2. A variety of solution methods are provided and discussed.</td>
</tr>
<tr>
<td>E. The teacher checks for understanding throughout the lesson, using informal, but deliberate methods (such as questioning or assigning short problems).</td>
<td>1. There are few or no checks for understanding. 2. Checks for understanding are used throughout.</td>
</tr>
<tr>
<td>F. The teacher guides student thinking toward the focus of the lesson and summarizes the mathematics with references to student work and discussion.</td>
<td>1. The lesson is concluded with no references to the focus. 2. The lesson is concluded with some references to the focus.</td>
</tr>
</tbody>
</table>

Notes:

2 These actions may be used in any order.

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Connections to Math District Resources

Instruction Practice Guides

1. Silently read through Core Action 2 highlighting connections you see to our work from last year and 8/5, 8/6 professional development.

2. Discuss with your table what you highlighted.
Number Strings Challenge (Light)

• Please find partners of opposite colors.
• Select one partner as the mathematician and the other partner as the recorder.
• Partner one solves each problem on one sheet mentally while the other participant scripts their thoughts using a number line.