Session Description
- Participants will build on the ideas explored in Session 1: Exploring the Critical Areas, by examining the “cluster headings” and aligning them with the critical areas for each grade level of the Common Core State Standards (CCSS) for Mathematics.

Expected Outcomes
- Participants will deepen their understanding of the mathematical concepts in the critical areas of the CCSS for Mathematics.
- Participants will align “cluster headings” with the critical areas.

Agenda
- Introduction (10 minutes)
- Matching Clusters of Standards with Critical Areas (45 minutes)
- Reflection (5 minutes)

Time
- 60 minutes

Audience
- Designed to be used with groups of teachers and leaders of students in grades K–8 working in grade-level teams to explore the relationship between the critical areas and “cluster headings.”

Materials
- Cluster Organization PowerPoint
- Cluster Organization Handout A
- Cluster Organization Handout B Reflection
- Common Core State Standards for Mathematics
- Scissors
- Glue or tape

Resources/References
- Oregon Common Core State Standards for Mathematics http://www.ode.state.or.us/search/page/?id=1527
- National Research Council, Committee on Developments in the Science of Learning with additional material from the Committee on Learning Research and Educational Practice. (2000).

Introduction (10 minutes)

Slide 1
Say, "In this session we are going to begin exploring the organization of the Common Core State Standards for mathematics for your grade level."

Slide 2
Review the expected outcomes for this session.
- Deepen understanding of the mathematical concepts in the critical areas of the Common Core State Standards (CCSS) for Mathematics.
- Align “cluster headings” with the critical areas.

Slide 3
Review the introduction of the Common Core State Standards (CCSS) for Mathematics from Session 1.

Say, “The Common Core State Standards Initiative is a state-led effort coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers. The standards were developed in collaboration with teachers, school administrators, and experts, to provide a clear and consistent framework to prepare our children for college and the workforce.”

“The standards are informed by the highest, most effective models from states across the country, and countries around the world, and provide teachers and parents with a common understanding of what students are expected to learn. Consistent standards will provide appropriate benchmarks for all students, regardless of where they live.”

These standards define the knowledge and skills students should have within their K–12 education careers so that they will graduate high school able to succeed in entry-level, credit-bearing academic college courses and in workforce training programs. The standards:
- are aligned with college and work expectations;
- are clear, understandable and consistent;
- include rigorous content and application of knowledge through high-order skills;
- build upon strengths and lessons of current state standards;
- are informed by other top performing countries, so that all students are prepared to succeed in our global economy and society; and
- are evidence-based.

Ask, “How is the implementation of the Common Core State Standards different than past standards implementations?”

Say, “In Oregon, implementation of these standards will be different in three ways:
- Nationally developed with shared resources and assessments coming
- Both ELA and Mathematics will be implemented simultaneously
- Focus on attending to the Instructional Core”
Introduce the Instructional Core

Say, “The instructional core includes three interdependent components: teachers’ knowledge and skill, students’ engagement in their own learning, and academically challenging content. Richard Elmore identifies a number of core principals as we consider implementing the instructional core, but for this introduction we’ll just identify two principles:

Principle #1: Increases in student learning occur only as a consequence of improvements in the level of content, teachers’ knowledge and skill, and student engagement. These three components need to be thought of as interdependent rather than isolated and independent of each other.

Principle #2: If you change one element of the instructional core, you have to change the other two. We cannot think of implementing the CCSS as just swapping out one set of standards for another. As we increase the rigor of the content, we must focus on using recent educational research to improve teacher content knowledge and practice and student engagement and ownership of their learning. (Such as How People Learn, National Research Council; Looking Inside the Classroom, Horizon Research; Improving Instruction through Schoolwide Professional Development: Effects of the Data-on-Enacted-Curriculum Model, Rolf Blank)

Introduce the Organizational Elements

Say, “It is important to remember that the organizational elements that surround the instructional core are critical to the successful implementation of a districtwide improvement strategy.”

“The instructional core does not occur in isolation of these organizational elements, so any implementation strategy would need to take into consideration how these elements impact successful implementation.”

“In time, more information on implementation of the CCSS through an instructional core focus will be developed.”

“The purpose of this session is to help understand the organization of the Common Core State Standards for Mathematics, which is intended to help attend to the Teacher-Content interaction described in the instructional core. Future sessions will help deepen a teacher’s understanding of the new content, as well as help teachers understand the new Student-Content interaction (CCSS Standards for Mathematical Practices) and eventually Teacher-Student interactions.”

Highlight the different sections of the CCSS document:

- Introduction
  - Provides a rationale for focus and coherence
  - Describes purpose of standards
  - Illustrates how to read the standards
- Standards for Mathematical Practice
  - Outlines eight standards for all students to develop proficiency
Standards for Mathematical Content
- Organized by grade level from kindergarten through grade 8
- Organized by conceptual categories at the high school level

Glossary
- Includes definitions

Sample of Works Consulted
- Lists references

Slide 7
Say, ”For this session we are going to begin examining the grade level content standards. Let's take a look at the first page of the grade 2 mathematical content standards. You'll recall during our last session that this page describes the critical areas.

Read the top section of the slide:

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Say, “The critical areas are designed to bring focus to the standards at each grade level by describing the big ideas that educators can use to build their curriculum and to guide instruction. For each grade, kindergarten through grade 8, there are two, three, or four critical areas. Notice that the critical areas at the top of this slide are described in more detail in the next paragraphs.”

Highlight that the one sentence descriptions at the top of the page correspond with the paragraphs below.

Slide 8
Say, “On the next page, you'll find the “Grade Two Overview.”

“This page provides an overview of the standards, first organized by domains. Domains describe large groups of related standards. For grade 2, the domains are:

- Operations and Algebraic Thinking
- Number and Operations in Base Ten
- Measurement and Data
- Geometry”

“Within each domain, you'll find cluster headings, which describe smaller groups of related standards. For example, within the Operations and Algebraic Thinking domain, there are three cluster headings:

- Represent and solve problems involving addition and subtraction.
- Add and Subtract within 20.
- Work with equal groups of objects to gain foundations for multiplication.”

“Note, the overview includes “Standards for Mathematical Practice,” which will be explored during another session.”

Slide 9
Say, “On the next page you’ll find the individual content standards for grade two.”

Point out the domain, cluster headings, and then the standards.
Say, “Underneath each cluster heading, you'll find standards that define what students should understand and be able to do. Again, clusters are groups of related standards.”

Matching Clusters of Standards with Critical Areas

Small Group Task and Discussion (20 minutes)

Say, “During this activity you’ll be looking at the “cluster headings” and matching them with the critical areas for your grade.”

Distribute appropriate Cluster Organization Handouts to grade-level teams [see materials section on page 1].

Note that teachers should examine the grades they teach. Suggest that groups form by grade level or grade bands. This activity can be repeated if a teacher teaches more than one grade level. Allow 30 minutes to study each grade.

Slide 10
Read slide:
- Read through the “cluster headings” for your grade.
- Discuss each “cluster heading” and decide which critical area it falls within.
- Cut and paste the “cluster heading” on the page with the appropriate critical area.

Demonstrate the above directions to participants:
- Point out page with cluster headings to be cut out.
- Point out pages with critical areas.

Say, “As you are working, discuss the questions outlined on the slide.”

Slide 11
Read slide:
- Were you able to match each cluster heading with one of the critical areas? How did you decide which area to place it under? What challenges did you have?
- How do the cluster headings help clarify the concepts in the critical areas?

Say, “For the third column, I’d like you to think about the mathematical concepts for each cluster heading and compare them with your curriculum and instruction. Is this concept something that you are currently teaching in your grade? Is this concept new for your grade, but easy to incorporate? Is the concept new and an area where you would need support, such as professional development or material resources, to be able to implement and teach it effectively?”

Slide 12
Read slide.
- Green Highlight: Content is similar to what you are currently teaching
- Yellow Highlight: Content is not necessarily something you are currently teaching, but it could be added easily
- Red Highlight: Content is new and you would need support (e.g., instructional knowledge and/or material resources) to teach this content effectively

**Whole Group Discussion:** (10 minutes)

**Slide 13**

Read slide.
- What ideas came up in your small groups?
- What questions or concerns do you have about the standards?
- How do the concepts in the Common Core compare to the Core Oregon Standards for your grade? What is staying the same? What will be different? What content is shifting away from this grade? What new content is being added?
- What suggestions do you have for a transition plan for the standards that have changed grades?

**Reading the Common Core State Standards** (15 minutes)

Distribute a complete copy of the Common Core State Standards to each participant.

Say, "You will now have a chance to review a complete copy of the Common Core State Standards for Mathematics. I want you to go through it and focus on several tasks."

**Slide 14**

Read slide.
- Find the critical areas for your grade.
- Find the cluster headings for your grade.
- Find and read the standards that fall under each cluster heading.
- Write down two “first impressions” you have about the standards
- Write down two questions you have about the standards.

Allow groups to work for about 10 minutes.

Facilitate a whole group discussion asking groups to share “first impressions” and questions.

**Reflection** (5 minutes)

**Slide 15**

Revisit the expected outcomes:
- Deepen understanding of the mathematical concepts in the critical areas of the Common Core State Standards for Mathematics.
- Align “cluster headings” with the critical areas.
Distribute Cluster Organization Handout Reflection

Ask participants to answer the following questions on the handout:

- How have the “cluster headings” helped clarify the important mathematical concepts in the critical areas?
- How will you use this information to guide your curriculum and instruction? What changes will you make?
- What questions do you still have about the standards?
- How has this activity increased your understanding of the instructional core?

Ask participants to share reflections (optional).

Adjourn