Getting Every Montana Student College and Career Ready

Montana Common Core Standards and Assessments

**Office of Public Instruction**
P.O. Box 202501
Helena, MT, 59620-2501
(406) 444-3095
(888) 231-9393
(406) 444-0169 (TTY)
**opi.mt.gov**

# Montana Common Core Standards
# Mathematics Critical Areas-Learning Progressions
# Overview Module 2M

## Purpose

This guide is to aide facilitators in facilitating the process of change in local, regional and state school districts as Montana moves forward in the implementation of the Montana Common Core Standards in Mathematics.

## Time and Materials Organization

The Mathematical Learning Progressions Overview is a 2-hour session. The session can be organized into two parts for possible modification in length to accommodate various audiences and time allowances. The Grade K-12 discussion may need to be extended to provide all participants time to understand the shifts in expectations and the progression of learning from kindergarten through high school. This understanding will better inform curriculum and guide instruction. The time allotted and materials used for each workshop should be chosen in collaboration with the facilitator and lead district/school personnel to best meet the needs and purpose for the intended audience.

## Suggestions

- Greet the participants as they enter and visit with them.
- Make time for reflection, questions and next steps.
- Distribute the Postcard with link to documents, webinars and resources.
- Use a “Parking Lot” to write concerns that will need to be addressed later.

## Facilitator Notes

The following facilitator notes are comprised of the session description, expected outcomes, agenda, time, audience, materials, introduction, and specific notes for each slide.

## Session Description

Participants will study the critical areas (key mathematical ideas) at their grade-level and consider how these critical areas outline Grades K-12 learning progressions and bring focus that can be used to inform curriculum and guide instruction. Through individual, grade-level

groups, and whole group: participants will display findings, engage in discussions and organize content standards around the critical areas.

## Expected Outcomes

Understand that the critical areas describe key mathematical concepts for students to learn at each grade level.
Identify that the critical areas are designed to bring focus to the standards at each grade level.
Consider how the critical areas can be used to inform curriculum and guide instruction.

## Agenda

Introduction (10 minutes)
Study Critical Areas (30 minutes)
Gallery Walk (15 minutes)
K-12 Learning Progressions Discussion (30 minutes)
Connect Critical Areas to Content (20 minutes)
Reflection (10 minutes)

## Time

2 to 3 hours

## Audience

Educators (teachers, administrators, leaders) working in multi- or same-grade level teams.

## Materials

Progressions PowerPoint Slides
MCCS Grade-Band or complete Grade-Level Document
Progressions Handout A: Common Core Appendix A," Pathways for High School"
Practices Handout B: Connect Critical Areas and Standards Record Sheet
Various colored paper for Foldables
Chart paper for Gallery Walk posters
Scissors, Markers, "Sticky notes", Highlighters, Tabs

## Resources/References

http://www.ode.state.or.us/search/page/?id=3406 is the link to the Oregon Modules

**Explain** that the overview for this session is only an overview. For in-depth understanding for effective implementation, it is encouraged that additional professional development occur through a plan of ongoing, embedded sessions. The Oregon Department of Education is one resource that presents a closer look at the Critical Areas, as well as other content in a user-friendly format.

Facilitators may find valuable techniques in the book: Wilkinson, Michael, The Secrets of Facilitation: The S.M.A.R.T. Guide to Getting Results with Groups, San Francisco, Jossey-Bass, 2004.

## Introduction to Exploring the Standards for Mathematical Practice K–12 (10 minutes)

### Slide 1: Welcome

**Say**, **Welcome:** "In this session we are going to explore the critical areas (key mathematical ideas) for your grade and how these critical areas bring focus and learning progressions to the K-12 study of mathematics."

### Slide 2: Expected Outcomes

**Review** the expected outcomes for this session.

- Understand that the critical areas describe key mathematical concepts for students to learn at each grade level.
- Identify that the critical areas are designed to bring focus to the standards at each grade level.
- Consider how the critical areas can be used to inform curriculum and guide instruction.

### Slide 3 Focus

**Say,** "There are two to six Critical Areas for instruction in the introduction **for each grade level or course**.

The Critical Areas bring **focus** to the standards at each grade by grouping and summarizing the big ideas that educators use to build curriculum and to guide instruction.

The majority of instruction time should be spent on the Critical Areas."

### Slide 4 Critical Areas

Give time for participants to visit with their neighbors about the question and ask for responses.

### Slide 5 Grade 2

**Say**, "Here is a slide of the "overview" page of the grade 2 mathematical content standards."

**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** the one-sentence descriptions at the top of the page correspond with the paragraphs below.

### Slide 6 Grades K-8 Example

**Say, "**Notice that the one-sentence descriptions at the top of the page correspond with the paragraphs below."

### Slide 7 Grades 9-12 Example

**Say,** "Notice in grades 9-12, where the standards are organized by conceptual categories, you will need to look at the Appendix A "Pathways for High School" to find the Critical Areas and description."

**Distribute** Handout A: Appendix A. can be found online at

http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf

## Study Critical Areas (30 minutes)

### Slide 8 Study Critical Areas

**Say, "**Create an individual "Foldable" to summarize the 2-4 critical areas for your grade level or course. You may use a "window" or "layered" type of Foldable. Label the outside window or flap with the critical area phrase and use the inside section to capture the essence of the critical area."

Have an example of each type of Foldable complete with grade levels critical areas. Foldable examples and directions can be found at: http://www.youtube.com/watch?v=EP5SonqP9Hk.

**Say,** "The Foldable will be used to create a poster in a "Gallery Walk" and discussion of learning progressions."

## Gallery Walk (15 minutes)

### Slide 9 Gallery Walk

**Say,** "Use your Foldable to create a poster that describes the critical areas of learning at your grade level or course." Indicate the best placement of the posters for a Gallery Walk.

**Ask,** The participants to study the posters during a Gallery Walk for areas that are currently taught, new, or dropped from grade levels or courses and also to look for a progression of learning K-12.

## K-12 Learning Progressions Discussion (30 minutes)

### Slide 10 Discussion

**Discuss** their findings from the Foldable and Gallery Walk in grade-band groups (K-2, 3-5, 6-8, and 9-12) regarding:

- the learning progression.
- what they teach within the focus area.
- what they don't teach now but are now expected to teach.
- what is not expected to be taught because the standard has moved to another grade or dropped.

### Slide 11 Grade-Level Reports

**Facilitate** the whole group discussion. Starting with kindergarten or the lowest grade-level explored, ask each group to share highlights from their Poster and Gallery Walk.

**Ask** participants to consider the following questions as each group is sharing:

- How do the mathematical concepts build from grade to grade?
- Compare the concepts in the critical areas with those that you are currently teaching. How are they similar? How are they different?

## Connect Critical Areas to Content (20 minutes)

### Slide 12 Connect Critical Areas to Content

**Distribute** Handout B: Connect Critical Areas and Standards Record Sheet

**Ask**, Participants to mark the Recording sheet using standards document organization of Domains and Clusters.

**NOTE**: The Overview page is helpful with this as well. This is somewhat subjective and there are no right answers.

Referring to the group's recording sheet, **discuss:**

Did every standard fall within a *Critical Area*?
Are there standards that fall within more than one *Critical Area*?
Do all the standards within a cluster fall within the same *Critical Area*?

## Reflection (10 minutes)

### Slide 13 Reflection

**Ask** the participants to answer the following questions:

How do the *Critical Areas* help to bring focus to the standards at your grade level?
How will you use the *Critical Areas* to inform your curriculum and guide your instruction?
What questions do you still have about the *Critical Areas*?
How has this activity increased your understanding of the instructional core?

**Ask** participants to share their reflections.