Getting Started: Grades 6-8

This material is extracted from the published CPS Mathematics Content Framework. Please refer to that document for the complete set of information; it is available on both the CPS KM website and the Department of Mathematics and Science website.

In Year 1 of the transition to CCSS-M, 2012-2013, grades 6-8 mathematics teachers will be teaching:

- to the former ILS before the ISAT in March, using their current mathematics instructional materials
- to the new CCSS-M standards, per the scope described by the Planning Guides, after the ISAT

Specifically, after the March ISAT, grades 6-8 mathematics teachers will focus on the Expressions and Equations learning progression (as defined in the Progressions for the Common Core State Standards in Mathematics: 6-8, Expressions and Equations, 2011).

This progression was intentionally chosen to build the foundation for 2012-2013 8th graders to enter the following year’s high school Algebra I course ready for content that is tightly aligned with the CCSS-M. Specifically, the Grade 8 CCSS-M includes the “algebra of lines,” which was formerly taught in the first half of high school Algebra I courses. (“Algebra of lines” refers to equations, graphs of linear relationships, and systems of linear equations.)

Likewise, 2012-2013 6th and 7th graders will enter the following year’s mathematics classes well-prepared to succeed in classrooms where content is articulated along this critical progression. With each year in the Bridge Plan, the focus is on expanding students’ cognitive development in alignment with the logical structure of the CCSS-M.

The following planning outline will help all 6-8 teams begin the transition to CCSS-M in their classrooms.

1. Become familiar with the published CPS Mathematics Content Framework-Version 1.0, including the instructional shifts and the CPS Bridge Plan for Mathematics.

2. Use the CCSS-M materials to become familiar with Standards for Mathematical Practice. Teams are encouraged to work together to develop new instructional approaches that support these practice standards.

3. Become familiar with:
   a. The kinds of high-cognitive demand tasks that are expected by the CCSS-M
   b. Ways to analyze and modify tasks in current instructional materials for rigor
   c. Techniques to enhance the rigor of current instructional materials. General mathematics resources and tools support the kind of learning expected in the CCSS-M. For example, MARS (Mathematics Assessment Resource Service) tasks balance content and practice, for an integrated approach to instruction and performance assessment. Check out the general mathematics tools and resources that are part of the CPS Mathematics Content Framework materials on the CPS KM website or the Department of Mathematics and Science website.

A Look at Transition in Practice:

Grades 6-8

- Through PD and “deep dives” in the Expressions and Equations progression, teachers will build capacity around the CCSS-M and instructional shifts
- Prior to ISAT, they apply these CCSS-M instructional shifts as they approach “old” content
  - Analyzing instructional tasks
  - Enriching them to be more aligned with CCSS-M
  - Embedding mathematical practices
- After ISAT, teachers shift to a deeper focus on targeted CCSS-M, using guidance and resources in the Planning Guides.
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4. Consider the three instructional shifts that teachers must implement in order to support student success in meeting the CCSS-M (as described in the Framework document). What instructional strategies are already being used that support these shifts? What adjustments to instruction are needed to address the instructional shifts? Integrating the Standards for Mathematical Practice into instruction may involve substantial shifts in instructional strategies.

5. Use the CCSS-M materials to become familiar with the content standards associated with the Expressions and Equations learning progression.

6. Become familiar with the Planning Guide and sample tasks for your grade level.

7. Before ISAT, plan to enhance your current instructional materials at the points where the Expressions and Equations content standards (per Planning Guides) are addressed, to provide the rigor expected by the CCSS-M. Use the general mathematics tools and resources to analyze and modify your lessons and tasks.

8. After ISAT, use the Planning Guide to inform your planning and instruction. If your materials did not cover the expected Expressions and Equations content standards before ISAT, use the Planning Guide to plan instruction for remaining time.

9. Construct (or revise) your plans by addressing each component laid out in the Planning Guide.
   a. What other standards need to be revisited or introduced to (1) support any missing skills/knowledge? And (2) develop deep conceptual understandings and procedural fluency?
   b. What tasks will help build the skills and knowledge your students need in order to master the key content standards, or be prepared for the next content standards in learning progression?
   c. How can you supplement activities in your instructional materials to be more rigorous? High quality tasks will ignite student learning and provide a solid foundation upon which to build more complex mathematics.
   d. How will you integrate the Standards for Mathematical Practice? Adjust your instructional strategies to enable and encourage students to make sense of the content on their own?

10. How can you use formative assessments and scoring tools to align with your Planning Guide and specific topics and tasks?