



A Newsletter from the Elementary Mathematics Team

Common Core State Standards for Mathematics*



The Common Core State Standards (CCSS) were adopted by the Nevada State Board of Education in October of 2010 to ensure that Nevada's students would be college and career ready by high school graduation. These standards have become the foundation for mathematics instruction and assessment across the state. Professional Development for all educators must be an integral part of this process. Through these newsletters we will address the content and practices in the CCSS as well as strategies and resources to ensure strong mathematical instruction.

In August, 2011 Nevada teachers began to transition to the Common Core State Standards in Mathematics. The state's transition plan provides for full implementation of K-2 mathematics in 2011-2012 with a rollout for grades 3-8 over the following three years. During this time the existing Nevada State Standards will gradually be rolled out while increasing CCSS implementation.

For more information on the rollout, visit the Nevada Common Core State Standards website at <http://www.corestandards.org/the-standards> .

The Common Core State Standards for Mathematics define what students should understand and be able to do in their study of mathematics. Asking a student to understand something means *asking a teacher to assess whether the student has understood it*. But what does mathematical understanding look like? One way of demonstrating mathematical understanding is the *ability to justify*, in a way appropriate to the student's mathematical maturity, why a particular mathematical statement is true or where a mathematical rule comes from. This justification may take the form of illustrations, verbal and/or written explanations. These standards also set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectancies. Neither do the standards define the full range of supports needed for students with special needs or English Language Learners.

The CCSS begin with Standards for Mathematical Practice which describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education. They are sometimes referred to as the *8 Standards for Mathematical Practice*. Connecting these practices with the mathematical content is at the heart of exemplary instruction. The Standards for Mathematical Content are a balance of procedure and understanding. Many expectations begin with the word "understand" and are good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely heavily on procedures. Without strong content knowledge and flexibility, these students may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully, explain mathematics accurately or deviate from a known procedure to find a shortcut. Lack of understanding effectively prevents a student from engaging in the mathematical practices.

Standards for Mathematical Practice

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.

In our subsequent CCSS newsletters we will address the Standards for Mathematical Practice in more depth. For more information on Common Core State Standards for Mathematics visit these websites:

www.doe.nv.gov/

<https://bighorn.doe.nv.gov/sites/CommonCore/>

Nevada CCSS page; all state documents; updates will be made on a regular basis

<http://commoncoretools.wordpress.com>

Will provide guidance to states, assessment consortia, testing companies, and curriculum developers by illustrating the range and types of mathematical work that students will experience in a faithful implementation of the Common Core State Standards, and by publishing other tools that support implementation of the standards; website is currently under construction; progressions for CCSS

Math Resources
www.rdpd.net