

The six shifts represent key areas of focus as teachers and administrators work to implement the Common Core State Standards for Mathematics (CCSSM). Oregon teachers are likely at different stages in practicing these shifts, however, establishing a statewide focus in these areas can help schools and districts develop a common understanding of what is needed in mathematics instruction as they move forward with implementation.

Shifts in Mathematics	
Shift 1: Focus	Teachers understand how the CCSSM emphasizes concepts prioritized in the standards so that time and energy spent in the math classroom is focused on critical concepts in a given grade. Students develop a strong foundational knowledge and deep conceptual understanding and are able to transfer mathematical skills and understanding across concepts and grades. (CCSSM, 2010, p.3-5; NMAP, 2008, p. 15-20)
Shift 2: Coherence	Principals and teachers carefully connect the learning within and across grades so that students can build new understanding onto foundations built in previous years. A teacher’s strong understanding of learning progressions helps them monitor a student’s progress and intervene in a timely basis. A student’s understanding of learning progressions can help them recognize if they are on track and can enable them to productively take more responsibility for improving their skills. (NMAP, 2008, p.20-22 ; Mosher, 2011; CCSSM, 2010, p.4)
Shift 3: Procedural Fluency	Students are <i>efficient</i> and <i>accurate</i> in performing foundational computational procedures without always having to refer to tables and other aids. Teachers help students to study algorithms as “general procedures” so they can gain insights to the structure of mathematics (e.g. organization, patterns, predictability). Students are able to apply a variety of <i>appropriate</i> procedures <i>flexibly</i> as they solve problems. Helping students master key procedures will help them understand and manipulate more complex concepts in later grades. (NRC, 2001, p. 121; CCSSM, 2010, p.6)
Shift 4: Deep Conceptual Understanding	Deep conceptual understanding of core content at each grade is critical for student success in subsequent years. Students with conceptual understanding know more than isolated facts and methods - they understand why a mathematical idea is important and the contexts in which it is useful. Teachers take time to understand the Standards for Mathematical Practice that describe the student expertise needed to develop a deep conceptual understanding of mathematics. (NRC, 2001, p. 118; CCSSM, 2010, p. 4, 6-8)
Shift 5: Applications (Modeling)	Teachers at all grade levels identify opportunities for students to apply math concepts in “real world” situations. The process of modeling, that includes choosing and using appropriate mathematics and statistics to analyze and understand situations, is key in improving decisions as well as linking classroom mathematics and statistics to everyday life, work, and decision-making. Students are expected to use math and choose the appropriate mathematical models even when they are not prompted to do so. (NRC, 2001, p. 124; CCSSM, 2010, p. 72-73; NMAP, 2008, p.49-50)
Shift 6: Balanced Emphasis	Students need to both practice and understand mathematics. There is more than just a balance between these two priorities in the classroom – both are occurring with intensity. Teachers create opportunities for students to participate in authentic practice and make use of those skills through extended application of math concepts. The amount of time and energy spent practicing and understanding is driven by the specific mathematical concept and therefore, varies throughout a given school year. (NMAP, 2008, p.45-46; NRC, 2001, p.115)

Works referenced:

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