



Course Outline

In this course, teachers will take a deeper look at the Expressions and Equations domain and the clusters of standards it includes at each grade level. Course activities provide teachers an opportunity to study the clusters of standards for each grade, work on math tasks related to each cluster, and also learn more about the mathematics education research behind the Common Core State Standards.

Specifically, teachers learn: 1) that the Expressions and Equations domain is composed of two to three clusters of standards at each grade level—standards that build on arithmetic knowledge from elementary and toward further algebraic work in high school and beyond; 2) how the mathematical content in Expressions and Equations fits in the learning progression and describes the development of students' algebraic reasoning; and 3) how the three common core shifts and the Standards for Mathematical Practice are integrated in the Expressions and Equations domain

Throughout the course, opportunities are provided for teachers to connect their learning across sessions and to explicitly consider the implications of that learning for classroom practice. Teachers will also be able to revisit their work and reflections by viewing their individual Course Portfolios.

Goals & Purpose

Session 1 – Connecting the Expressions and Equations Domain with Operations and Algebraic Thinking

- Discover that the Expressions and Equations domain is composed of two to three clusters of standards at each grade level--standards that build on arithmetic knowledge from elementary and toward further algebraic work in high school and beyond
- Learn how the mathematical content in Expressions and Equations fits in the learning progression and describes the development of students' algebraic reasoning
- Gain understanding of how the three common core shifts the Standards for Mathematical Practice are integrated in the Expressions and Equations domain
- Review the key features of the Expressions and Equations domain
- Hear from Common Core authors
- Consider implications for your classroom practice

Session 2 – Cluster Headings in Grade Six

- Learn what mathematical content is addressed in each of the sixth grade Expressions and Equations clusters
- Discover how the clusters and standards differ from more traditional standards that address similar content
- Understand why it is important to think about mathematical content at the cluster level, rather than at the level of individual standards
- Analyze clusters of standards
- Consider classroom implications and reflect on your experiences

Session 3 – Cluster Headings in Grade Seven

- Discover what mathematical content is addressed in each of the seventh grade Expressions and Equations clusters
- Learn how the clusters and standards differ from more traditional standards that address similar content
- Analyze clusters of standards
- Consider classroom implications
- Reflect on your experiences

Session 4 – Cluster Headings in Grade Eight

- Learn what mathematical content is addressed in each of the eighth grade Expressions and Equations clusters
- Discover how the clusters and standards differ from more traditional standards that address similar content
- Analyze clusters of standards
- Consider classroom implications
- Reflect on your experiences

Session 5 – Expressions and Equations Summary

- Review and reflection of how the mathematical content in Expressions and Equations fits in the progression of the development of students' algebraic reasoning
- Review and reflection of how the three common core shifts are illustrated in the Expressions and Equations domain
- Review and reflection of how the SMPs support students in deepening their understanding of the mathematical content
- Review and reflection of how the clusters and standards differ from more traditional standards that address similar content and why it is important to think about mathematical content at the cluster level, rather than at the level of individual standards
- Take stock of what you've learned about the Common Core Standards State in Mathematics content standards and how comfortable you feel with implementing them in your classroom