

## A Guide for Reviewing the Kentucky Core Academic Standards for Mathematics

The content standards for mathematics define what students should understand and be able to do in their study of mathematics.

Kentucky Core Academic Standards for Mathematics Review	
Available for review and feedback	Available for reference but not included in this review
Content Standards	Standards for Mathematical Practice (Math Practices) Introductions (Grade Level and Conceptual Categories) Domain headings Cluster headings Conceptual Category headings Mathematics Appendix A

The content standards for mathematics are organized slightly different for grades K through 8 than for high school.

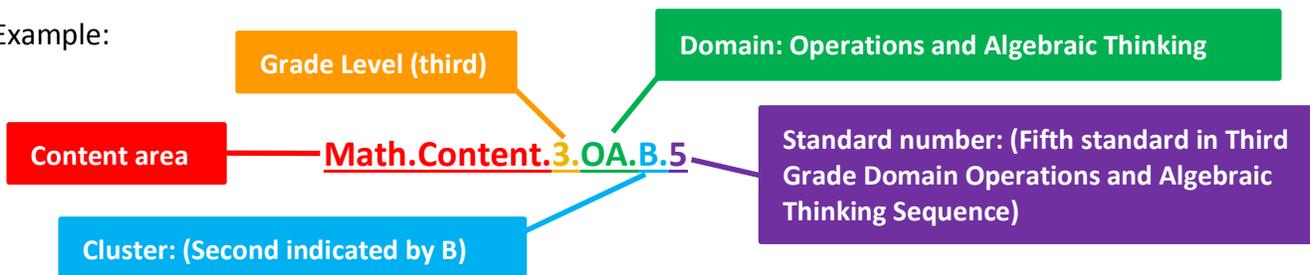
### Kindergarten through grade 8:

The content standards for mathematics Kindergarten through grade 8 are presented by grade level with an introduction that includes description of the critical areas for each grade level. These are provided for reference during your review of the content standards but are not included in this review of the content standards for math.

The content standards are categorized into domains. Each domain contains groups of standards called clusters. Clusters are groups of related standards. Content standards are not the same as domains or clusters, which are used as organizational tools. These standards do not dictate curriculum, teaching methods or sequence of instruction.

Content standards are coded using the grade level (numbers for grades 1-8 and K for Kindergarten), domain, cluster and number.

For Example:



Some standards contain additional parts and this is denoted with a lower case letter following the numbered standard.

### High School:

The high school mathematics standards are not organized by course and they do not dictate curriculum, teaching methods or sequence of instruction. Models to illustrate possible course pathways are provided in Mathematics Appendix A. This document is included as a reference but is not included in this review of the content standards for mathematics.

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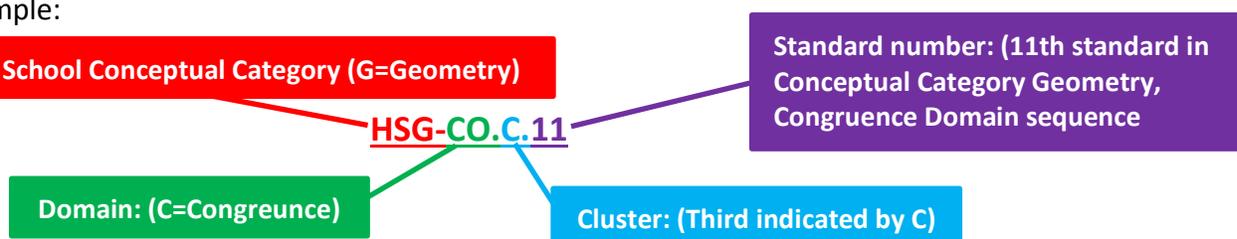
The content standards for mathematics for high school are organized by conceptual categories with an introduction for each category. These are provided for reference during your review of the content standards but are not included in this review of the content standards for math.

The standards for the conceptual category 'Modeling' are embedded throughout the other conceptual categories and are denoted with a star.

Within the other conceptual categories, the content standards are categorized into domains. Each domain contains groups of standards called clusters. Clusters are groups of related standards. Content standards are not the same as domains or clusters, which are used as organizational tools.

Content standards are coded using the high school conceptual category abbreviations, domain, cluster and number. An HS has been added to this coding to assist with distinguishing between a conceptual category and a course, for instance, the coding of 'HSG' is high school conceptual category: Geometry, not a high school geometry course.

For example:



Within the high school standards you will find additional mathematics that students should learn in order to prepare for advanced mathematics courses such as calculus and advanced statistics. These standards are indicated with (+). All standards without a (+) symbol should be in the mathematics curriculum for all college- and career-ready students. These standards may also appear in courses intended for all students, such as Algebra II.

**The Standards for Mathematical Practice**, often referred to as the “eight math practices” are available for reference and are not included in this review of the content standards. The Standards for Mathematical Practice describe opportunities that students should be given to engage with the subject matter and demonstrate understanding as they grow and mature mathematically throughout the elementary, middle and high school years.

**The Standards for Mathematical Content** are a *balanced combination of procedure and understanding* (italics added for emphasis). Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices. (Resource: CCSSO, 2010 Mathematics Standards p. 8. [www.corestandards.org](http://www.corestandards.org))

**Mathematics Progressions:** <http://education.ky.gov/school/Documents/Math%20Progressions%20Table.pdf>