Cracking the Code (Mathematics) – What Does It Mean for Me?

High School

(Prompts)

Now that you have viewed the Cracking the Code Power Point, you will revisit some of the essential points of the presentation in order to expand your learning and create a common vocabulary. To do this, you will engage in an exercise that enables you to interact with the Common Core State Standards (CCSS) for your particular grade span (K-5, 6-8, high school).

With your grade span or course colleagues you will complete and discuss a collection of tasks aimed at contextualizing the information from *Cracking the Code*. Following this exercise, you will be asked to reflect on your experience and consider actions that you will be able to take as a result of your new learning.

1. The Power Point states that there are three major components to the CCSS for Mathematics: Standards for Mathematical Practice, Standards for Mathematical Content, and a Glossary. The Standards for Mathematical Practice are described on pages 6-8 of the document. They trace their lineage to "processes and proficiencies" from two well regarded sources. ***Name these two sources and discuss the "processes and proficiencies" as they currently apply to your practice.***

2. The eight Standards for Mathematical Practice appear repeatedly throughout the document, but are only described on pages 6-8. These descriptions relate "how" mathematically proficient students engage in the study of mathematics. ***Skim through the descriptions of these two practices: "*Model with mathematics" *and* "Use appropriate tools strategically." *Cite examples of how the practices may be displayed by a high school student.***

3. As visually depicted in the Venn diagram in "Cracking the Code", the Standards for Mathematical Practice and the Standards for Mathematical Content should be intertwined during instruction. The concluding paragraphs of the Standards for Mathematical Practice offer guidance as to when the content standards lend themselves to integration with the practices. ***What word in the content expectations signal a prime opportunity to link these two sets of standards? Why do you think this is the case?***

4. Recall that the high school standards are arranged by conceptual category[1] as opposed to grade level as in elementary and middle school. Each conceptual category has its own introductory page that provides a brief descriptive overview and insight into the content. ***Locate and read the introductory page for the conceptual category of Modeling. Discuss some of the implications of this category in reference to instruction.***

5. *Domains* are large groups of related standards. One domain ranges across grades K- 8 (Geometry), while other domains span only grades within the 6-8 continuums (The Number System). In the 6-8 sequence, there is one domain that is isolated to a particular grade level. ***What is that domain and in what grade level does it appear? Why do you feel this domain may be isolated to this grade? Why is this important to know as a high school teacher?***

[1] Recall that Appendix A makes a suggestion as to how the high school standards can be arranged into traditional or integrated courses.

6. *Cluster Headings* are bolded within the CCSS document. They describe smaller groups of related standards, clusters, within a domain. ***List the four cluster headings in the domain of Arithmetic with Polynomials and Rational Expressions for the Algebra Conceptual Category.***

7. The *standards* describe what students should know and be able to do. In order to facilitate communication around the standards, a code has been developed. ***What can you say about the standard that is coded as (+)G-SRT10?***

8. On page 69 of the Common Core State Standards, locate the standard typed below. ***How would you code this standard and what should you keep in mind when designing instruction for it?***

> 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
>
> > c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.