

High School Mathematics Gap Analysis Introduction

WHAT IS IT?

The High School Gap Analysis allows teachers and district coordinators to analyze the extent that their district curriculum and resources address the concepts and skills found in the revised 2017 mathematics standards. It is published by course and by conceptual category. They can use the Gap Analysis to develop a plan for addressing gaps or overlaps in instruction as a result of the standards revision. These important considerations serve as the basis for rebuilding district-level curricula that is aligned to the revised 2017 Math Standards in preparation for a complete transition in the 2018-2019 school year.

HOW TO USE THE GAP ANALYSIS DOCUMENT

READING THE GAP ANALYSIS

- The third column, titled *2016-2017*, contains the original 2010 standard.
- The fourth column, titled *2017-2018 Implementation*, is to assist teachers and district curriculum leaders in analyzing the gaps and/or overlaps in their classroom and district curriculum to guiding instructional decisions for the 2017-2018 school year. When the cell is filled in, the standard had no changes that should impact instruction.
- The fifth column, titled *2018-2019*, contains the revised standard. Words in red indicate added words; words in purple indicate footnote additions or course clarifications from Appendix A; deleted words are not crossed out, but are just absent.
- The sixth column, titled *Comments*, has notes on clarifications, changes, course changes, which includes information from the former Appendix A.

PROCESS

1. Compare the third column, titled *2016-2017*, that contains the original standard with the fifth column, titled *2018-2019*, that contains the 2017 revised standards.
2. Read any notes in the comments column.
3. Use the fourth column, titled *2017-2018 Implementation*, to analyze any changes needed for addressing gaps or overlaps in instruction. Note: If the column is filled in, that means that there were no changes to analyze.

GUIDING QUESTIONS

Cluster Changes

For changes in a cluster, read the cluster statement and supporting standards. Then ask yourself the following questions:

- What are the changes in the cluster?
- Are the changes footnote additions that you were aware of?
- Are the changes footnote additions that you were not aware of?
- Is the change a clarity issue or a content issue?
- If it is a clarity issue, did the change add to your understanding of the cluster?
- If the change is a content issue, did it change the progression of the standards?
- Does the change require you to modify your instruction?

Standard changes

For changes in a standard, read the cluster statement and supporting standards. Then ask yourself the following questions:

- What are the changes in the standard?
- Are the changes footnote additions that you were aware of?
- Are the changes footnote additions that you were not aware of?
- Is the change a clarity issue, a content issue, or a course movement?
- If it is a clarity issue, did the change add to your understanding of the standard?
- Does the clarity change require you to modify your instruction?
- Does the change require you to either add content, delete content, or change your instructional practices?
- Does the change in the standard affect any other standards either in your grade level or in the previous or subsequent grades?
- For the transition year, would it be better to teach the 2010 standard, the 2017 standard or a combination of both standards so that a student doesn't have any gaps?
- Will my students start the year or the course with different knowledge than in the past?
- Are there any standards from previous years that need to be taught in order to fill the gaps?
- For high school, which standards have changed with respect to plus signs? How does that affect instruction?
- For high school, were there any standards that were modeling (marked by a ★) of which you were not aware?
- For high school course changes, what topics have been added or deleted in a course?
- For high school course changes, what other standards have been affected by additions and deletions of topics?
- For high school course changes, how can standards be regrouped into units to accommodate additions and deletions?

Example-High School-A.REI.4

In A.REI.4 clarity has been added to include the Zero Product Property. If teachers have not been teaching this property, they need to insert it in their model curriculum. Deriving the quadratic formula is no longer for all students, so teachers need to analyze their students and decide whether or not to continue to teach deriving the quadratic formula.

ExampleHigh School-F.IF.6

This standard used to be in Algebra 1, Math 1, and Math 2 students. It has now moved to Algebra 2/Math 3. Therefore, Algebra 1, Math 1, and Math 2 teachers will no longer teach this standard. Algebra 2 and Math 3 courses now need to include F.IF.6, and the curriculum should be modified to address this issue.

The Gap Analysis, along with the model curriculum and the critical areas of focus, will support teachers and districts as they create a framework from the standards for planning units around big ideas and concepts such as the following:

- Sequencing units to the school year;
- Making intradisciplinary and interdisciplinary connections;
- Considering diverse learner needs, technology integration, assessment practices (formative, summative and performance-based) and resources.