

## State Performance Indicators (SPI's) to be Dropped from the 2012-2013 Mathematics Grades 3-8 TCAP

As we prepare to transition to Common Core State Standards in Tennessee, the Department of Education will do everything in its power to help prepare students and educators.

The first and perhaps most important instructional shift marked by the Common Core State Standards in Mathematics (CCSSM) is **focus**. In describing the concept of focus, Phil Daro, a member of the writing team for the CCSSM, has said, "Teach less, learn more." In other words, focus means that we move away from a coverage mentality and, during any given grade, treat fewer topics in greater depth.

An important reason to focus is to create the preconditions for depth and allow the richness of mathematics education to flourish. Realistically, we need ample time to allow students to explore the depth and coherence of mathematics; this is likely not achievable without focusing the curriculum.

To promote focus and give educators the opportunity to begin to explore the new standards (and the critically important accompanying Constructed Response Assessment), we have decided to narrow the focus of the TCAP for the next two school years (2012-13 and 2013-14), removing 15-25% of the SPIs in each grade in mathematics, grades 3-8. To select these SPIs, we considered the following key questions:

- **What SPIs focus on content that will not be covered in the CCSSM?**  
For example: as part of the move towards more focus, solving problems using a calendar is not an explicit expectation in the CCSSM.
- **What SPIs focus on content that will be covered in a meaningfully different way in the CCSSM?** For example: as William McCallum, a member of the writing team for the CCSSM, has said, "patterns are a tool, not a topic." As such, we have removed many pattern-related SPI's from the TCAP; this will allow us to prepare students for success in algebra by focusing with equal intensity on the concepts, skills, and problem solving aspects of number and operations.
- **What SPIs shift up grade levels in the Common Core?**  
The CCSSM deemphasizes inequalities in the middle grades, deferring inequalities in two variables to high school in order to allow students more time to focus on equations in two variables in 8th grade. However, to ensure students in earlier grade levels do not miss out on crucial content during the transition, we have elected not to remove such SPI's.

Shifting our collective mindset from coverage to depth is a good thing for our students. It is a challenging but exciting change and will be the focus of our trainings this summer. While educators in Tennessee have expressed great enthusiasm about focus, letting go of topics and content that are currently reflected in our instructional materials and habits of practice is challenging. We look forward to rich conversations throughout trainings and ongoing support about how to do this most productively for students. In the meantime, we invite you to consider changes to your scope and sequence based on the revised scope of the TCAP and depth illustrated in the TNCore Focus Standards.

Please find below the list of dropped SPIs:

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**3<sup>rd</sup> grade:**

Grade	SPI Code	SPI Language
3	SPI 0306.1.1	Solve problems using a calendar.
3	SPI 0306.1.3	Determine the correct change from a transaction less than a dollar
3	SPI 0306.1.6	Identify and use vocabulary to describe attributes of two- and three-dimensional shapes.
3	SPI 0306.1.8	Express answers clearly in verbal, numerical or graphical (bar and picture) form, using units when appropriate
3	SPI 0306.3.4	Describe or extend (including finding missing terms) geometric and numeric patterns.
3	SPI 0306.4.2	Determine if two figures are congruent based on size and shape.
3	SPI 0306.4.3	Identify the line of symmetry in a two-dimensional design or shape.
3	SPI 0306.5.3	Make predictions based on various representations of data.

**4<sup>th</sup> grade:**

Grade	SPI Code	SPI Language
4	SPI 0406.1.2	Compare decimals using concrete and pictorial representations.
4	SPI 0406.1.3	Compare decimals using concrete and pictorial representations. Determine the correct change from a transaction.
4	SPI 0406.3.2	Make generalizations about geometric and numeric patterns.
4	SPI 0406.4.3	Construct geometric figures with vertices at points on a coordinate grid.
4	SPI 0406.4.5	Identify attributes of simple and compound figures composed of 2- and 3-dimensional shapes.
4	SPI 0406.4.6	Determine situations in which a highly accurate measurement is important.
4	SPI 0406.4.10	Identify images resulting from reflections, translations, or rotations.
4	SPI 0406.5.3	Given a set of data or a graph, describe the distribution of the data using median, range, or mode.
4	SPI 0406.5.4	List all possible outcomes of a given situation or event.

**5<sup>th</sup> grade:**

Grade	SPI Code	SPI Language
5	SPI 0506.1.1	Given a series of geometric statements, draw a conclusion about the figure described.
5	SPI 0506.2.2	Write the prime factorization of numbers through 50 using both

		exponential and standard notation.
5	SPI 0506.4.3	Identify a three-dimensional object from two-dimensional representations of that object and vice versa.
5	SPI 0506.4.6	Record measurements in context to reasonable degree of accuracy using decimals and/or fractions.
5	SPI 0506.5.2	Make predictions based on various data representations, including double bar and line graphs.

## 6<sup>th</sup> grade:

Grade	SPI Code	SPI Language
6	SPI 0606.3.1	Represent on a number line the solution of a linear inequality.
6	SPI 0606.3.2	Use order of operations and parentheses to simplify expressions and solve problems.
6	SPI 0606.3.7	Use algebraic expressions and properties to analyze numeric and geometric patterns.
6	SPI 0606.3.8	Select the qualitative graph that models a contextual situation (e.g., water filling then draining from a bathtub).
6	SPI 0606.4.1	Identify, define or describe geometric shapes given a visual representation or a written description of its properties.
6	SPI 0606.4.3	Solve problems using the Triangle Inequality Theorem.
6	SPI 0606.4.6	Given the volume of a cone/pyramid, find the volume of the related cylinder/prism or vice versa.
6	SPI 0606.5.1	Determine the theoretical probability of simple and compound events in familiar contexts.

## 7<sup>th</sup> grade:

Grade	SPI Code	SPI Language
7	SPI 0706.2.3	Use rational numbers and roots of perfect squares/cubes to solve contextual problems.
7	SPI 0706.2.4	Determine the approximate location of square/cube roots on a number line.
7	SPI 0706.3.2	Determine whether a relation (represented in various ways) is a function.
7	SPI 0706.3.3	Given a table of inputs $x$ and outputs $f(x)$ , identify the function rule and continue the pattern.
7	SPI 0706.3.9	Solve linear inequalities in one variable with rational coefficients symbolically or graphically.
7	SPI 0706.4.2	Use SSS, SAS, and AA to determine if two triangles are similar.
7	SPI 0706.5.1	Interpret and employ various graphs and charts to represent data.
7	SPI 0706.5.2	Select suitable graph types (such as bar graphs, histograms, line graphs, circle graphs, box-and-whisker plots, and stem-and-leaf plots) and use them to create accurate representations of given data.

## 8<sup>th</sup> grade:

Grade	SPI Code	SPI Language
8	SPI 0806.3.3	Solve and graph linear inequalities in two variables.
8	SPI 0806.4.4	Convert between and within the U.S. Customary System and the metric system.
8	SPI 0806.4.5	Identify the intersection of two or more geometric figures in the plane.
8	SPI 0806.5.1	Calculate probabilities of events for simple experiments with equally probable outcomes.
8	SPI 0806.5.2	Use a variety of methods to compute probabilities for compound events (e.g., multiplication, organized lists, tree diagrams, area models).