

KENTUCKY DEPARTMENT OF EDUCATION

STAFF NOTE

Review Item:

704 KAR 8:040, Required Academic Standards for Mathematics (First Reading)

Rationale:

To meet the requirements of Senate Bill 1 (2017) which calls for the Kentucky Department of Education (KDE) to implement a process for reviewing and revising all academic standards and aligned assessments beginning in the 2017-18 school year. Educators have taught the state's mathematics standards in Kentucky classrooms since 2010.

Applicable Statute or Regulation:

KRS 156.070, 156.160, 158.645, 158.6451, 158.6453, 160.290

History/Background:

Existing Policy: KRS 156.160 requires the Kentucky Board of Education (KBE) to establish courses of study for the different grades and kinds of common schools, with the courses of study to comply with the expected goals, outcomes, and assessment strategies developed under KRS 158.645, 158.6451 and 158.6453. KRS 156.070(1) requires the KBE to manage and control the common schools and all programs operated in the schools. KRS 160.290 authorizes local boards of education to provide for courses and other services for students consistent with the administrative regulations. This administrative regulation incorporates by reference the required academic standards for mathematics, which contain the general courses of study and academic content standards for use in Kentucky's common schools.

The KDE began the review and revision process for current academic standards in mathematics in January 2018. Standards outline what students are expected to know and do in each grade to successfully transition to the next level of learning, not how they are taught. The curriculum, methods and materials used to teach the standards is decided at the local level.

In addition to requiring the KDE to implement a process for reviewing all academic standards and aligned assessments beginning in the 2017-18 school year, SB 1 (2017) also required:

The revisions to the content standards shall:

- 1. Focus on critical knowledge, skills, and capacities needed for success in the global economy;*
- 2. Result in fewer but more in-depth standards to facilitate mastery learning;*
- 3. Communicate expectations more clearly and concisely to teachers, parents, students, and citizens;*
- 4. Be based on evidence-based research;*
- 5. Consider international benchmarks; and*
- 6. Ensure that the standards are aligned from elementary to high school to postsecondary education so that students can be successful at each education level.*

The current schedule calls for one or two content areas to be reviewed each year and every six years after that on a rotating basis. A process for reviewing and revising language arts and writing academic standards and assessments, mathematics academic standards and assessments, science academic standards and assessments, social studies academic standards and assessments was prescribed in SB 1 (2017). Therefore, this process was used to review and revise the mathematics standards.

Summary: The *Kentucky Academic Standards for Mathematics* reflect revisions, additions, coherence/vertical alignment and clarifications to ensure student proficiency in mathematics. By focusing on conceptual understanding, and building from procedural skill and fluency, students will perform at the highest cognitive demand-solving mathematical situations using the modeling cycle. These standards include having the ability to make sense of problems and persevere in solving them, to reason abstractly and quantitatively, to construct viable arguments and critique the reasoning of others, to model with mathematics, to use appropriate tools strategically, to attend to precision, to look for and make use of structure, and to look for and express regularity in repeated reasoning.

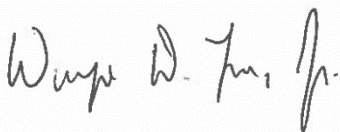
Budget Impact: State funds were used to develop these standards. The cost to review and revise the mathematics standards has been \$33,001.17 thus far. Staff time will continue to be impacted after final approval as a result of the development of resources to support the implementation of these standards.

Groups Consulted and Brief Summary of Responses:

- Advisory Panel consisting of teachers, higher education representatives and community members
- Review and Development Committees consisting of teachers, higher education representatives and community members
- Appalachia Regional Comprehensive Center who facilitated the early consultations with the Advisory Panel and the Review and Development Committees
- The standards were informed by feedback from the public and mathematics community. When these standards were open for public feedback, there were 821 respondents of which about eighty-two percent were teachers. There was a total of 2,608 comments throughout the survey.
- The Local Superintendents Advisory Council (LSAC) will review this regulation at its July 24, 2018 meeting.

Contact Person:

Amanda Ellis, Associate Commissioner
Office of Teaching and Learning
502-564-9850
amanda.ellis@education.ky.gov



Interim Commissioner of Education

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