



Kentucky Academic Standards for Mathematics

Kentucky Board of Education
October 2018

Standards and Regulation

- **704 KAR 8:040** *Kentucky Academic Standards for Mathematics.*
- This administrative regulation adopts into law the *Kentucky Academic Standards for Mathematics.*





Draft Kentucky Academic Standards for Mathematics

Statistics and Probability	
Standards for Mathematical Practice	
MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics.	MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Cluster: Develop understanding of statistical variability.	
Standards	Clarifications
KY.6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. MP.1, MP.3, MP.6	For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates a variety of values with associated variability in students’ ages. Coherence KY.5.MD.2→KY.6.SP.1→KY.7.SP.1
KY.6.SP.2 Understand that a set of numerical data collected to answer a statistical question has a distribution which can be described by its center, spread and overall shape. MP.2, MP.6, MP.7	Students distinguish between graphical representations which are skewed or approximately symmetric; use a measure of center to describe a set of data. Coherence KY.5.MD.2→KY.6.SP.2→KY.7.SP.3
KY.6.SP.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number to describe a typical value, while a measure of variation describes how the values in the distribution vary. MP.2, MP.5, MP.6	Emphasis is on the sensitivity of measures of center to changes in the data, such as mean is generally much more likely to be pulled towards an extreme value than the median. Additionally, measures of variation (range, interquartile range) describe the data by giving a sense of the spread of data points. Coherence KY.6.SP.3→KY.7.SP.4
Attending to the Standards for Mathematical Practice	
Students recognize a question such as “What did I eat for breakfast?” is not a statistical question, whereas “What is the most popular breakfast in my school?” will elicit data they can measure precisely (MP.6) and draw conclusions based on that data (MP.3). After collecting data, by creating a distribution of that data, students recognize data generally follows a structure and can be described in terms of that structure (MP.7). By accurately calculating the mean (or any other statistical measure), students are now more precise in describing data, going from, for example, describe the rainfall for the month as “about average” to “the rainfall this month is slightly higher than the mean of the last 10 years and within the interquartile range for that data.” (MP.6)	

Kentucky Academic Standards



Since the August KBE meeting:

- ▶ language in the “Education Goals” listed on page one of the front matter was updated to reflect the revision of KRS 158.6451;
- ▶ language *was added* to emphasize and/or clarify what parts of the document are “actually” the standards (content standards and standards for mathematical practice); and,
- ▶ additional focus groups were held including representatives from Kentucky education organizations and stakeholders.