

Kentucky Academic Standards (KAS) for Mathematics

Second Public Feedback Survey and Summary

April 2026



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Public Survey

Kentucky Revised Statute (KRS) 158.6453 calls for the Kentucky Department of Education (KDE) to implement a process for reviewing all academic standards and aligned assessments. Per the current schedule, one or two content areas are reviewed each year and every 6 years thereafter on a rotating basis. The implementation of the current *Kentucky Academic Standards (KAS) for Mathematics* began in the 2019–20 school year. During fall 2025, the [Kentucky Academic Standards Review Process](#) started for mathematics.

The KAS outlines what students are expected to learn in each grade or grade-band to successfully transition to the next level of learning. The curriculum, including the instructional methods and resources used to teach the standards, is a separate entity and is determined at the local level per KRS 160.345.

Public feedback was first sought on the mathematics standards from August 29 to October 3, 2025. The advisory panels and review committee reviewed public feedback to inform revisions to the standards. Following the first round of revisions to the standards by the advisory panels and review committee, a second round of public feedback was requested from January 23 to February 27, 2026, to gather feedback on the recommended revisions to the mathematics standards.

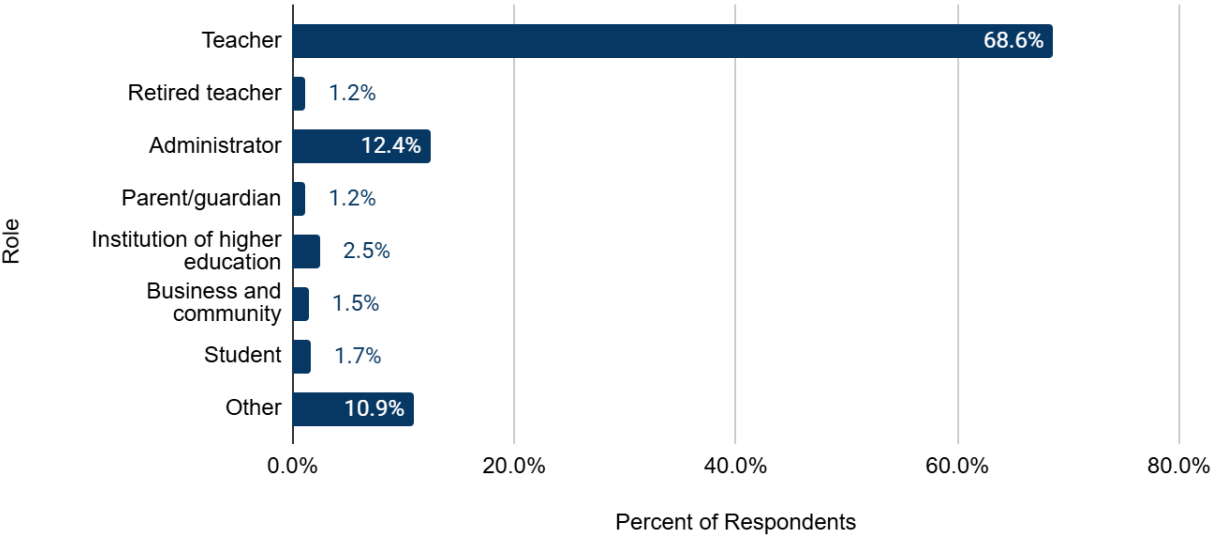
The second public feedback survey began by collecting demographic information from respondents. Respondents were then able to choose which Standards for Mathematical Content to review: all content standards (K–12) or content standards for grade bands K–5, 6–8, or 9–12. Respondents who did not select all content standards were able to select multiple grade bands for review. After reviewing the Standards for Mathematical Content, all respondents were asked to review the Standards for Mathematical Practice. For each set of standards, the survey included the text of each standard as found in the *KAS for Mathematics* as well as a link to the standards document and information about where to locate the standards within the document. Standards that were revised after the first round of public feedback were preceded by an asterisk (*) and written in red font. For each standard, respondents were instructed to reply, “Keep as is” or “Revise.” If respondents selected “Revise,” they were then prompted to provide additional information about the revisions they believe should be made to the standard. Finally, respondents were asked to rate how much they agreed with a series of statements about the overall *KAS for Mathematics*.

Respondent Information

This section contains general demographic information from responses to the background information questions. Note that not all respondents completed the survey in its entirety, leading to possible discrepancies in the total number of responses for each question.

Demographic Questions	Yes		No		Total
	Number	Percent	Number	Percent	
Do you live in Kentucky? Please note that residing in Kentucky is not a requirement for responding to this survey.	409	96.0%	17	4.0%	426

Which role best describes your affiliation with the Kentucky Public Schools?



Which role best describes your affiliation with the Kentucky Public Schools?	Responses	
	Percent	Number
Teacher	68.6%	277
Retired teacher	1.2%	5
Administrator	12.4%	50
Parent/guardian	1.2%	5
Institution of higher education	2.5%	10
Business and community	1.5%	6
Student	1.7%	7
Other (please specify)	10.9%	44
Total responses = 404		

For the respondents indicating “Other,” the breakdown of all responses is provided in the table below.

“Other” Responses	Number of Responses
Consultant	17
Instructional Coach	13
Coop Staff	5
District Employee	2
Curriculum Coach	2
Supporter	1
Staff Developer	1
Former student teacher	1
Safety Monitor	1
Publisher	1
Online education	1

Teacher

These questions only apply to those responding as “Teacher”.

Which grade level(s) do you teach? Check all that apply.	Responses	
	Percent	Number
PreK	0.4%	1
K	11.7%	32
1	13.2%	36
2	12.5%	34
3	17.9%	49
4	13.6%	37
5	19.4%	53
6	13.2%	36
7	14.3%	39
8	18.7%	51
9	21.2%	58
10	17.6%	48
11	17.6%	48
12	15.4%	42
Total responses = 273		

How many years of teaching experience do you have?	Responses	
	Percent	Number
0–5	15.0%	41
6–10	18.2%	50
11–15	20.1%	55
16–20	16.1%	44
21–25	16.1%	44
26–30	10.6%	29

How many years of teaching experience do you have?	Responses	
	Percent	Number
More than 30	4.0%	11
		Total responses = 274

Administrator

These questions only apply to those responding as “Administrator”.

Currently, what is your primary assignment as an administrator? Check all that apply.	Responses	
	Percent	Number
Preschool	8.2%	4
Grades K-3	30.6%	15
Grades 4-5	30.6%	15
Grades 6-8	28.6%	14
Grades 9-12	18.4%	9
District-wide	32.7%	16
Other	0.0%	0
		Total responses = 49

How many years of experience do you have as an administrator?	Responses	
	Percent	Number
0–5	32.7%	16
6–10	32.7%	16
11–15	20.4%	10
16–20	8.2%	4
21–25	4.1%	2
26–30	0.0%	0
More than 30	2.0%	1
		Total responses = 49

Institution of Higher Education

These questions only apply to those responding as “Institution of Higher Education”.

Is your institution a 2-year or 4-year program?	Responses	
	Percent	Number
2-year	10.0%	1
4-year	90.0%	9
Total responses = 10		

Summary of Feedback on Grade Band Standards

After the demographic questions, survey respondents were then asked to select which Standards for Mathematical Content they wanted to provide feedback on by grade band (K–5, 6–8, and 9–12). They were able to review each set of standards and clarification statements by grade band. They were also prompted to review the Standards for Mathematical Practice. Feedback on these items is included in the next section. After reviewing the standards, respondents were presented with a general item asking them to rate how much they agreed with a series of statements. Responses to these items are summarized below. Note that the number of responses to these items represent only around 20 percent of total responses to the survey.

General Items About the *KAS for Mathematics*

After reviewing the mathematics standards, how much do you agree with the following statements?

The standards represent what is essential for students to learn.	Responses	
	Percent	Number
Strongly disagree	4.6%	4
Disagree	9.2%	8
Neither agree nor disagree	13.8%	12
Agree	59.8%	52
Strongly agree	12.6%	11

The standards are aligned from elementary to high school to postsecondary education so that students can be successful at each education level.	Responses	
	Percent	Number
Strongly disagree	7.1%	6
Disagree	10.6%	9
Neither agree nor disagree	20.0%	17
Agree	50.6%	43
Strongly agree	11.8%	10

The standards outline a clear progression from conceptual understanding to procedural fluency to application.	Responses	
	Percent	Number
Strongly disagree	3.5%	3
Disagree	14.0%	12
Neither agree nor disagree	19.8%	17
Agree	51.2%	44
Strongly agree	11.6%	10

The grain size of the standards is appropriate—not too broad and not too specific.	Responses	
	Percent	Number
Strongly disagree	6.9%	6
Disagree	20.7%	18
Neither agree nor disagree	19.5%	17
Agree	43.7%	38
Strongly agree	9.2%	8

The grade-level expectations describe sufficient and appropriate depth and breadth of concepts and skills within each standard.	Responses	
	Percent	Number
Strongly disagree	5.7%	5
Disagree	19.5%	17
Neither agree nor disagree	12.6%	11
Agree	52.9%	46
Strongly agree	9.2%	8

The standards will enable educators to better prepare students for postsecondary readiness.	Responses	
	Percent	Number
Strongly disagree	4.6%	4
Disagree	5.7%	5
Neither agree nor disagree	20.7%	18
Agree	56.3%	49
Strongly agree	12.6%	11

Standards With 15% or Higher “Revise” Responses

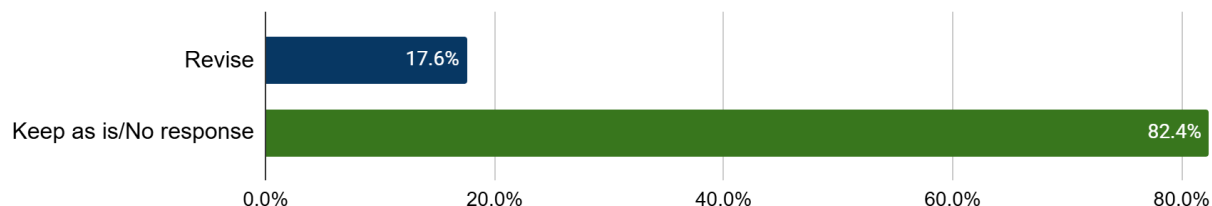
For each Standard for Mathematical Content and Standard for Mathematical Practice, survey respondents were asked to select “Keep as is” or “Revise.” If a respondent selected “Revise,” they were prompted to give their reasoning, suggestions and/or comments in a short text box.

- All eight of the Standards for Mathematical Practice received a 97% or higher approval rating.
- Of the 727 Standards for Mathematical Content, only seven standards had more than 15% of respondents select “Revise” and were flagged for review. The remaining 720 content standards had less than 15% of respondents select “Revise” and were not flagged for review. By grade band, 100% of the grade K-5 standards, over 98% of the grade 6-8 standards and over 98% of the grade 9-12 standards were not flagged for review.

The following is a complete list of all seven flagged standards where 15% or more of the **total** respondents selected “Revise.” A bar chart is included with the percentage of respondents who selected “Revise”, and the accompanying short responses by respondents with suggestions for revisions are listed below the chart. Standards are listed by grade level in the order in which they appeared to respondents.

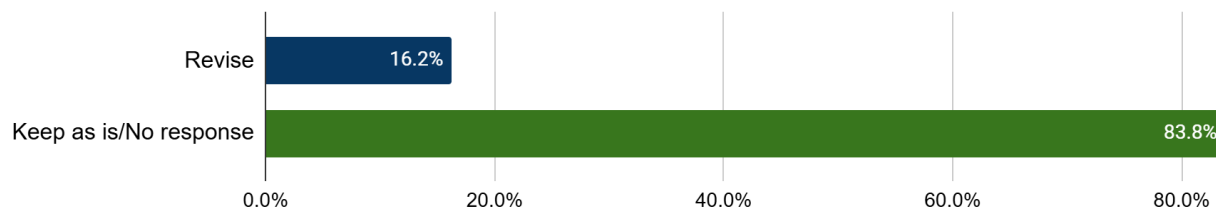
Flagged Content Standards

***KY.7.NS.1.d Fluently add and subtract rational numbers by applying properties of operations.**



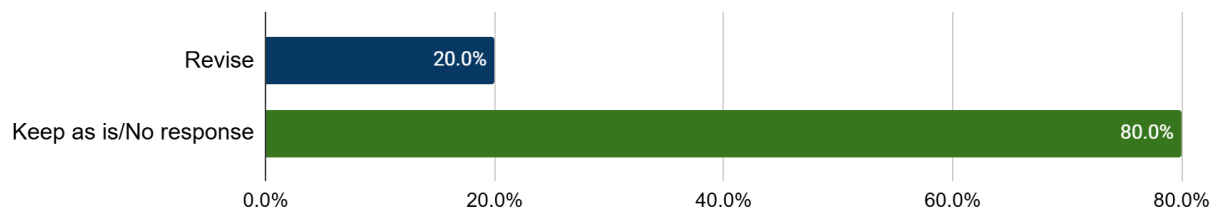
1. Students are not retaining the prior knowledge from previous grades to master this standard, specifically adding and subtracting fractions.
2. Fluently add and subtract integers by applying properties of operations
3. In the clarifications for KY.7.NS.1.d, add in a reference to Table 3 on p. 256. Is there any property on that table that is excluded from the 7th grade standard? If so, identify that in the Clarifications.
4. In the clarifications for KY.7.NS.1.d, add in a reference to Table 3 on p. 256. Is there any property on that table that is excluded from the 7th grade standard? If so, identify that in the Clarifications.
5. In the clarifications for KY.7.NS.1.d, add in a reference to Table 3 on p. 256. Is there any property on that table that is excluded from the 7th grade standard? If so, identify that in the Clarifications.
6. This is very broad and can be interpreted many different ways and needs to be more specific. 7th Grade focuses heavily on negative numbers, but this standard seems to always focus on only fractions and decimals operations in the same expression.
7. Fluently add and subtract integers by applying properties of operations
8. too broad of a standard, more concise.
9. Be more specific. What properties?
10. Be more specific, what properties are you looking for?
11. When is calculator use appropriate
12. In the clarifications for KY.7.NS.1.d, add in a reference to Table 3 on p. 256. Is there any property on that table that is excluded from the 7th grade standard? If so, identify that in the Clarifications. Reference definition of fluency
13. Remove the word "fluently". Do we plan to measure the efficiency, accuracy, flexibility, AND appropriateness of their strategy? If not, don't include the word "fluent".

***KY.7.NS.2.c Fluently multiply and divide rational numbers by applying the properties of operations as strategies.**



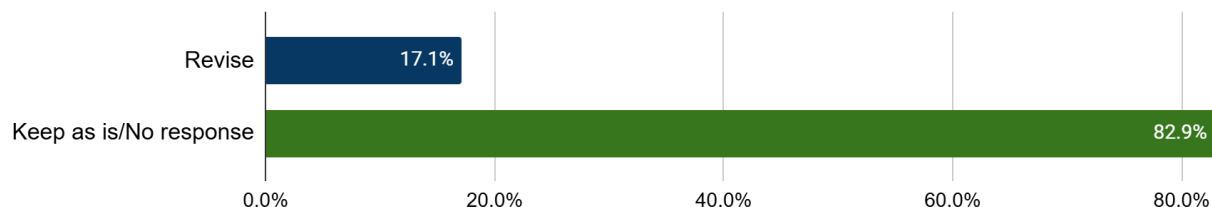
1. Students are not retaining the prior knowledge from previous grades to master this standard, specifically multiplying and dividing fractions and decimals.
2. This will need a clarification. There currently is no clarification for 7.NS.2.c
3. Fluently multiply and divide integers by applying the properties of operations as strategies.
4. In the clarifications for KY.7.NS.2.c, add in a reference to Table 3 on p. 256. Is there any property on that table that is excluded from the 7th grade standard? If so, identify that in the Clarifications.
5. In the clarifications for KY.7.NS.2.c, add in a reference to Table 3 on p. 256. Is there any property on that table that is excluded from the 7th grade standard? If so, identify that in the Clarifications.
6. This is very broad and can be interpreted many different ways and needs to be more specific. 7th Grade focuses heavily on negative numbers, but this standard seems to always focus on only fractions and decimals operations in the same expression.
7. Fluently multiply and divide integers by applying the properties of operations as strategies.
8. take out
9. Again, be more specific, which properties
10. When is calculator use appropriate
11. In the clarifications for KY.7.NS.2.c, add in a reference to Table 3 on p. 256. Is there any property on that table that is excluded from the 7th grade standard? If so, identify that in the Clarifications.
12. Remove the word "fluently". Do we plan to measure the efficiency, accuracy, flexibility, AND appropriateness of their strategy? If not, don't include the word "fluent".

KY.HS.N.7.a Know there is a complex number i such that $i^2 = -1$ and every complex number has the form $a + bi$ with a and b real.



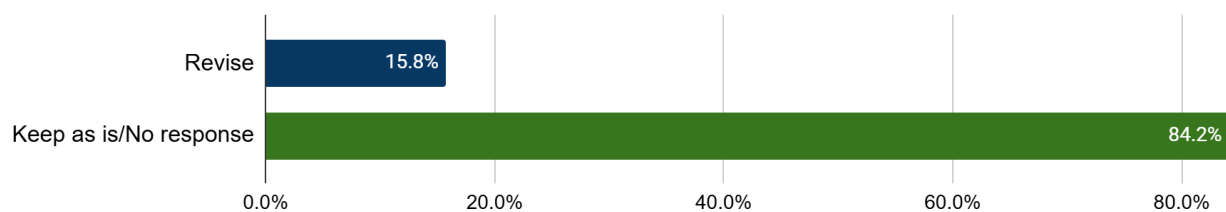
1. I believe we should eliminate the complex number system until advanced courses such as pre-calculus. The average algebra 2 student does not need complex numbers and will never use it. It's very difficult to teach topics where students know they'll never.
2. This type is useless & of no value.
3. On the next part of the survey it has individual standard parts (a, b, c) with (+), why does this one not?
4. I'm not sure I see the point of having part a and part b below. You can't use it if you don't know it already?
5. Bloom's Taxonomy
6. Is this part of a plus of delta standard? Shouldn't it be labeled+
7. Typical 10th grades will not see this content as this is an Algebra 2 (Honors) concept which is an 11th grade subject.
8. Reword to include the vocabulary word "imaginary." For example, finishing the sentence as "a and b real, where a is called the real component and bi is called the imaginary component."
9. Should be a plus if the heading is a plus
10. This standard should have a +n

***KY.HS.N.9 (Δ) Solve quadratic equations with real coefficients that have complex solutions.**



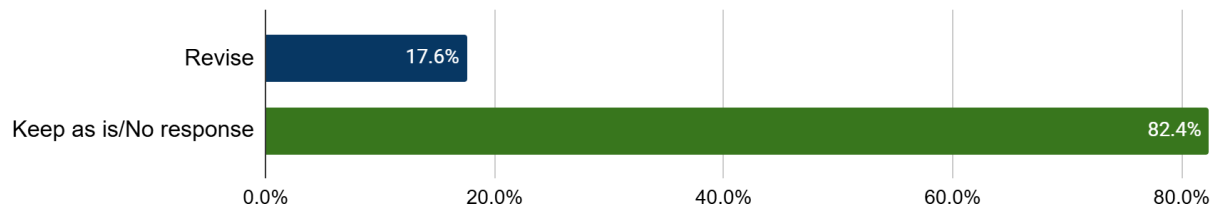
1. I believe we should eliminate the complex number system until advanced courses such as pre-calculus. The average algebra 2 student does not need complex numbers and will never use it. It's very difficult to teach topics where students know they'll never.
2. If students are meant to learn about complex numbers in required courses (KY.HS.N.7 etc), then this should also be required. What would be the "why" of complex numbers without seeing real world, quadratic situations in which they are needed?
3. How can this be done if previous standards on complex numbers aren't required before it? This should be a +, not a delta.
4. Why is this a triangle and not a +? Is this not needed for higher level math?
5. Delta standards should be labeled as part of the required 3rd or 4th course
6. Weren't the previous complex number standards changed to pluses? They should be prerequisites for the delta standards in this case. How do those distinctions fit together?
7. Real Solutions should replace complex solutions

***KY.HS.N.14 (Δ) Use matrices to represent and manipulate data.**



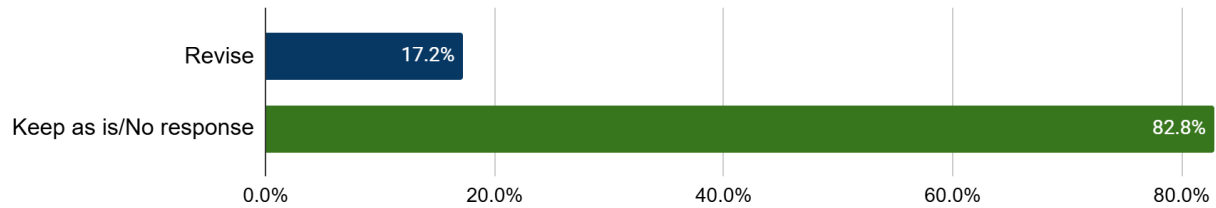
1. Should be a + standard
2. I am genuinely confused on why this is a triangle instead of a +
3. Too vague
4. Make sure delta standards are labeled as part of the required 3rd or 4th course
5. Specify what kind of data?
6. Remove all matrices

***KY.HS.A.1.b (Δ) Interpret complicated expressions, given a context, by viewing one or more of their parts as a single entity. ★**



1. "One or more of their parts" - does this mean coefficient, constant, # of terms? Very vague
2. There is no point in learning part A.1.a of this standard without interpreting a context. This should be required and not delta. The whole point of KY.HS.A.1 is modeling.
3. Is this not important for higher level math? (+)
4. I don't feel that the average teacher can read this standard and know what they are being asked to teach.
5. How? Why?
6. Be sure delta standards are labeled as part of the required standards for the 3rd or 4th course

***KY.HS.A.19.c (Δ) Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x-p)^2=q$ that has the same solutions. Derive the quadratic formula from this form.**



1. Advanced Standard
2. Should not be a (+) standard as CTS is a critical strategy for many types of problems. It links a concrete area model with other very abstract strategies and is one of the few strategies for solving that students can use to develop deep understanding.
3. The 2 in the expression $(x-p)^2=q$ should be a superscript, as it is an exponent.
4. Why not +?
5. This standard is fine, but it seems like it goes more with the rewriting equivalent expressions standards, not a standard heading that says to solve.

Content Standards Heat Maps

The following heat maps were created to assist with highlighting areas where there is agreement to keep the Standards for Mathematical Content as-is and identifying areas where additional review and focus may be needed. The heatmaps are presented in two ways: 1) all content standards by grade band and 2) content standards by domain for Grades K-8.

Each heat map lists the standard codes, and a highlighted standard code means the standard was flagged for review based on public feedback and will coincide with the list of flagged standards that start on page 9.

All Content Standards by Grade Band

Kindergarten – Grade 5: All Standards

K	1	2	3	4	5
KY.K.CC.1	KY.1.OA.1	KY.2.OA.1	KY.3.OA.1	KY.4.OA.1	KY.5.OA.1
KY.K.CC.1.a	KY.1.OA.2	KY.2.OA.2	KY.3.OA.2	KY.4.OA.2	KY.5.OA.2
KY.K.CC.1.b	KY.1.OA.3	KY.2.OA.3	KY.3.OA.3	KY.4.OA.3	KY.5.OA.3
KY.K.CC.2	KY.1.OA.4	KY.2.OA.4	KY.3.OA.4	KY.4.OA.4	KY.5.OA.3.a
KY.K.CC.3	KY.1.OA.5	KY.2.NBT.1	KY.3.OA.5	KY.4.OA.4.a	KY.5.OA.3.b
KY.K.CC.3.a	KY.1.OA.6	KY.2.NBT.1.a	KY.3.OA.6	KY.4.OA.4.b	KY.5.OA.3.c
KY.K.CC.3.b	KY.1.OA.6.a	KY.2.NBT.1.b	KY.3.OA.7	KY.4.OA.4.c	KY.5.NBT.1
KY.K.CC.4	KY.1.OA.6.b	KY.2.NBT.2	KY.3.OA.8	KY.4.OA.4.d	KY.5.NBT.2
KY.K.CC.4.a	KY.1.OA.7	KY.2.NBT.3	KY.3.OA.9	KY.4.OA.5	KY.5.NBT.3
KY.K.CC.4.b	KY.1.OA.8	KY.2.NBT.4	KY.3.NBT.1	KY.4.NBT.1	KY.5.NBT.3.a
KY.K.CC.4.c	KY.1.NBT.1	KY.2.NBT.5	KY.3.NBT.2	KY.4.NBT.2	KY.5.NBT.3.b
KY.K.CC.5	KY.1.NBT.1.a	KY.2.NBT.6	KY.3.NBT.3	KY.4.NBT.2.a	KY.5.NBT.4
KY.K.CC.5.a	KY.1.NBT.1.b	KY.2.NBT.7	KY.3.NF.1	KY.4.NBT.2.b	KY.5.NBT.5
KY.K.CC.5.b	KY.1.NBT.2	KY.2.NBT.7.a	KY.3.NF.2	KY.4.NBT.3	KY.5.NBT.6
KY.K.CC.6	KY.1.NBT.2.a	KY.2.NBT.7.b	KY.3.NF.2.a	KY.4.NBT.4	KY.5.NBT.6.a
KY.K.CC.7	KY.1.NBT.2.b	KY.2.NBT.8	KY.3.NF.2.b	KY.4.NBT.5	KY.5.NBT.6.b
KY.K.OA.1	KY.1.NBT.2.c	KY.2.NBT.9	KY.3.NF.3	KY.4.NBT.6	KY.5.NBT.7
KY.K.OA.2	KY.1.NBT.3	KY.2.MD.1	KY.3.NF.3.a	KY.4.NF.1.a	KY.5.NBT.7.a
KY.K.OA.3	KY.1.NBT.4	KY.2.MD.2	KY.3.NF.3.b	KY.4.NF.1.b	KY.5.NBT.7.b
KY.K.OA.3.a	KY.1.NBT.4.a	KY.2.MD.3	KY.3.NF.3.c	KY.4.NF.2	KY.5.NBT.1
KY.K.OA.3.b	KY.1.NBT.4.b	KY.2.MD.4	KY.3.NF.3.d	KY.4.NF.3	KY.5.NF.1
KY.K.OA.4	KY.1.NBT.5	KY.2.MD.5	KY.3.MD.1	KY.4.NF.3.a	KY.5.NF.2
KY.K.OA.5	KY.1.NBT.6	KY.2.MD.6	KY.3.MD.2	KY.4.NF.3.b	KY.5.NF.2.a
KY.K.NBT.1	KY.1.NBT.6.a	KY.2.MD.7	KY.3.MD.2.a	KY.4.NF.3.c	KY.5.NF.2.b
KY.K.MD.1	KY.1.NBT.6.b	KY.2.MD.8	KY.3.MD.2.b	KY.4.NF.3.d	KY.5.NF.3
KY.K.MD.2	KY.1.MD.1	KY.2.MD.9	KY.3.MD.3	KY.4.NF.4	KY.5.NF.4
KY.K.MD.3	KY.1.MD.2	KY.2.MD.9.a	KY.3.MD.3.a	KY.4.NF.4.a	KY.5.NF.4.a
KY.K.MD.4	KY.1.MD.3	KY.2.MD.9.b	KY.3.MD.3.b	KY.4.NF.4.b	KY.5.NF.4.b
KY.K.G.1	KY.1.MD.3.a	KY.2.MD.9.c	KY.3.MD.3.c	KY.4.NF.4.c	KY.5.NF.5
KY.K.G.1.a	KY.1.MD.3.b	KY.2.MD.10	KY.3.MD.4	KY.4.NF.5	KY.5.NF.5.a
KY.K.G.1.b	KY.1.MD.4	KY.2.G.1	KY.3.MD.4.a	KY.4.NF.5.a	KY.5.NF.5.b
KY.K.G.2	KY.1.MD.4.a	KY.2.G.2	KY.3.MD.4.b	KY.4.NF.5.b	KY.5.NF.6

KY.K.G.3	KY.1.MD.4.b	KY.2.G.3	KY.3.MD.4.c	KY.4.NF.6	KY.5.NF.7
KY.K.G.4	KY.1.MD.4.c		KY.3.MD.4.d	KY.4.NF.7	KY.5.NF.7.a
KY.K.G.5	KY.1.MD.4.d		KY.3.MD.5	KY.4.NF.7.a	KY.5.NF.7.b
KY.K.G.6	KY.1.G.1		KY.3.MD.6	KY.4.NF.7.b	KY.5.NF.7.c
	KY.1.G.2		KY.3.MD.7	KY.4.NF.7.c	KY.5.MD.1
	KY.1.G.2.a		KY.3.MD.7.a	KY.4.MD.1	KY.5.MD.2
	KY.1.G.2.b		KY.3.MD.7.b	KY.4.MD.1.a	KY.5.MD.3
	KY.1.G.3		KY.3.MD.7.c	KY.4.MD.1.b	KY.5.MD.3.a
			KY.3.MD.7.d	KY.4.MD.1.c	KY.5.MD.3.b
			KY.3.MD.8	KY.4.MD.2	KY.5.MD.4
			KY.3.MD.8.a	KY.4.MD.2.a	KY.5.MD.5
			KY.3.MD.8.b	KY.4.MD.2.b	KY.5.MD.5.a
			KY.3.MD.8.c	KY.4.MD.2.c	KY.5.MD.5.b
			KY.3.G.1	KY.4.MD.3	KY.5.MD.5.c
			KY.3.G.1.a	KY.4.MD.4	KY.5.G.1
			KY.3.G.1.b	KY.4.MD.4.a	KY.5.G.2
			KY.3.G.1.c	KY.4.MD.4.b	KY.5.G.3
			KY.3.G.2	KY.4.MD.4.c	KY.5.G.4
				KY.4.MD.5	
				KY.4.MD.6	
				KY.4.MD.7	
				KY.4.G.1	
				KY.4.G.2	
				KY.4.G.3	
				KY.4.G.3.a	
				KY.4.G.3.b	

Grades 6-8: All Standards

6	7	8
KY.6.RP.1	KY.7.RP.1	KY.8.NS.1
KY.6.RP.2	KY.7.RP.2	KY.8.NS.2
KY.6.RP.3	KY.7.RP.2.a	KY.8.EE.1
KY.6.RP.3.a	KY.7.RP.2.b	KY.8.EE.2
KY.6.RP.3.b	KY.7.RP.2.c	KY.8.EE.3
KY.6.RP.3.c	KY.7.RP.2.d	KY.8.EE.4
KY.6.RP.3.d	KY.7.RP.3	KY.8.EE.5
KY.6.NS.1	KY.7.RP.3.a	KY.8.EE.6

KY.6.NS.2	KY.7.RP.3.b	KY.8.EE.7
KY.6.NS.2.a	KY.7.NS.1	KY.8.EE.7.a
KY.6.NS.2.b	KY.7.NS.1.a	KY.8.EE.7.b
KY.6.NS.3	KY.7.NS.1.b	KY.8.EE.8
KY.6.NS.4	KY.7.NS.1.c	KY.8.EE.8.a
KY.6.NS.5	KY.7.NS.1.d	KY.8.EE.8.b
KY.6.NS.6	KY.7.NS.2	KY.8.EE.8.c
KY.6.NS.6.a	KY.7.NS.2.a	KY.8.F.1
KY.6.NS.6.b	KY.7.NS.2.b	KY.8.F.2
KY.6.NS.6.c	KY.7.NS.2.c	KY.8.F.3
KY.6.NS.7	KY.7.NS.3	KY.8.F.3.a
KY.6.NS.7.a	KY.7.EE.1	KY.8.F.3.b
KY.6.NS.7.b	KY.7.EE.2	KY.8.F.4
KY.6.NS.7.c	KY.7.EE.3	KY.8.F.4.a
KY.6.NS.7.d	KY.7.EE.4	KY.8.F.4.b
KY.6.NS.8	KY.7.EE.4.a	KY.8.F.5
KY.6.EE.1	KY.7.EE.4.b	KY.8.F.5.a
KY.6.EE.2	KY.7.G.1	KY.8.F.5.b
KY.6.EE.2.a	KY.7.G.2	KY.8.G.1
KY.6.EE.2.b	KY.7.G.3	KY.8.G.2
KY.6.EE.2.c	KY.7.G.4	KY.8.G.3
KY.6.EE.3	KY.7.G.4.a	KY.8.G.4
KY.6.EE.4	KY.7.G.4.b	KY.8.G.5
KY.6.EE.5	KY.7.G.5	KY.8.G.6
KY.6.EE.6	KY.7.G.6	KY.8.G.7
KY.6.EE.7	KY.7.G.6.a	KY.8.G.8
KY.6.EE.8	KY.7.G.6.b	KY.8.G.9
KY.6.EE.9	KY.7.SP.0	KY.8.SP.1
KY.6.EE.9.a	KY.7.SP.1	KY.8.SP.2
KY.6.EE.9.b	KY.7.SP.2	KY.8.SP.3
KY.6.EE.9.c	KY.7.SP.2.a	
KY.6.G.1	KY.7.SP.2.b	
KY.6.G.2	KY.7.SP.2.c	
KY.6.G.3	KY.7.SP.3	
KY.6.G.4	KY.7.SP.4	
KY.6.SP.0	KY.7.SP.5	
KY.6.SP.0.a	KY.7.SP.6	
KY.6.SP.0.b	KY.7.SP.7	

KY.6.SP.0.c	KY.7.SP.7.a	
KY.6.SP.0.d	KY.7.SP.7.b	
KY.6.SP.1	KY.7.SP.8	
KY.6.SP.2	KY.7.SP.8.a	
KY.6.SP.3	KY.7.SP.8.b	
KY.6.SP.4	KY.7.SP.8.c	
KY.6.SP.5		
KY.6.SP.5.a		
KY.6.SP.5.b		
KY.6.SP.5.c		
KY.6.SP.5.d		
KY.6.SP.5.e		

High School (Grades 9-12): All Standards

Conceptual Category Number and Quantity	Conceptual Category Algebra	Conceptual Category Functions	Conceptual Category Geometry	Conceptual Category Statistics and Probability	Calculus (+)
KY.HS.N.1	KY.HS.A.1	KY.HS.F.1	KY.HS.G.1	KY.HS.SP.1	KY.HS.C.1 (+)
KY.HS.N.2	KY.HS.A.1.a	KY.HS.F.1.a	KY.HS.G.1.a	KY.HS.SP.2	KY.HS.C.1.a (+)
KY.HS.N.3 (+)	KY.HS.A.1.b (Δ)	KY.HS.F.1.b	KY.HS.G.1.b	KY.HS.SP.3	KY.HS.C.1.b (+)
KY.HS.N.4	KY.HS.A.2	KY.HS.F.1.c	KY.HS.G.2	KY.HS.SP.4 (+)	KY.HS.C.2 (+)
KY.HS.N.4.a	KY.HS.A.3	KY.HS.F.1.d	KY.HS.G.2.a	KY.HS.SP.5 (Δ)	KY.HS.C.3 (+)
KY.HS.N.4.b	KY.HS.A.3.a	KY.HS.F.1.e	KY.HS.G.2.b	KY.HS.SP.6	KY.HS.C.4 (+)
KY.HS.N.5	KY.HS.A.3.b	KY.HS.F.2	KY.HS.G.2.c	KY.HS.SP.6.a	KY.HS.C.5 (+)
KY.HS.N.6	KY.HS.A.3.c	KY.HS.F.3	KY.HS.G.3 (+)	KY.HS.SP.6.b	KY.HS.C.6 (+)
KY.HS.N.7	KY.HS.A.3.d (+)	KY.HS.F.3.a	KY.HS.G.4	KY.HS.SP.7	KY.HS.C.7 (+)
KY.HS.N.7.a	KY.HS.A.4 (+)	KY.HS.F.3.b	KY.HS.G.4.a	KY.HS.SP.8	KY.HS.C.8 (+)
KY.HS.N.7.b	KY.HS.A.5	KY.HS.F.4	KY.HS.G.4.b	KY.HS.SP.8.a	KY.HS.C.9 (+)
KY.HS.N.7.c (+)	KY.HS.A.6 (+)	KY.HS.F.4.a	KY.HS.G.4.c	KY.HS.SP.8.b	KY.HS.C.9.a (+)
KY.HS.N.8 (+)	KY.HS.A.7	KY.HS.F.4.b (Δ)	KY.HS.G.5	KY.HS.SP.8.c	KY.HS.C.9.b (+)
KY.HS.N.8.a (+)	KY.HS.A.7.a	KY.HS.F.4.c (Δ)	KY.HS.G.5.a	KY.HS.SP.9 (Δ)	KY.HS.C.10 (+)
KY.HS.N.8.b (+)	KY.HS.A.7.b (Δ)	KY.HS.F.4.d (Δ)	KY.HS.G.5.b	KY.HS.SP.10 (Δ)	KY.HS.C.11 (+)
KY.HS.N.8.c (+)	KY.HS.A.8 (+)	KY.HS.F.4.e (+)	KY.HS.G.6	KY.HS.SP.11 (Δ)	KY.HS.C.11.a (+)
KY.HS.N.9 (Δ)	KY.HS.A.9 (+)	KY.HS.F.4.f (Δ)	KY.HS.G.7	KY.HS.SP.12 (Δ)	KY.HS.C.11.b (+)
KY.HS.N.10 (+)	KY.HS.A.10 (+)	KY.HS.F.4.g (+)	KY.HS.G.7.a	KY.HS.SP.13 (Δ)	KY.HS.C.12 (+)
KY.HS.N.11 (+)	KY.HS.A.11 (+)	KY.HS.F.5	KY.HS.G.7.b (+)	KY.HS.SP.14 (Δ)	KY.HS.C.13 (+)
KY.HS.N.12 (+)	KY.HS.A.12	KY.HS.F.5.a	KY.HS.G.8	KY.HS.SP.15 (Δ)	KY.HS.C.14 (+)

KY.HS.N.12.a (+)	KY.HS.A.13	KY.HS.F.5.b	KY.HS.G.8.a	KY.HS.SP.15.a (Δ)	KY.HS.C.15 (+)
KY.HS.N.12.b (+)	KY.HS.A.14	KY.HS.F.6	KY.HS.G.8.b	KY.HS.SP.15.b (+)	KY.HS.C.16 (+)
KY.HS.N.12.c (+)	KY.HS.A.15	KY.HS.F.6.a	KY.HS.G.9	KY.HS.SP.15.c (Δ)	KY.HS.C.17 (+)
KY.HS.N.13 (+)	KY.HS.A.15.a	KY.HS.F.6.b	KY.HS.G.9.a	KY.HS.SP.16 (Δ)	KY.HS.C.18 (+)
KY.HS.N.13.a (+)	KY.HS.A.15.b (Δ)	KY.HS.F.6.c (+)	KY.HS.G.9.b	KY.HS.SP.16.a (Δ)	KY.HS.C.19 (+)
KY.HS.N.13.b (+)	KY.HS.A.16	KY.HS.F.7	KY.HS.G.10	KY.HS.SP.16.b (+)	KY.HS.C.20 (+)
KY.HS.N.13.c (+)	KY.HS.A.17 (Δ)	KY.HS.F.7.a	KY.HS.G.11	KY.HS.SP.16.c (Δ)	KY.HS.C.21 (+)
KY.HS.N.13.d (+)	KY.HS.A.17.a	KY.HS.F.7.b	KY.HS.G.11.a	KY.HS.SP.16.d (Δ)	KY.HS.C.22 (+)
KY.HS.N.13.e (+)	KY.HS.A.17.b	KY.HS.F.7.c (+)	KY.HS.G.11.b (+)	KY.HS.SP.17 (+)	KY.HS.C.23 (+)
KY.HS.N.14 (Δ)	KY.HS.A.18	KY.HS.F.8 (Δ)	KY.HS.G.11.c	KY.HS.SP.18 (+)	KY.HS.C.24 (+)
KY.HS.N.15 (Δ)	KY.HS.A.19	KY.HS.F.8.a	KY.HS.G.12	KY.HS.SP.19 (Δ)	KY.HS.C.25 (+)
KY.HS.N.15.a (Δ)	KY.HS.A.19.a	KY.HS.F.8.b	KY.HS.G.12.a	KY.HS.SP.19.a (Δ)	KY.HS.C.26 (+)
KY.HS.N.15.b (Δ)	KY.HS.A.19.b (Δ)	KY.HS.F.9 (Δ)	KY.HS.G.12.b	KY.HS.SP.19.b (Δ)	KY.HS.C.27 (+)
KY.HS.N.16 (+)	KY.HS.A.19.c (Δ)	KY.HS.F.9.a	KY.HS.G.12.c	KY.HS.SP.19.c (+)	KY.HS.C.28 (+)
KY.HS.N.16.a (+)	KY.HS.A.20	KY.HS.F.9.b (+)	KY.HS.G.13 (+)	KY.HS.SP.20 (+)	KY.HS.C.29 (+)
KY.HS.N.16.b (+)	KY.HS.A.20.a	KY.HS.F.9.c (+)	KY.HS.G.14 (+)	KY.HS.SP.21 (+)	KY.HS.C.30 (+)
KY.HS.N.16.c (+)	KY.HS.A.20.b	KY.HS.F.9.d (+)	KY.HS.G.14.a (+)	KY.HS.SP.22 (+)	KY.HS.C.31 (+)
KY.HS.N.17 (+)	KY.HS.A.21 (Δ)	KY.HS.F.10 (Δ)	KY.HS.G.14.b (+)	KY.HS.SP.22.a	KY.HS.C.32 (+)
	KY.HS.A.22 (+)	KY.HS.F.11	KY.HS.G.15	KY.HS.SP.22.b	KY.HS.C.32.a (+)
	KY.HS.A.22.a (+)	KY.HS.F.11.a	KY.HS.G.16	KY.HS.SP.23 (+)	KY.HS.C.32.b (+)

	KY.HS.A.22.b (+)	KY.HS.F.11.b	KY.HS.G.16.a	KY.HS.SP.23.a (+)	KY.HS.C.33 (+)
	KY.HS.A.22.c (+)	KY.HS.F.11.c	KY.HS.G.16.b	KY.HS.SP.23.b (+)	KY.HS.C.34 (+)
	KY.HS.A.23	KY.HS.F.12	KY.HS.G.16.c	KY.HS.SP.23.c (+)	KY.HS.C.35 (+)
	KY.HS.A.24	KY.HS.F.13	KY.HS.G.17 (+)		KY.HS.C.36 (+)
	KY.HS.A.25	KY.HS.F.14	KY.HS.G.17.a (+)		KY.HS.C.37 (+)
	KY.HS.A.25.a	KY.HS.F.15 (+)	KY.HS.G.17.b (+)		KY.HS.C.38 (+)
	KY.HS.A.25.b	KY.HS.F.16 (+)	KY.HS.G.18 (+)		KY.HS.C.39 (+)
		KY.HS.F.16.a (+)	KY.HS.G.18.a (+)		KY.HS.C.40 (+)
		KY.HS.F.16.b (+)	KY.HS.G.18.b (+)		KY.HS.C.41 (+)
		KY.HS.F.16.c (+)	KY.HS.G.19		KY.HS.C.42 (+)
		KY.HS.F.17 (+)	KY.HS.G.19.a		KY.HS.C.43 (+)
		KY.HS.F.18 (+)	KY.HS.G.19.b (+)		KY.HS.C.44 (+)
		KY.HS.F.19 (+)	KY.HS.G.19.c (+)		KY.HS.C.45 (+)
		KY.HS.F.20 (+)	KY.HS.G.20 (+)		
		KY.HS.F.20.a (+)	KY.HS.G.20.a (+)		
		KY.HS.F.20.b (+)	KY.HS.G.20.b (+)		
			KY.HS.G.21		
			KY.HS.G.22		
			KY.HS.G.23		
			KY.HS.G.23.a		
			KY.HS.G.23.b		
			KY.HS.G.24		
			KY.HS.G.24.a		
			KY.HS.G.24.b		

			KY.HS.G.25		
			KY.HS.G.25.a		
			KY.HS.G.25.b		
			KY.HS.G.26 (+)		
			KY.HS.G.27		
			KY.HS.G.28		
			KY.HS.G.29		
			KY.HS.G.30		
			KY.HS.G.31		

Content Standards by Domain for K-8

- Operations and Algebraic Thinking Standards Progression

K	1	2	3	4	5
KY.K.OA.1	KY.1.OA.1	KY.2.OA.1	KY.3.OA.1	KY.4.OA.1	KY.5.OA.1
KY.K.OA.2	KY.1.OA.2	KY.2.OA.2	KY.3.OA.2	KY.4.OA.2	KY.5.OA.2
KY.K.OA.3	KY.1.OA.3	KY.2.OA.3	KY.3.OA.3	KY.4.OA.3	KY.5.OA.3
KY.K.OA.3.a	KY.1.OA.4	KY.2.OA.4	KY.3.OA.4	KY.4.OA.3.a	KY.5.OA.3.a
KY.K.OA.3.b	KY.1.OA.5		KY.3.OA.5	KY.4.OA.3.b	KY.5.OA.3.b
KY.K.OA.4	KY.1.OA.6		KY.3.OA.6	KY.4.OA.4	KY.5.OA.3.c
KY.K.OA.5	KY.1.OA.6.a		KY.3.OA.7	KY.4.OA.4.a	
	KY.1.OA.6.b		KY.3.OA.8	KY.4.OA.4.b	
	KY.1.OA.7		KY.3.OA.9	KY.4.OA.4.c	
	KY.1.OA.8			KY.4.OA.4.d	
				KY.4.OA.5	

Number and Operations in Base Ten Standards Progression

K	1	2	3	4	5
KY.K.NBT.1	KY.1.NBT.1	KY.2.NBT.1	KY.3.NBT.1	KY.4.NBT.1	KY.5.NBT.1
	KY.1.NBT.1.a	KY.2.NBT.1.a	KY.3.NBT.2	KY.4.NBT.2	KY.5.NBT.2
	KY.1.NBT.1.b	KY.2.NBT.1.b	KY.3.NBT.3	KY.4.NBT.2.a	KY.5.NBT.3
	KY.1.NBT.2	KY.2.NBT.2		KY.4.NBT.2.b	KY.5.NBT.3.a
	KY.1.NBT.2.a	KY.2.NBT.3		KY.4.NBT.3	KY.5.NBT.3.b
	KY.1.NBT.2.b	KY.2.NBT.4		KY.4.NBT.4	KY.5.NBT.4
	KY.1.NBT.2.c	KY.2.NBT.5		KY.4.NBT.5	KY.5.NBT.5
	KY.1.NBT.3	KY.2.NBT.6		KY.4.NBT.6	KY.5.NBT.6
	KY.1.NBT.4	KY.2.NBT.7			KY.5.NBT.6.a
	KY.1.NBT.4.a	KY.2.NBT.7.a			KY.5.NBT.6.b
	KY.1.NBT.4.b	KY.2.NBT.7.b			KY.5.NBT.7
	KY.1.NBT.5	KY.2.NBT.8			KY.5.NBT.7.a
	KY.1.NBT.6	KY.2.NBT.9			KY.5.NBT.7.b
	KY.1.NBT.6.a				
	KY.1.NBT.6.b				

Measurement and Data Standards Progression

K	1	2	3	4	5
KY.K.MD.1	KY.1.MD.1	KY.2.MD.1	KY.3.MD.1	KY.4.MD.1	KY.5.MD.1
KY.K.MD.2	KY.1.MD.2	KY.2.MD.2	KY.3.MD.2	KY.4.MD.1.a	KY.5.MD.2
KY.K.MD.3	KY.1.MD.3	KY.2.MD.3	KY.3.MD.2.a	KY.4.MD.1.b	KY.5.MD.3
KY.K.MD.4	KY.1.MD.3.a	KY.2.MD.4	KY.3.MD.2.b	KY.4.MD.1.c	KY.5.MD.3.a
	KY.1.MD.3.b	KY.2.MD.5	KY.3.MD.3	KY.4.MD.2	KY.5.MD.3.b
	KY.1.MD.4	KY.2.MD.6	KY.3.MD.3.a	KY.4.MD.2.a	KY.5.MD.4
	KY.1.MD.4.a	KY.2.MD.7	KY.3.MD.3.b	KY.4.MD.2.b	KY.5.MD.5
	KY.1.MD.4.b	KY.2.MD.8	KY.3.MD.3.c	KY.4.MD.2.c	KY.5.MD.5.a
	KY.1.MD.4.c	KY.2.MD.9	KY.3.MD.4	KY.4.MD.3	KY.5.MD.5.b
	KY.1.MD.4.d	KY.2.MD.9.a	KY.3.MD.4.a	KY.4.MD.4	KY.5.MD.5.c
		KY.2.MD.9.b	KY.3.MD.4.b	KY.4.MD.4.a	
		KY.2.MD.9.c	KY.3.MD.4.c	KY.4.MD.4.b	
		KY.2.MD.10	KY.3.MD.4.d	KY.4.MD.4.c	
			KY.3.MD.5	KY.4.MD.5	
			KY.3.MD.6	KY.4.MD.6	
			KY.3.MD.7	KY.4.MD.7	
			KY.3.MD.7.a		
			KY.3.MD.7.b		
			KY.3.MD.7.c		
			KY.3.MD.7.d		
			KY.3.MD.8		
			KY.3.MD.8.a		
			KY.3.MD.8.b		
			KY.3.MD.8.c		

Numbers & Operations-Fractions Standards Progression

3	4	5
KY.3.NF.1	KY.4.NF.1.a	KY.5.NF.1
KY.3.NF.2	KY.4.NF.1.b	KY.5.NF.2
KY.3.NF.2.a	KY.4.NF.2	KY.5.NF.2.a
KY.3.NF.2.b	KY.4.NF.3	KY.5.NF.2.b
KY.3.NF.3	KY.4.NF.3.a	KY.5.NF.3
KY.3.NF.3.a	KY.4.NF.3.b	KY.5.NF.4
KY.3.NF.3.b	KY.4.NF.3.c	KY.5.NF.4.a
KY.3.NF.3.c	KY.4.NF.3.d	KY.5.NF.4.b
KY.3.NF.3.d	KY.4.NF.4	KY.5.NF.5
	KY.4.NF.4.a	KY.5.NF.5.a
	KY.4.NF.4.b	KY.5.NF.5.b
	KY.4.NF.4.c	KY.5.NF.6
	KY.4.NF.5	KY.5.NF.7
	KY.4.NF.5.a	KY.5.NF.7.a
	KY.4.NF.5.b	KY.5.NF.7.b
	KY.4.NF.6	KY.5.NF.7.c
	KY.4.NF.7	
	KY.4.NF.7.a	
	KY.4.NF.7.b	

Geometry Standards Progression

K	1	2	3	4	5
KY.K.G.1	KY.1.G.1	KY.2.G.1	KY.3.G.1	KY.4.G.1	KY.5.G.1
KY.K.G.1.a	KY.1.G.2	KY.2.G.2	KY.3.G.1.a	KY.4.G.2	KY.5.G.2
KY.K.G.1.b	KY.1.G.2.a	KY.2.G.3	KY.3.G.1.b	KY.4.G.3	KY.5.G.3
KY.K.G.2	KY.1.G.2.b		KY.3.G.1.c	KY.4.G.3.a	KY.5.G.4
KY.K.G.3	KY.1.G.3		KY.3.G.2	KY.4.G.3.b	
KY.K.G.4					
KY.K.G.5					
KY.K.G.6					

6	7	8
KY.6.G.1	KY.7.G.1	KY.8.G.1
KY.6.G.2	KY.7.G.2	KY.8.G.2
KY.6.G.3	KY.7.G.3	KY.8.G.3
KY.6.G.4	KY.7.G.4	KY.8.G.4
	KY.7.G.4.a	KY.8.G.5
	KY.7.G.4.b	KY.8.G.6
	KY.7.G.5	KY.8.G.7
	KY.7.G.6	KY.8.G.8
	KY.7.G.6.a	KY.8.G.9
	KY.7.G.6.b	

Ratios & Proportional Relationships Standards Progression

6	7
KY.6.RP.1	KY.7.RP.1
KY.6.RP.2	KY.7.RP.2
KY.6.RP.3	KY.7.RP.2.a
KY.6.RP.3.a	KY.7.RP.2.b
KY.6.RP.3.b	KY.7.RP.2.c
KY.6.RP.3.c	KY.7.RP.2.d
KY.6.RP.3.d	KY.7.RP.3
	KY.7.RP.3.a
	KY.7.RP.3.b

The Number System Standards Progression

6	7	8
KY.6.NS.1	KY.7.NS.1	KY.8.NS.1
KY.6.NS.2	KY.7.NS.1.a	KY.8.NS.2
KY.6.NS.2.a	KY.7.NS.1.b	
KY.6.NS.2.b	KY.7.NS.1.c	
KY.6.NS.3	KY.7.NS.1.d	
KY.6.NS.4	KY.7.NS.2	
KY.6.NS.5	KY.7.NS.2.a	
KY.6.NS.6	KY.7.NS.2.b	
KY.6.NS.6.a	KY.7.NS.2.c	
KY.6.NS.6.b	KY.7.NS.3	
KY.6.NS.6.c		
KY.6.NS.7		
KY.6.NS.7.a		
KY.6.NS.7.b		
KY.6.NS.7.c		
KY.6.NS.7.d		
KY.6.NS.8		

Expressions & Equations Standards Progression

6	7	8
KY.6.EE.1	KY.7.EE.1	KY.8.EE.1
KY.6.EE.2	KY.7.EE.2	KY.8.EE.2
KY.6.EE.2.a	KY.7.EE.3	KY.8.EE.3
KY.6.EE.2.b	KY.7.EE.4	KY.8.EE.4
KY.6.EE.2.c	KY.7.EE.4.a	KY.8.EE.5
KY.6.EE.3	KY.7.EE.4.b	KY.8.EE.6
KY.6.EE.4		KY.8.EE.7
KY.6.EE.5		KY.8.EE.7.a
KY.6.EE.6		KY.8.EE.7.b
KY.6.EE.7		KY.8.EE.8
KY.6.EE.8		KY.8.EE.8.a

KY.6.EE.9		KY.8.EE.8.b
KY.6.EE.9.a		KY.8.EE.8.c
KY.6.EE.9.b		
KY.6.EE.9.c		

Statistics & Probability Standards Progression

6	7	8
KY.6.SP.0	KY.7.SP.0	KY.8.SP.1
KY.6.SP.0.a	KY.7.SP.1	KY.8.SP.2
KY.6.SP.0.b	KY.7.SP.2	KY.8.SP.3
KY.6.SP.0.c	KY.7.SP.2.a	
KY.6.SP.0.d	KY.7.SP.2.b	
KY.6.SP.1	KY.7.SP.2.c	
KY.6.SP.2	KY.7.SP.3	
KY.6.SP.3	KY.7.SP.4	
KY.6.SP.4	KY.7.SP.5	
KY.6.SP.5	KY.7.SP.6	
KY.6.SP.5.a	KY.7.SP.7	
KY.6.SP.5.b	KY.7.SP.7.a	
KY.6.SP.5.c	KY.7.SP.7.b	
KY.6.SP.5.d	KY.7.SP.8	
KY.6.SP.5.e	KY.7.SP.8.a	
	KY.7.SP.8.b	
	KY.7.SP.8.c	

Public Comments Received

The following pages include the public comments received on the *Kentucky Academic Standards (KAS) for Mathematics* by grade band.

Grades K–5 Comments

- The 4th grade standard on the Fluency chart in the appendices is missing the last part of its standard key code
- LIGHTEN THE LOAD for our students. What are the priorities for LIFE when we consider these math standards? I HIGHLY value strong problem solving skills and strong math thinking... but when we assess 8, 9, 10, and 11 year olds on the multitude of standards we have... it is NOT developmentally appropriate. 5th grade specifically assesses students for 8+ hours in a single week. NOT DEVELOPMENTALLY APPROPRIATE.
- Please keep the clarifying images and models in the document.
- Third graders need to see bigger numbers. Stopping at 1,000 at 2nd and 3rd grade makes 1,000,000 a very heavy lift in 4th.
5th Graders need a standard that addresses their ability to use whole numbers in all four operations in a multi-step word problem.
- Add in the Clarifications some language to clarify when to introduce the use of symbols such as $()$ or $\cdot$ for multiplication. For example, when do you introduce the understanding of $(5)(3)$ or $5 \cdot 3$, in addition to 5×3 ?
- Making sure that standards are appropriate for developmental levels of students based on their AGE and not just what we want them to learn for that grade... it seems like some of these skills are things that should be learned at later ages as they are not developmentally appropriate for students in elementary school yet.
- KY.4.NBT.4 Clarification includes a model when talking about strategies and algorithms. It seems like this is showing the progression from model > strategy > algorithm, but the way it is arranged could be misunderstood to see the model as a strategy, which could reinforce the fluency misconception #3 from the book *Figuring Out Fluency* (Bay-Williams & SanGiovanni)
Also, will the fluency discussion on p. 8 be revised to align better with the discussion of fluency being taught in the Numeracy Counts work?
- Many of the Kindergarten standards seem to be as if they could be combined. There is no need to report out on so many standards broken apart when the "big idea" is taught

withing a HQIR and each sub-section of a standard is covered. It seems like too many standards that could be combined

- Students have been behind for years in KY. However, we tend to keep adding more to their plate than meeting them where they are and mastering. Knowing that when I was in the school in the 90's what we were expected to know in 2nd grade is now what students are expected to know in Kinder. We are not helping our students if we continue adding standard on top of standard and not giving the time they need to master. Expecting students to master long division, multi-digit multiplication, fractions, decimals, measurement and geometry in the 4th grade, when they do not understand multiplication facts is just a basis for error. Should we push our students yes. Are the standards and everything students need to know overwhelming, absolutely. Should we allow teachers to be teachers in their classroom and meet students where they are to build mastery before moving on, 100 percent. We cannot expect students to be on grade-level when each year, they are falling further and further behind. The standards need to be scaled back, the DATA needs to be used, and we need to help our students meet grade level without expecting them to already be ahead when they start a new year.
- The revisions that have been recommended look good.
- None.
- Students in K-5 are trying to learn foundational skills that are needed for future mathematical success. Limiting them to only certain strategies is a disservice to our students. If they are unable to understand mental strategies or apply properties they are not exposed to standard algorithm until 4th grade. They are left to struggle for the four years leading up to this time and it has a negative impact on their self image in regard to math. These are young children who have not always had the necessary pre-school needed to be successful with the current rigor of the standards. I am not saying that we need to make our expectation less rigorous, but we need to be sure that we are holding students to attainable expectations no matter their life experience before joining public school.
- I would like to see a standard added to 2nd grade that deepens the understanding of place value within 100 before moving on to place value within 1,000. Something such as "Flexibly decompose numbers within 100 into tens and ones. Example 84 is composed of 8 tens and 4 ones, but also 7 tens, and 14 ones." I also think it is important for students to be exposed to this idea within 1,000 and larger numbers. 874 has 87 tens.

Could the committee address this understanding in some way to prepare students for deeper understanding of division in fourth grade?

- Please clarify standards as much as possible. Also, some standards seem surface level, but the number sense that goes into them is so important to develop. Is there a way to inform teachers of how important the development of particular standards are (Ex: Number line standard in second grade, many K/1/2 standards, 3.OA.1 and 3.OA.2 in 3rd, and more!)

Also, can you list what standards are Conceptual or procedural so we know the focus of them?

- In my opinion, assessing the reasonableness of an answer using estimation needs to be a standard on it's own when it is first introduced in 3rd grade.
I also think we need to look at the wording for 3.NBT.2 where it mentions the algorithm. It looks like some standards in 4th are being revised to exclude the words "standard algorithm". Maybe I am incorrect. If that is the case we also need to remove it in 3rd so that there is no confusion. This has been talked about a lot in my district.
- Coin identification needs to be reevaluated given the current reality of the use of money in the real world. Coins are infrequently used in real world interactions - pennies are being taken out of circulation. While the need to understand how to make change and that money is a real world context and the development of financial literacy are important, a focus on coin identification is unnecessary in 2026. There is no need for a focus on coin identification in the math standards. It is a distraction from the important number work that needs to happen in grades K-2. Coin identification should be moved to social studies. The use of the cents symbol is unnecessary - it is never used in the real world at this point in time. Working to make change and other real world contexts involving money are important but a focus on coin identification is not.
- I feel like students are being tested at the end of the year on their ability to understand multiple ways to add, subtract, multiply, and divide. This is unfair. They should be allowed to use any strategy they have learned and be tested on the basic skill, not their ability to understand a specific model that might not have been their favorite. In real-life I do not need to understand 3 strategies to multiply or divide. I just need to be able to compute this. Why are students being tested on multiple strategies? The standard seems like they give choice, but they are tested on a specific model and this is unfair. They need to be worded in which the teacher can offer these strategies to help them...but leave it to the teacher. Then when state testing comes, just give them the math problem (ex. 564×6) and let them solve. Don't ask for missing info in a box

method. If you want to know how they solved, turn it into a written response. "Explain how you got your answer".

- Every year, following a curriculum, it is near impossible to get all the standards taught before state testing. Nevermind the lack of reteaching time. I'm not saying reduce the rigor, but can we get a break on the number of things students are expected to learn in one year?
- A lot of my issue with standards is that they are not specific enough. There is a lot of "extra" (ex: simplifying fractions) math that has to be done or could be taught that is not mentioned in the standard or in the clarification. At times I am unsure on how far to take some concepts. I've also noticed on released items that a specific method is required of students and I don't think this is fair. If a student can divide using an area model, but don't understand the standard algorithm I don't think they should be penalized for that.
- Please simplify the language of the standards. If it is not clear and is confusing to an adult, a 5-6 year old definitely will not understand. Teacher clarity provides student clarity.
Please provide more example and clarifications on the standards.
- More clarification examples on the clarification side of the standards, specifically on patterns (3O.A.9)
- 1st grade: make a list of specific strategies that need to be taught, additional time spent with time and money to ensure students are ready for 2nd grade standards.
- Too many different types of models and visual representations are required. Students should be able to chose any strategy and explain their answer instead of being tied to specific kinds.
- Make clear which standards may be assessed with or without a calculator

Grades 6–8 Comments

- The best way is to provide more work at the blackboard or white board. Utilizing this method teachers can move students forward quicker with less students left behind. This is a proven method that will prepare students for the jobs that come to Kentucky as well as to move the systems forward. 6th grade is the latest for all of the methods to be applied
- Unit rate, constant of proportionality, then slope flows nicely from 6th to 8th grade.

Inequalities is missing a connection in 8th grade of multi-step inequalities, and graphing to jump to compound inequalities, linear inequalities, and then also systems of inequalities.

Absolute value has a gap in 8th grade as well, and really any expressions operations with absolute value after 6th grade until Algebra 2 absolute value functions. If it is intended to be included in standards from 7th-9th grade, it is not clear to teachers for them to do so and should be clarified in the clarifications.

While exponents are introduced in 6th grade, it seems fitting that perfect square roots could be introduced there as the inverse as well.

I saw that scientific notation operations were removed from 8th grade standards, and I have not yet looked at the high school standards, but these flowed really well with exponent rules, so I would advocate for their return to 8th grade standards versus inserting them as part of Algebra 1 if that's where they moved to.

As a middle school teacher for almost a decade, I very much appreciate the removal of MAD from the middle grades standards.

- In future, we need to integrate more intentionally the standards for data literacy.
- Will the definition of "fluency" given in the introductory pages be changed to align with the modeul used in the Numeracy Counts work? It needs to be clear that standards that require "fluency" at upper grades aren't meant to be completed in 3 seconds.
- Please denote which standards should be taught with or without calculator. In the clarifications sections, adding any relevant information to the standards that were revised.
- For the fluency standards in middle school, it needs to be clear that the expectation is not 3 seconds, as is the case when fluency is discussed with knowing facts in earlier grades.
- Overall as a middle grades math teacher, I am okay with the proposed changes. Could there be more improvements? Always because that's we get better as teachers.

However, I think these changes should be made.

- Our state, like many others, has adopted the math Common Core for years; however, after teaching for almost 30 years, I have found much of the Common Core for Mathematics to be developmentally inappropriate for the ages we expect students to do certain math skills. We keep pushing Algebra concepts to lower and lower grade levels which kids are physically not ready for yet, and then wonder why students are not being successful and hating math. We need to spend more time on the basics (adding, subtracting, multiplying, and dividing whole numbers, decimals, and fractions) to

prepare students to do the higher level math in high school and upper middle school grades. We spend so much time teaching kids concepts that they will never use in adult life, when they cannot do simple math operations, balance a checkbook, or perform basic measurements. We need to teach more practical math concepts that most kids can use, and save teaching the higher level math for those few kids who are interested and may actually do something with it when they grow up. Teaching systems of equations to students in middle school is a waste of time and effort, except for the kids who are taking Algebra in middle school. We have too much content to teach, and not enough time to teach it. These standards need to be reduced for each grade level to give students more time to learn the concepts and teachers more time to teach it.

- I would love to see sample test questions for each standard. The clarifications added a few years ago helped, but it would be nice to see actual test questions students need to know how to solve. When I look for released items in other states and when Kentucky releases items, some questions are on topic and other questions test everything but the standard.
- After being in the classroom for over 24 years, I suggest you start over and draft an entire new set of standards that are developmentally appropriate for students. Why rely on the Common Core as a foundational basis for our standards? Streamline content at the at the primary level, so students can develop the foundational skills needed for future success in mathematics. Involve not only mathematicians and educators in the process, but also child development specialists. We all know our current system is not working, so please do something about it!
- As much as possible, reduce the amount of content in each grade level. Let's get better at a fewer number of things rather than trying to "sprinkle" coverage to every area and hope it gets them ready for high school.
- There are way to many word problems in math and so many of the standards say "real-world problems." Many students do not have the English skills to read and comprehend the question. There should be more skills based questions. In 6th, Greatest Common Factor and Least Common Multiple would be a good addition.
- I only commented on 6th grade standards because that is what I am most comfortable with.

Grades 9–12 Comments

- While the state-level requirement for Algebra 2 has been removed, many high schools still require the class as the vehicle to teach those required standards. At what point can we agree that 60-70% of high school graduates would benefit from either dual credit math and a financial literacy class or pathway-specific math classes instead of the additional required standards that traditionally encompassed Algebra 2.
- - The difference between delta and plus standards is unclear. If students are not expected to learn the standard, then it should be a (+) standard. If the delta standards are required, then more guidance is needed for when and how they should be taught.
- A greater focus on the Statistics standards should be included as Data Literacy is a key skills for all adults, regardless of career. In future, consider replacing the no-longer required Algebra 2 course with a required Data Literacy course to include many of these standards.
- Please revert to the same naming structure as is used in more HQIR.
- Delta (Δ) Standards: Additional mathematical concepts that are recommended for students to learn outside of the required courses.
If these are only taught outside of the four required courses, does that mean all of these topics are only for students taking 5+ years of math?
- The definitions of (+) and Delta standards are not clear. Delta says "recommended" to learn "outside of required courses". Are these not actually required to be taught anywhere? If so, that is not what this says. Also, what is meant by the "required courses"--only Algebra 1 and Geometry, or all 4 courses required to graduate? Since it says "outside" of the required courses, I'm not sure what this means. Why are the Delta standards there? Most of them are Statistics and Probability.
Many of the math standards across the grades, especially in high school, use the verb "understand". The verb "understand" is vague. How is that to be assessed? Change the verb so that it is clear how students will demonstrate understanding (e.g., explain, graph, justify, solve, etc.). "Understand" is not an assessable verb.
In the HS standards that are identified with a ★, it may be helpful to have some language that you don't necessarily have to engage in the entire mathematical modeling process (see p. 8-9) with each of those standards. It is more about being sure to teach those standards in the context of applications.
We need coherence in High School (HS), not just elementary/middle school. 8th grade has coherence up to HS, but HS has no coherence down to 8th grade or within HS.

For all bands of the standards, make the Cluster line on each page bigger; it tends to get lost on the page.

The table heading for Table 3 on p. 256 is actually at the bottom of p. 255 in the PDF.

- I truly don't understand the difference in a + and triangle standard. Can you make a clearer distinction?
 - Make sure the delta definition reads that these standards are not part of the foundational required courses, but should be required standards for either the 3rd or 4th course
 - Make sure clarifications cover all the situations; they are leaned on heavily.
- Would like a document that lists or shows all of the changes in comparison to previous document with reasons why the changes were made (if they aren't just grammar fixes). This process is difficult. It takes forever to go through this form and consider every single standard in one sitting. Also, I would have some comments about groups of standards and not just individual standards.
- This work would be easier/better done in person.

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