

Grade 6 Math Standards Summary

Total Reviews		847		<p>Breakdown by Review Type</p> <p>A pie chart titled 'Breakdown by Review Type' showing two segments. The larger segment, representing 'Keep As Is', is dark gray and accounts for 85% of the total. The smaller segment, representing 'Suggest Changes', is light gray and accounts for 15%.</p>	
Keep As Is	724	Educator	523		
		Elected Official	0		
		Institution or Higher Education Faculty	0		
		K-12 Administrator	73		
		Member of Organization	42		
		Other	41		
		Parent/Guardian	45		
Student	0				
Suggest Changes	123	Educator	91		
		Elected Official	0		
		Institution or Higher Education Faculty	0		
		K-12 Administrator	6		
		Member of Organization	0		
		Other	0		
		Parent/Guardian	26		
Student	0				
Change Suggestions					
		Removed	31		
		Rewritten	35		
		Broken Up	10		
		Moved to a Different Level	47		

Number	Count of Keep	% of Keep	Count of Suggest Changes	% of Suggest Changes	Count of New Level	Count of New Description	Count of Broken	Count of Removed
Math.Content.6.EE.A.1	18	90%	2	10%	0	1	1	0
Math.Content.6.EE.A.2a	14	88%	2	13%	1	1	0	0
Math.Content.6.EE.A.2b	14	93%	1	7%	1	0	0	0
Math.Content.6.EE.A.2c	13	93%	1	7%	1	0	0	0
Math.Content.6.EE.A.3	14	82%	3	18%	1	2	0	0
Math.Content.6.EE.A.4	17	94%	1	6%	1	0	0	0
Math.Content.6.EE.B.5	18	95%	1	5%	1	0	0	0
Math.Content.6.EE.B.6	17	89%	2	11%	2	0	0	0
Math.Content.6.EE.B.7	17	89%	2	11%	1	0	0	1
Math.Content.6.EE.B.8	17	85%	3	15%	1	1	0	1
Math.Content.6.EE.C.9	15	68%	7	32%	3	2	2	0
Math.Content.6.G.A.1	16	84%	3	16%	0	2	0	1
Math.Content.6.G.A.2	16	94%	1	6%	0	0	0	1
Math.Content.6.G.A.3	17	94%	1	6%	0	0	0	1
Math.Content.6.G.A.4	18	95%	1	5%	0	0	0	1
Math.Content.6.NS.A.1	18	75%	6	25%	1	4	1	0
Math.Content.6.NS.B.2	16	80%	4	20%	1	2	0	1
Math.Content.6.NS.B.3	19	86%	3	14%	1	2	0	0
Math.Content.6.NS.B.4	17	68%	8	32%	1	5	2	0
Math.Content.6.NS.C.5	18	95%	1	5%	0	1	0	0
Math.Content.6.NS.C.6a	17	89%	2	11%	1	0	0	1
Math.Content.6.NS.C.6b	15	75%	5	25%	2	1	1	1

Math.Content.6. NS.C.6c	17	85%	3	15%	2	0	0	1
Math.Content.6. NS.C.7a	13	87%	2	13%	1	0	0	1
Math.Content.6. NS.C.7b	12	75%	4	25%	0	1	1	2
Math.Content.6. NS.C.7c	14	93%	1	7%	0	0	0	1
Math.Content.6. NS.C.7d	13	87%	2	13%	0	0	0	2
Math.Content.6. NS.C.8	17	89%	2	11%	1	0	0	1
Math.Content.6. RP.A.1	28	93%	2	7%	1	1	0	0
Math.Content.6. RP.A.2	24	86%	4	14%	0	2	1	1
Math.Content.6. RP.A.3a	24	80%	6	20%	2	2	1	1
Math.Content.6. RP.A.3b	23	82%	5	18%	2	2	0	1
Math.Content.6. RP.A.3c	23	96%	1	4%	0	1	0	0
Math.Content.6. RP.A.3d	22	92%	2	8%	0	1	0	1
Math.Content.6. SP.A.1	17	81%	4	19%	3	0	0	1
Math.Content.6. SP.A.2	17	85%	3	15%	2	0	0	1
Math.Content.6. SP.A.3	17	77%	5	23%	4	0	0	1
Math.Content.6. SP.B.4	18	95%	1	5%	1	0	0	0
Math.Content.6. SP.B.5a	17	94%	1	6%	0	0	0	1
Math.Content.6. SP.B.5b	18	100%	0	0%	0	0	0	0
Math.Content.6. SP.B.5c	14	67%	7	33%	3	1	0	3
Math.Content.6. SP.B.5d	15	65%	8	35%	5	0	0	3

Math.Content.6.EE.A.1

Please explain how you would break up the standard:

Students should first be introduced to exponents and exponential form before having to evaluate expressions using exponents. Also order of operation should be a prerequisite before introducing this standard.

Write and evaluate numerical expressions involving whole-number exponents.

Experience working with mathematics for understanding

Math.Content.6.EE.A.2a

Write expressions that record operations with numbers and with variables standing for numbers.

Algebraic understanding

Math.Content.6.EE.A.2b**Math.Content.6.EE.A.2c****Math.Content.6.EE.A.3**

Apply the properties of operations (especially the collection of like terms and the distributive property) to generate equivalent expressions.

Apply the properties of operations (multiplication, division, addition, and subtraction) to generate equivalent expressions.

Math.Content.6.EE.A.4**Math.Content.6.EE.B.5****Math.Content.6.EE.B.6****Math.Content.6.EE.B.7**

DELETE

Math.Content.6.EE.B.8

6.EE.B.8-1

Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions.

6.EE.B.8-2

Represent solutions of the form $x > c$ or $x < c$ on number line diagrams.

Delete!

Math.Content.6.EE.C.9

Please explain how you would break up the standard: This is a very long standard that should be chunked into isolated pieces. Doing so will ensure more retention of the skill and allows the students more clarity of the expectation.

Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.

Please explain how you would break up the standard:

Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.

Math.Content.6.G.A.1

Find the area of right triangles, other triangles, rectangles, parallelograms, and other polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

The standards have had zero prior development of area of triangles yet here it expects them to materialize at this grade. Compare and contrast with the pedantic and tedious development of place-value or of operations with numbers. This standard is Grade 5 in Singapore.

Formulas need to be included.

Very little to no use in real life

Math.Content.6.G.A.2

No use in real life

Math.Content.6.G.A.3

Not enough use in real life

Math.Content.6.G.A.4

Sixth graders have much new knowledge to learn, and finding surface area is not at their level of thinking.

Math.Content.6.NS.A.1

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using the standard algorithm or visual fraction models and equations to represent the problem.

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

You are assuming all students have mastered addition subtraction, and multiplication which is simply not true! They should be added to the standard.

Please explain how you would break up the standard:

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

I do agree that this is a good standard for 6th grade. The problem is that they do not master addition, subtraction & multiplication of fractions in 5th grade. Students need time to practice these concepts in 6th and 7th grade and the 6th grade curriculum is so full, it is VERY difficult to find time to spend refreshing fraction concepts learned in 5th grade. Fraction manipulation needs to be a big part of the 6th grade curriculum.

Unnecessary and problematic use of "visual fraction models" for division of fractions.

I appreciate the focus on visual models, but would like to see more clarity on how much they should be emphasized. The coverage of visual models in Eureka Math was helpful, but did not provide a clear path to the "invert and multiply" method.

This is an appropriate progression for the work in earlier grades.

This standard allows students to understand what dividing fractions 'means'. The visual fraction model while a challenge to teach at first allows students to put meaning to the number they get as the answer.....they can do this! Personal story...I asked a table of engineers and computer science folks what $\frac{3}{4}$ divided by $\frac{1}{2}$ means. All of the people at the table began to describe what to do to solve the problem....not one of them told me it means how many $\frac{1}{2}$'s are in $\frac{3}{4}$...which is the heart of what this standard wants students to understand. It strengthens students number sense.

Math.Content.6.NS.B.2

Fluently divide multi-digit numbers using the standard (find another word besides "algorithm").

Fluently divide multi-digit numbers using the standard algorithm for division.

We rarely do this type of work without a calculator in the "real world". I'd prefer a much greater emphasis on estimating the quotient.

Math.Content.6.NS.B.3

Fluently add, subtract, multiply, and divide multi-digit decimals for each operation.

Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation or any proven alternative.

Developing mathematical literacy is important. This is the time for strengthening student understanding of the operations.

Math.Content.6.NS.B.4

Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

Delete the distributive property from this standard!

Please explain how you would break up the standard:

6.NS.B.4-1

Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

6.NS.B.4-2

Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

Please explain how you would break up the standard:

Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

Without knowledge of prime factorization this skill cannot be well supported.

Students will encounter and should appreciate number relationships.

Math.Content.6.NS.C.5

Understand that integers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

To develop an understanding of normal units of measure and mathematical meaning.

Math.Content.6.NS.C.6a

Huh????

Make sense of; reason and understand

Math.Content.6.NS.C.6b

Please explain how you would break up the standard: This should be broken into two separate standards. Students should first have the knowledge and understanding of the coordinate planes and absolute value first.

Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

...

Connections, use tools, visual understanding

Math.Content.6.NS.C.6c

Not even needed.... Should be college material like most of the rest of this nonsense on here

Math.Content.6.NS.C.7a

Again....

Math.Content.6.NS.C.7b

Please explain how you would break up the standard:

Write, interpret, and explain statements of order for rational numbers as it relates to real-world contexts.

It is irrelevant

Too confusing....

Math.Content.6.NS.C.7c

....

Math.Content.6.NS.C.7d

...

Irrelevant

Math.Content.6.NS.C.8

No use for it

This standard is grade appropriate in the fact of graphing. However, I think distance should be another standard that allows us, the educators, to introduce addition/subtraction of integers.

Math.Content.6.RP.A.1

Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. I disagree with then this standard is taught in the 6th grade. It should be later in the year after fractions have been thoroughly taught.

grade appropriate

I am a strong supporter of Common Core State Standards, as I believe that these standards will help Louisiana children to become better prepared for the rigors of college, and/or to become better qualified for rewarding, well-paying careers. I recognize that Common Core State Standards were developed by the states---not by the federal government---and that they are not a prescribed curriculum, but rather are a set of standards that will empower Louisiana children to be elevated to the same levels of academic achievement as their counterparts in states that maintain high expectations for their students. Please do not pander to cynical, manipulative people with political agendas who claim that Common Core State Standards are something other than a set of academically ambitious standards that were developed by the states! Since it is in the interest of our great nation to provide ambitious academic standards for our students, true patriots who love America should be strong, vocal supporters of Common Core State Standards.

Ratios are a fundamental understanding for students through all of seventh and eighth grade and high school.

Students will learn to make sense of the math and solve by reasoning.

Math.Content.6.RP.A.2

Please explain how you would break up the standard:

Understand the concept of a unit rate / associated with a ratio : with $\neq 0$, and use rate language in the context of a ratio relationship.

$$\frac{a}{b} \qquad \frac{a}{b} \quad b$$

Remove the word "unit" from the current standard. There is a difference between a rate (ratio that compares quantities with different units) and a unit rate (rate with a denominator of one.)

Write a separate standard for unit rate: Understand the concept of a unit rate / associated with a ratio : with = 1, and use rate language in the context of a unit rate relationship.

Understand the concept of a unit rate / associated with a ratio : with $\neq 0$, and use rate language in the context of a ratio relationship. Expectations for unit rates in this grade are limited to non-complex fractions.

...

Sense making and reasoning with real world applications.

Unit rates are a fundamental skill for students

Math.Content.6.RP.A.3a

Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

Get rid of tape diagrams, double bar diagrams, etc. My students hate them! Also teach this AFTER you have thoughtly reviewed fractions, not at the very first of the year.

Please explain how you would break up the standard: Plotting ratios on coordinate graph should be in the geometry standard. Having to do this before teaching geometry was confusing and incomplete or without any real understanding of coordinate planes. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
Someone apparently had a little too much extra time.... Could've used time a little more wisely then using it on how much more confusing can school work be made....
Students need to be able to represent ratios in many different ways
The students will be thinking and solving.
This is an excellent way to show students different representations of ratios.
Math.Content.6.RP.A.3b
Any coordinate graphing needs to be left to the geometry strand. Also, 11 year olds are not developmentally ready to think abstractly! They are still dealing with the quantitative and concrete. Not having mastered those prevents them from moving to a level above the maturation/development of the brain.
Solve unit rate problems including those involving unit pricing and constant speed. Expectations for unit rates in this grade are limited to non-complex fractions.
Not only is this a fundamental skill for math classes, but also everyday life
Once again....
This is the right age to work with ratios and problem solving.
Math.Content.6.RP.A.3c
Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, percent, and part, given the other two quantities.
Mathematics in the earlier grades (fractions, decimals and percentages) lead to this work.
Percent is an everyday life skill as well as helping students to understand things like their grades at school
Math.Content.6.RP.A.3d
Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. For example, if 1 lb = 0.45 kg, how many kg does a 25-pound dog weigh?
...
Measurement is an important skill/practice and students should repeatedly work with the units. The science at middle school will reinforce work with measurements and coming to understanding them.
Math.Content.6.SP.A.1
What!?! Too confusing!
Math.Content.6.SP.A.2
I find this standard vague --- I would rather see specific language (e.g., find the mean, describe the distribution as skewed left or right).
Math.Content.6.SP.A.3
I'm not sure how this is different from 6.SP.B.5c.

Math.Content.6.SP.B.4

Math.Content.6.SP.B.5a

Standard is not clear and does not relate to a mathematical concept.

Math.Content.6.SP.B.5b

Math.Content.6.SP.B.5c

Giving quantitative measures of center (median and/or mean) and variability (interquartile range), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

Deal with this content in a true STATISTICS class.

I like this standard, however, students need more time with fractions and integers. This is one I would give up in order to have time to build stronger numeracy skills.

What was the question again?.....

Math.Content.6.SP.B.5d

Deal with this in a true STATISTICS class.

I find this fairly vague. I'm not sure what language 6th graders are expected to use to explain using a mean over median, and the issue of variability is much more complicated.

I like this standard, however, students need more time with multiplication, division, fractions and integers. This is one I would give up in order to have time to build stronger numeracy skills.