Los Angeles Unified School District
Office of Curriculum, Instruction, and School Support
2010-2011 Elementary Mathematics Instructional Guide (MIG)

Introduction to the Document:

With the newly adopted *enVision*MATH program, it has been found that a revision to the Elementary Mathematics Instructional Guide (MIG) was needed. The revision of the MIG is attached. Most critically it ensures the teaching and assessment of all grade level standards by the California Standards Testing dates. Additionally, the revised MIG is intended to be a one-stop tool for teachers, administrators, parents, and other school support personal. It blends CST blueprints, California State Mathematics Standards, *enVision*MATH Topics which address those standards, and Instructional Blocks into one easy-to-read resource.

The MIG is a living document—it is neither set in stone for all time nor is it perfect. Teachers and other users are encouraged to provide on-going feedback as to its accuracy, usability, and content. Please go to www.lausd.net/math to the Announcement tab. Click on the **2010-2011 MIG** link, and share your comments and suggestions. Your participation in making this instructional guide a meaningful and useful tool for all is needed and appreciated.

Organization of the Document:

This Instructional Guide for Mathematics has been organized in several ways to provide flexibility to teachers in planning instruction. Teachers and other users are encouraged to review the various versions and to choose the one that best fits their instructional planning needs.

Under the section *Organized by Standards*, the standards are listed as they are found in the Mathematics Framework for California Public Schools. In this section, teachers and other users will be able to see at a glance the mathematics standard number and wording for the grade level, the number of questions on the CST for each standard (applicable for 2nd through 6th grade), in which textbook topics (chapters) the standards can be found, and in which Instructional Block(s) the standard will be taught and assessed. For quick identification, the essential key standards, as determined by the Mathematics Framework, are noted by **bold type** and a key 🗝 symbol.

Under the section *Organized by Instructional Block*, the standards are listed in a developmental sequence. A significant difference with this section versus the organization by standards is that, in some cases, portions of the standards are lined-out or modified for that particular Instructional Block (IB) as that part of the standard is not taught during that time. While the entire standard will be taught and assessed by the time the CST is given, some longer, more complex standards are parsed out over multiple IB's to allow students

time to develop their understanding of the concept and the essential skills they will need in order to be successful. Please note the following examples:

Second Grade example:

Number Sense 1.2 asks student to:	Use words, models, and expanded forms (e.g., 45 = 4 tens + 5) to represent numbers (to 1,000).
How NS1.2 will look in IB#1:	Use words, models, and expanded forms (e.g., 45 = 4 tens + 5) to represent numbers (to ~~1,000~~ *100*).
How NS1.2 will look in IB#3:	Use words, models, and expanded forms (e.g., 45 = 4 tens + 5) to represent numbers (to 1,000).

Fourth Grade example:

Number Sense 2.1 asks students to:	Estimate and compute the sum or difference of whole numbers and positive decimals to two places.
How NS2.1 will look in IB#1:	Estimate and compute the sum or difference of whole numbers ~~and positive decimals to two places~~.
How NS2.1 will look in IB#2:	Estimate and compute the sum or difference of whole numbers and positive decimals to two places.

As in the organized by standards section, this section allows teachers and other users to be able to see at a glance the mathematics standard number and wording for the grade level, the number of questions on the CST for each standard (applicable for 2nd through 6th grade), in which textbook topics (chapters) the standards can be found, and in which Instructional Block(s) the standard will be taught and assessed. Again for quick identification, the essential key standards, as determined by the Mathematics Framework, are noted by bold type and a key symbol.

Symbols and Footnotes:

Additional key information has been embedded into this guide to assist teachers and others in instructional decision-making. Next to the numbers listed in the *enVisionMATH* topics section, occasionally there will be a symbol indicating that a topic has lessons that address standards outside of the targeted grade level. This is designed to assist in instructional decision-making when choosing lessons to prepare and present based on student needs. Please note the following examples:

First Grade example:

2† indicates that this topic contains lessons that include Kindergarten standards, whereas
18‡ indicates that this topic contains lessons that include Second grade standards.

Fifth Grade example:

5‡ indicates that this topic contains lessons that include Fourth grade standards, whereas
14⌖ indicates that this topic contains lessons that include Sixth grade standards.

All symbols used in the guide are defined in the footnote section of the document on every page.

General Calendar for Instruction and Assessment:

It is imperative to have this information in the hands of our teachers, administrators, and instructional support staff, especially those working at multi-track schools, prior to the beginning of the 2010-2011 school year. However, as of the publication of this document, all assessment dates listed are currently TENTATIVE pending the new Periodic Assessment contract. At this time, ***the schedule included in this guide is meant for initial planning purposes only***. As contracts are finalized and dates are officially set, updates to the MIG will be forthcoming. As updates occur, they will be sent electronically to all Local District mathematics contacts for distribution to all schools. Updates will also be posted on the LAUSD PreK-12 Mathematics website: www.lausd.net/math. Please check this site regularly for updates. The instructional calendar includes the furlough days for 2010-2011.

The first three Instructional Blocks (IB) and their periodic assessments will reflect the standards or portions of the standards as indicated in the *Organized by Instructional Block* portion of the guide. The guide is designed to ensure full instruction and assessment of the grade level standards by the CST window.

The fourth IB is scheduled for after the CST window. This block of time is intended for teachers to use, based on student data, to strengthen areas of weakness the students may still have (intervention) or to "step up" to the next grade level. This is where out-of-grade-level lessons which may have been skipped could be taught or other mathematical concepts could be deepened to support the students' success in the next grade level.

Grade Level Expectations:

Included on the first page of each grade level guide is a boxed statement of grade level expectations. This is taken directly from the Mathematics Framework for California Public Schools. This provides teachers, parents, students, administrators, and other instructional support staff an overview of what students should accomplish by the end of the targeted grade level.

Using the Mathematics Instructional Guide:

The guide can be thought of as a menu. It cannot be expected that one would do every lesson and activity from the instructional resources provided. To try to teach every lesson or use every activity would be like ordering everything on a menu for a single meal. It is not a logical option. Nor is it possible given the number of instructional days and the quantity of resources. That is why the document is called a "Mathematics Instructional Guide" and not a "Mathematics Pacing Plan." And, like a menu, teachers select, based on instructional data, which lessons best fit the needs of their students – sometimes students need more time with a concept and at other times, less.

An effective way to use this guide is to review the mathematical concepts to be taught in each Instructional Block. From there, teachers would map out how much time they feel is needed to teach the concepts within the block based on the data of their students' needs. For example, some classes may need more time devoted to developing division concepts, while another class at the same grade level may need more focused time on understanding the functions of fractions within an Instructional Block.

The starting point for instructional planning is the standards. The textbook resources are just the first tools for teachers in helping to build mathematical understanding. Like going to a restaurant specializing in customer service, there may be times one wishes to order "off-the-menu". There are hundreds of resources available, both publisher- and teacher-created, that may be used to best teach a concept or skill. Collaborative planning, both within and among grade levels, is strongly encouraged in order to design effective instructional programs for students.

Input and Feedback

This is a living document. We strongly encourage teachers and other users of this document to provide on-going feedback as to its accuracy, usability, and content. Please go to www.lausd.net/math, on the Announcement tab click on the **2010-2011 MIG** link, and share your comments and suggestions. Your participation in making this instructional guide a meaningful and useful tool for all is needed and appreciated.

Instructional Components for PreK-12 Mathematics Program
2010-11
Kindergarten – 5th Grade General Calendar*

Calendar	Activity	Track	Instructional Block 1	Instructional Block 2	Instructional Block 3	Instructional Block 4
Single Track	Instruction	---	Sept. 13-Nov. 18	Nov. 19; Nov. 29-Dec. 17; Jan 10-Feb. 17	Feb. 18-Apr. 15	Apr. 25-June 24
	Assessment		Nov. 16-18*	Feb. 15-17*	Apr. 13-15*	N/A
Three Track	Instruction	A	Aug. 30-Oct. 21	Oct. 22-Nov. 19; Nov. 29-Dec. 16	Dec. 17-22; Mar. 7-Apr. 28	Apr. 29-June 30
	Assessment		Oct. 19-21*	Dec. 14-16*	Apr. 26-28*	N/A
	Instruction	B	July 6-Aug. 26	Aug. 27; Oct. 25-Nov. 19; Nov. 29-Dec. 16	Dec. 17-22; Jan. 3-Feb. 25	Feb. 28-Mar. 4; May 5-June 30
	Assessment		Aug. 24-26*	Dec. 14-16*	Feb. 23-25*	N/A
	Instruction	C	July 6-Aug. 26	Aug. 27-Oct. 20	Oct. 21-22; Jan. 3-Feb. 18	Feb. 28-May 3
	Assessment		Aug. 24-26*	Oct. 18-20*	Feb. 16-18*	N/A
Four track	Instruction	A	Aug. 17-Oct. 21	Oct. 22-Nov. 19; Nov. 29-Dec. 17; Feb. 16-Mar. 3	Mar. 4-Apr. 28	Apr. 29-June 28
	Assessment		Oct. 19-21*	Mar. 1-3*	Apr. 26-28*	N/A
	Instruction	B	July 6-Sept. 10	Sept. 13-29; Nov. 15-19; Nov. 29-Dec. 17; Jan 3-20	Jan. 21-Mar. 17	Mar. 18-25; May 9-June 28
	Assessment		Sept. 8-10*	Jan. 18-20*	Mar. 15-17*	N/A
	Instruction	C	July 6-Aug. 13; Sept. 30-Oct. 28	Oct. 29-Nov. 19; Nov. 29-Dec. 17; Jan. 3-20	Jan. 21-Feb. 11; Mar. 28-Apr. 28	Apr. 29-June 28
	Assessment		Oct. 26-28*	Jan. 18-20*	Apr. 26-28*	N/A
	Instruction	D	July 6-Sept. 10	Sept. 13-Nov. 8	Nov. 9-10; Jan. 3-Feb. 17	Feb. 18: Feb. 28-May 6
	Assessment		Sept. 8-10*	Nov. 4-5, 8*	Feb. 15-17*	N/A

***All dates listed are currently TENTATIVE pending new Periodic Assessment contract. This schedule is meant for initial planning purposes only. Updates will be forthcoming. For updates, please check the LAUSD PreK-12 Mathematics website: www.lausd.net/math. The calendar reflects the furlough days for 2010-2011.**

Fifth Grade

Revision for 2010-11 MIG Topics and Instructional Components*

Fifth Grade	Instructional Block 1				Instructional Block 2				Instructional Block 3				Instructional Block 4			
Topics addressing Standards	1-7				8-13				14-20				Step up to 5th grade			
Assessment windows: Single Track*	November 16, 17, 18				February 15, 16, 17				April 13, 14, 15				CST Window: May 9-27			
Assessment windows: 4 Track*	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
	Oct. 19-21	Sept. 8-10	Oct. 26-28	Sept. 8-10	March 1-3	Jan. 18-20	Jan. 18-20	Nov. 4-8	Apr. 26-28	March 15-17	Apr. 26-28	Feb. 15-17	May 9-June 1	May 9-June 1	May 9-June 1	Mar. 21-Apr. 11

NOTES: Topic 1, 13 & 14 include lessons covering Fourth grade standards
Topic 2, 3, 9 & 10 include lessons covering Fourth and Sixth grade standards
Topic 4, 5, 11, 12, 16, 17, & 19 include lessons covering Sixth grade standard

By the end of grade five, students increase their facility with the four basic arithmetic operations applied to fractions, decimals, and positive and negative numbers. They know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students know the concept of angle measurement and use a protractor and compass to solve problems. They use grids, tables, graphs, and charts to record and analyze data.

***All dates listed are currently TENTATIVE pending new Periodic Assessment contract. This schedule is meant for initial planning purposes only. Updates will be forthcoming. For updates, please check the LAUSD PreK-12 Mathematics website: www.lausd.net/math. The calendar reflects the furlough days for 2010-2011.**

Concept Lesson Alignment for the 2010-2011 Mathematics Instructional Guide Instructional Blocks

Grade Level	Name of Lesson	Standard Number and Concept Developed	Instructional Block
3	"The Flower Garden"	NS 3.1: Comparing Fractions	2
	"Elena's Patterns"	NS 2.4: Multiplication of multi-digit numbers by single-digit numbers	2
	"Measuring Toy Boxes"	MG 1.2: Estimate or determine the volume of solid figures (rectangular prisms)	3
	"It's Money In the Bank"	NS 3.3: Adding and Subtracting Decimals	3
4	"Cookie Containers"	NS 3.4: Solve problems involving multi-digit numbers by a single-digit number	1
	"Fractions on a Number Line"	NS 1.9: Comparing Fractions Using a Number Line	2
	"Stacking Blocks"	AF 1.5: Find the second value when given first value in a functional relationship, e.g. a linear function MG 2.1: Create a graph representing this linear functional relationship	3
	"Puppy Play Pen"	MG 1.3: Rectangles with the same area can have different perimeters MG 1.4: Use formulas for perimeters and areas of rectangles (including squares)	3
5	"Off to the Races"	NS 1.5: Identify relative position of fractions, mixed numbers, and decimals	2
	"Candy Bar Capers"	NS 2.3: Adding and Subtracting Fractions	2
	"The Game of Chips"	NS 2.1: Add integers	3
	"Earth Day"	AF 1.2: Write and evaluate one-variable equations AF 1.5: Solve problems involving linear functions using graphs and manipulating equations	3

FIFTH GRADE

ORGANIZED BY STANDARDS

Revision for 2010-11 MIG Topics and Instructional Components

By the end of grade five, students increase their facility with the four basic arithmetic operations applied to fractions, decimals, and positive and negative numbers. They know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students know the concept of angle measurement and use a protractor and compass to solve problems. They use grids, tables, graphs, and charts to record and analyze data.

NOTES: Topic 1, 13 & 14 include lessons covering Fourth grade standards
Topic 2, 3, 9 & 10 include lessons covering Fourth and Sixth grade standards
Topic 4, 5, 11, 12, 16, 17, & 19 include lessons covering Sixth grade standards

CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
---	NS 1.0	Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers:	1⌖, 2†, 3†, 4‡, 10†	✓	✓		
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	1⌖, 2†, 3†, 4‡, 6, 7, 10†	✓	✓		

* based on *enVision*MATH Overview and Implementation Guide.
**fractional values indicate rotated standards (e.g., 1/2 = rotated every 2 years; 1/3 = rotated every 3 years).
***not assessable in a multiple-choice format
🗝**Bold** standards are essential Key Standards for the grade level. These comprise 70% of the CST.
~~Double lined through~~ are portions of the standard not taught in that unit/topic. Full coverage of the standard will occur in later units/topics.
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FIFTH GRADE

CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
5	🗝**NS 1.2**	**Interpret percents as a part of a hundred; find decimal and percent equivalents for common fractions and explain why they represent the same value; compute a given percent of a whole number.**	17‡			✓	
1	NS 1.3	Understand and compute positive integer powers of nonnegative integers; compute examples as repeated multiplication.	3†	✓			
3	🗝**NS 1.4**	**Determine the prime factors of all numbers through 50 and write the numbers as the product of their prime factors by using exponents to show multiples of a factor (e.g., 24 = 2 x 2 x 2 x 3 = 2^3 x 3).**	9†		✓		
2	🗝**NS 1.5**	**Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.**	10†, 15		✓	✓	
---	NS 2.0	Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals:	2†, 5‡, 11‡, 15, 16	✓	✓	✓	
7	🗝**NS 2.1**	**Add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers from negative integers; and verify the reasonableness of the results.**	2†, 6, 7, 15	✓	✓	✓	
3	🗝**NS 2.2**	**Demonstrate proficiency with division, including division with positive decimals and long division**	4‡, 7	✓			

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FIFTH GRADE

CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
		with multi digit divisors.					
5	**🗝NS 2.3**	**Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.**	11‡		✓		
1	NS 2.4	Understand the concept of multiplication and division of fractions.	12‡		✓		
1	NS 2.5	Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.	12‡		✓		
---	AF 1.0	Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results:	5‡, 15	✓		✓	
1	AF 1.1	Use information taken from a graph or equation to answer questions about a problem situation.	12‡		✓		
6	**🗝AF 1.2**	**Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.**	5‡, 15, 16‡	✓		✓	
1	AF 1.3	Know and use the distributive property in equations and expressions with variables.	5‡	✓			
4	**🗝AF 1.4**	**Identify and graph ordered pairs in the four quadrants of the coordinate plane.**	18			✓	

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5	🗝**AF 1.5**	**Solve problems involving linear functions with integer values; write the equation; and graph the resulting ordered pairs of integers on a grid.**	16‡, 18			✓	
---	MG 1.0	Students understand and compute the volumes and areas of simple objects:	13⌖, 14⌖		✓	✓	
2 ½**	🗝**MG 1.1**	**Derive and use the formula for the area of a triangle and of a parallelogram by comparing it with the formula for the area of a rectangle (i.e., two of the same triangles make a parallelogram with twice the area; a parallelogram is compared with a rectangle of the same area by cutting and pasting a right triangle on the parallelogram).**	13⌖		✓		
1/2**	🗝**MG 1.2**	**Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area for these objects.**	14⌖			✓	
3	🗝**MG 1.3**	**Understand the concept of volume and use the appropriate units in common measuring systems (i.e., cubic centimeter [cm³], cubic meter [m³], cubic inch [in³], cubic yard [yd³]) to compute the volume of rectangular solids.**	14⌖			✓	
1	MG 1.4	Differentiate between, and use appropriate units of measures for, two-and three-dimensional objects (i.e., find the perimeter, area, volume).	13⌖, 14⌖		✓	✓	

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CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
---	MG 2.0	Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures:	8		✓		
3	🗝**MG 2.1**	**Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).**	8, 20		✓	✓	
4	🗝**MG 2.2**	**Know that the sum of the angles of any triangle is 180° and the sum of the angles of any quadrilateral is 360° and use this information to solve problems.**	8		✓		
1	MG 2.3	Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.	14⌖			✓	
---	SDAP 1.0	Students display, analyze, compare, and interpret different data sets, including data sets of different sizes:	18			✓	
1/3**	SDAP 1.1	Know the concepts of mean, median, and mode; compute and compare simple examples to show that they may differ.	19‡			✓	
1/3**	SDAP 1.2	Organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.	19‡			✓	
1/3**	SDAP 1.3	Use fractions and percentages to compare data sets of different sizes.	19‡			✓	

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2 ½**	🗝**SDAP 1.4**	**Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.**	18			✓	
1/2**	🗝**SDAP 1.5**	**Know how to write ordered pairs correctly; for example, (*x, y*).**	18			✓	

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FIFTH GRADE

ORGANIZED BY INSTRUCTIONAL BLOCK

Revision for 2010-11 MIG Topics and Instructional Components

By the end of grade five, students increase their facility with the four basic arithmetic operations applied to fractions, decimals, and positive and negative numbers. They know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students know the concept of angle measurement and use a protractor and compass to solve problems. They use grids, tables, graphs, and charts to record and analyze data.

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CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
---	NS 1.0	Students compute with very large and very small numbers, positive integers, decimals, ~~and fractions and understand the relationship between decimals, fractions, and percents~~. They understand the relative magnitudes of numbers:	1⌖	✓			
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	1⌖	✓			
---	NS 1.0	Students compute with very large and very small numbers, positive	2†	✓			

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		integers, decimals, ~~and fractions and understand the relationship between decimals, fractions, and percents~~. They understand the relative magnitudes of numbers:					
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	2†	✓			
---	NS 2.0	Students perform calculations and solve problems involving addition, subtraction~~, and simple multiplication and division~~ of ~~fractions and~~ decimals:	2†	✓			
7	🗝**NS 2.1**	**Add, subtract, ~~multiply, and divide~~ with decimals; ~~add with negative integers; subtract positive integers from negative integers~~; and verify the reasonableness of the results.**	2†	✓			
---	NS 1.0	Students compute with very large and very small numbers, positive integers, decimals, ~~and fractions and understand the relationship between decimals, fractions, and percents~~. They understand the relative magnitudes of numbers:	3†	✓			
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	3†	✓			
1	NS 1.3	Understand and compute positive integer powers of nonnegative integers; compute examples as repeated multiplication.	3†	✓			
---	NS 1.0	Students compute with very large and very small numbers, positive integers, ~~decimals, and fractions and understand the relationship between decimals, fractions, and percents~~. They understand the relative	4‡	✓			

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FIFTH GRADE

CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
		magnitudes of numbers:					
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	4‡	✓			
3	🗝**NS 2.2**	**Demonstrate proficiency with division, ~~including division with positive decimals~~ and long division with multi digit divisors.**	4‡	✓			
---	NS 2.0	Students perform calculations and solve problems involving addition, subtraction, ~~and simple~~ multiplication and division ~~of fractions and decimals~~:	5‡	✓			
---	AF 1.0	Students use variables in simple expressions, compute the value of the expression for specific values of the variable, ~~and plot and interpret the results~~:	5‡	✓			
6	🗝**AF 1.2**	**Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.**	5‡	✓			
1	AF 1.3	Know and use the distributive property in equations and expressions with variables.	5‡	✓			
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	6	✓			
7	🗝**NS 2.1**	**Add, subtract, multiply, ~~and divide~~ with decimals; ~~add with negative integers; subtract positive integers from negative integers~~; and verify the reasonableness of the results.**	6	✓			
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	7	✓			

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7	🗝**NS 2.1**	**Add, subtract, multiply, and divide with decimals; ~~add with negative integers; subtract positive integers from negative integers~~; and verify the reasonableness of the results.**	7	✓			
3	🗝**NS 2.2**	**Demonstrate proficiency with division, including division with positive decimals and long division with multi digit divisors.**	7	✓			
---	MG 2.0	Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures:	8		✓		
3	🗝**MG 2.1**	**Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).**	8		✓		
4	🗝**MG 2.2**	**Know that the sum of the angles of any triangle is 180° and the sum of the angles of any quadrilateral is 360° and use this information to solve problems.**	8		✓		
3	🗝**NS 1.4**	**Determine the prime factors of all numbers through 50 and write the numbers as the product of their prime factors by using exponents to show multiples of a factor (e.g., 24 = 2 x 2 x 2 x 3 = 2^3 x 3).**	9†		✓		
---	NS 1.0	Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers:	10†		✓		
1	NS 1.1	Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.	10†		✓		

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CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
2	🗝**NS 1.5**	**Identify and represent on a number line decimals, fractions, mixed numbers, and positive ~~and negative~~ integers.**	10†		✓		
---	NS 2.0	Students perform calculations and solve problems involving addition, subtraction, ~~and simple multiplication and division~~ of fractions and decimals:	11‡		✓		
5	🗝**NS 2.3**	**Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.**	11‡		✓		
1	NS 2.4	Understand the concept of multiplication and division of fractions.	12‡		✓		
1	NS 2.5	Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.	12‡		✓		
1	AF 1.1	Use information taken from a graph or equation to answer questions about a problem situation.	12‡		✓		
---	MG 1.0	Students understand and compute the ~~volumes and~~ areas of simple objects:	13⌖		✓		
2 1/2**	🗝**MG 1.1**	**Derive and use the formula for the area of a triangle and of a parallelogram by comparing it with the formula for the area of a rectangle (i.e., two of the same triangles make a parallelogram with twice the area; a parallelogram is compared with a rectangle of the same area by cutting and pasting a right triangle on the parallelogram).**	13⌖		✓		

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CST # of Items	Grade 5 Standard Number	Grade 5 Standard Wording	*enVision*MATH TOPIC*	IB 1	IB 2	IB 3	After CST
1	MG 1.4	~~Differentiate between, and~~ use appropriate units of measures for, two- ~~and three-~~dimensional objects (i.e., find the perimeter, area, ~~volume~~).	13⌖		✓		
---	MG 1.0	Students understand and compute the volumes and areas of simple objects:	14⌖			✓	
1/2**	🗝**MG 1.2**	**Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area for these objects.**	14⌖			✓	
3	🗝**MG 1.3**	**Understand the concept of volume and use the appropriate units in common measuring systems (i.e., cubic centimeter [cm³], cubic meter [m³], cubic inch [in³], cubic yard [yd³]) to compute the volume of rectangular solids.**	14⌖			✓	
1	MG 1.4	Differentiate between, and use appropriate units of measures for, two- and three-dimensional objects (i.e., find the perimeter, area, volume).	14⌖			✓	
1	MG 2.3	Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.	14⌖			✓	
2	🗝**NS 1.5**	**Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.**	15			✓	
---	NS 2.0	Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals:	15			✓	
7	🗝**NS 2.1**	**Add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers from negative integers; and verify**	15			✓	

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		the reasonableness of the results.					
---	AF 1.0	Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results:	15			✓	
6	🗝**AF 1.2**	**Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.**	15			✓	
---	NS 2.0	Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals:	16			✓	
6	🗝**AF 1.2**	**Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.**	16‡			✓	
5	🗝**AF 1.5**	**Solve problems involving linear functions with integer values; write the equation; ~~and graph the resulting ordered pairs of integers on a grid~~.**	16‡			✓	
5	🗝**NS 1.2**	**Interpret percents as a part of a hundred; find decimal and percent equivalents for common fractions and explain why they represent the same value; compute a given percent of a whole number.**	17‡			✓	
4	🗝**AF 1.4**	**Identify and graph ordered pairs in the four quadrants of the coordinate plane.**	18			✓	
5	🗝**AF 1.5**	**Solve problems involving linear functions with integer values; write the equation; and graph the resulting ordered pairs of integers on a grid.**	18			✓	

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---	SDAP 1.0	Students display, analyze, compare, and interpret different data sets, including data sets of different sizes:	18			✓	
21/2**	🗝**SDAP 1.4**	**Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.**	18			✓	
1/2**	🗝**SDAP 1.5**	**Know how to write ordered pairs correctly; for example, (*x, y*).**	18			✓	
1/3**	SDAP 1.1	Know the concepts of mean, median, and mode; compute and compare simple examples to show that they may differ.	19‡			✓	
1/3**	SDAP 1.2	Organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.	19‡			✓	
1/3**	SDAP 1.3	Use fractions and percentages to compare data sets of different sizes.	19‡			✓	
3	🗝**MG 2.1**	**Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).**	20			✓	

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