

U.S. Math Textbooks in the Common Core Era: *A First Look*

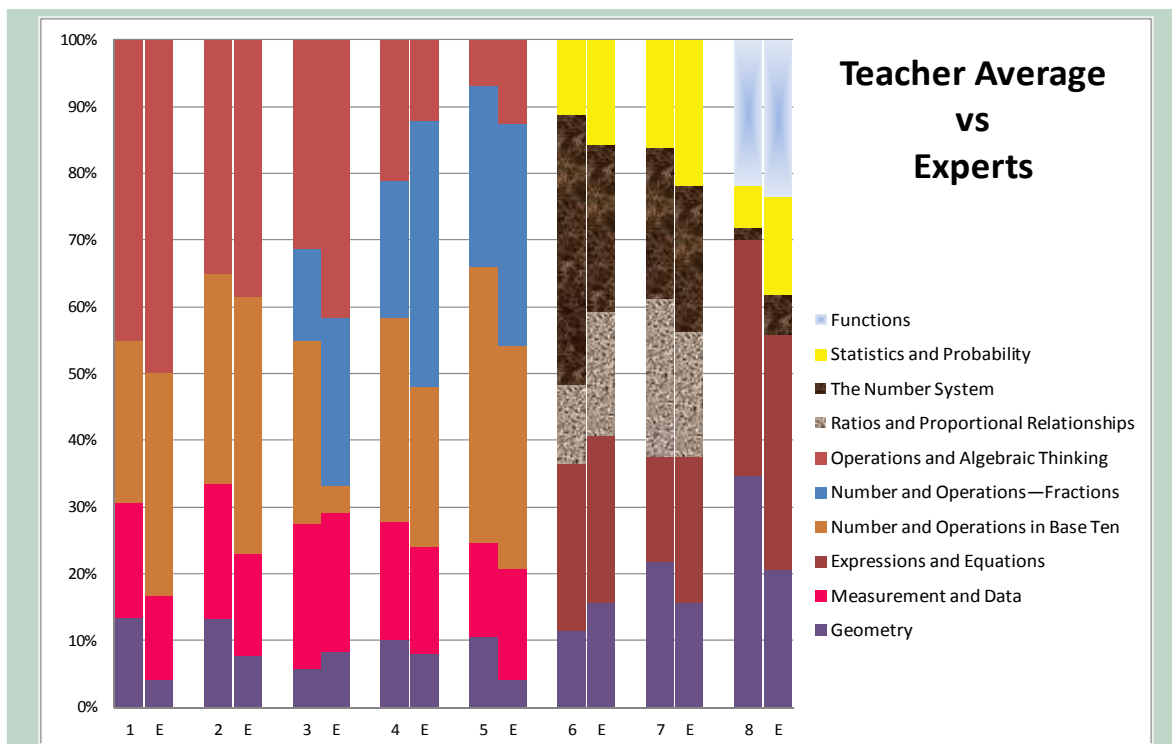
Presentation 2

ICMT -2014
July 30, 2014

MICHIGAN STATE
UNIVERSITY

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How Teachers Allocate Their Time



Alignment of One Text Book Series to the CCM

	All Grades		
	Below	On-Grade	Above
Number of On-Grade Standards in CCSSM		231	
Number Standards Covered	132	166	271
Total Number Standards Covered	569		
% of On-Grade Standards Covered		72%	
% of On-Grade Standards NOT Covered		28%	
% of Covered Standards That are On-Grade	29%		
Topics in Textbook but Not in CCSSM	5		

Summary of Coverage in Textbook Series 1

Grade Level of Standards		K			1			2			3			4			5			6		
		EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG
Total Number of On-Grade Standards Intended			25			24			28			37			37			40			47	
<div>Legend</div> <div>EG Earlier Grades</div> <div>OG On-Grade</div> <div>LG Later Grades</div>	K		19		11			3			2			2								
	1			14		18		10			3			3								
	2			7			17		24		9			4			2			1		
	3			1			8			20		25		22			9			5		
	4			2			2			10			24		28		19			13		
	5									2			13			20		25		14		
	6						1			1			4			12			27		27	
	7			1									6			10			19		26	
	8												2			3			6		11	
	HS																					2
Number Standards			19	25	11	18	28	13	24	33	14	25	49	31	28	45	30	25	52	33	27	39
Total Number Standards			44			57			70			88			104			107			99	
% of On-Grade Standards Covered			76%			75%			86%			68%			76%			63%			57%	
% of On-Grade Standards NOT Covered			24%			25%			14%			32%			24%			38%			43%	
% of Covered Standards That are On-Grade			43%			32%			34%			28%			27%			23%			27%	
Topics in Textbook but Not in CCSSM			1									1			1			1			1	

Coverage in Grades 2 and 5

		Grade 2			Grade 5		
		Below	On-Grade	Above	Below	On-Grade	Above
Number of On-Grade Standards in CCSSM			28			40	
Grade Level of the CCSSM Standards	K	3					
	1	10					
	2		24		2		
	3			20	9		
	4			10	19		
	5			2		25	
	6			1			27
	7						19
	8						6
	HS						
Number Standards Covered		13	24	33	30	25	52

Summary of Coverage in Textbook Series 2

Grade Level of Standards		K			1			2			3			4			5		
		EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG
Total Number of On-Grade Standards			25			24			28			37			37			40	
Legend EG Earlier Grades OG On-Grade LG Later Grades	K		21		18			12			2			3					
	1			4		13		17			6			2			1		
	2			1			5	21		21				6			1		
	3						3		5		22		25				10		
	4						1		3			12		21		17			
	5											4				13		20	
	6											4				6			9
	7											1				4			6
	8								1			1				1			1
Number Standards			21	5	18	13	9	29	21	9	29	22	22	36	21	24	29	20	16
Total Number Standards			26			40			59			73			81			65	
% of On-Grade Standards Covered			84%			54%			75%			59%			57%			50%	
% of On-Grade Standards NOT Covered			16%			46%			25%			41%			43%			50%	
% of Covered Standards That are On-Grade			81%			33%			36%			30%			26%			31%	
Topics in Textbook but Not in CCSSM						1					1			1			1		

Summary of Coverage in Textbook Series 3

Grade Level of Standards			K			1			2			3			4			5		
			EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG
Total Number of On-Grade Standards				25			24			28			37			37			40	
Legend EG Earlier Grades OG On-Grade LG Later Grades		K		22		3			1											
		1			2		24		7			2			1					
		2						1		27		5						1		
		3											36		10			4		
		4												5		37		14		
		5												1			2		37	
		6												1			2			4
		8																		1
Number Standards				22	2	3	24	1	8	27		7	36	7	11	37	4	19	37	5
Total Number Standards				24			28			35			50			52			61	
% of On-Grade Standards Covered				88%			100%			96%			97%			100%			93%	
% of On-Grade Standards NOT Covered				12%			0%			4%			3%			0%			8%	
% of Covered Standards That are On-Grade				92%			86%			77%			72%			71%			61%	
Topics in Textbook but Not in CCSSM				1																

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Summary of Coverage in Textbook Series 4

Grade Level of Standards			K			1			2			3			4			5		
			EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG
Total Number of On-Grade Standards				25			24			28			37			37			40	
Legend EG Earlier Grades OG On-Grade LG Later Grades		K		24		10														
		1			1		24		8			1								
		2						1		26		6						1		
		3			1						1		33		2			1		
		4												4		34		5		
		5															1		29	
		7																		1
Number Standards				24	2	10	24	1	8	26	1	7	33	4	2	34	1	7	29	1
Total Number Standards				26			35			35			44			37			37	
% of On-Grade Standards Covered				96%			100%			93%			89%			92%			73%	
% of On-Grade Standards NOT Covered				4%			0%			7%			11%			8%			28%	
% of Covered Standards That are On-Grade				92%			69%			74%			75%			92%			78%	
Topics in Textbook but Not in CCSSM				1																

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Summary of Coverage in Textbook Series 5

Legend	
EG	Earlier Grades
OG	On-Grade
LG	Later Grades

Grade Level of Standards		6			7			8		
		EG	OG	LG	EG	OG	LG	EG	OG	LG
Total Number of On-Grade Standards			47			43			36	
	K	1			1			1		
	2	1			1			1		
	3	5			3			1		
	4	18			12			8		
	5	17			12			3		
	6		27		25			23		
	7			20		27		32		
	8			5			13		25	
	HS			1			6			18
Number Standards		42	27	26	54	27	19	69	25	18
Total Number Standards			95			100			112	
% of On-Grade Standards Covered			57%			63%			69%	
% of On-Grade Standards NOT Covered			43%			37%			31%	
% of Covered Standards That are On-Grade			28%			27%			22%	
Topics in Textbook but Not in CCSSM			1			1			1	

065

Summary of Coverage in Textbook Series 6

Legend	
EG	Earlier Grades
OG	On-Grade
LG	Later Grades

Grade Level of Standards		6			7			8		
		EG	OG	LG	EG	OG	LG	EG	OG	LG
Total Number of On-Grade Standards			47			43			36	
	5	3								
	6		19							
	7			8		20		5		
	8								20	
Number Standards		3	19	8		20		5	20	
Total Number Standards			30			20			25	
% of On-Grade Standards Covered			40%			47%			56%	
% of On-Grade Standards NOT Covered			60%			53%			44%	
% of Covered Standards That are On-Grade			63%			100%			80%	
Topics in Textbook but Not in CCSSM			1			1			1	

291

Textbook Series 1 (Gr. 1-6)

Topic	Grade					
	1	2	3	4	5	6
Whole Number: Meaning	●	●	●	●	●	●
Whole Number: Operations	●	●	●	●	●	●
Whole Numbers: Properties of Operations	●	●	●	●	●	●
Common Fractions	●	●	●	●	●	●
Measurement Units	●	●	●	●	●	●
2-D Geometry: Polygons & Circles	●	●	●	●	●	●
Data Representation & Analysis	●	●	●	●	●	●
3-D Geometry	●	●	●	●	●	●
Measurement: Estimation & Errors	●	●	●	●	●	●
Number Theory	●	●	●	●	●	●
2-D Geometry: Basics	●	●	●	●	●	●
Rounding & Significant Figures	●	●	●	●	●	●
Relation of Common & Decimal Fractions	●	●	●	●	●	●
Estimating Computations	●	●	●	●	●	●
Measurement: Perimeter, Area & Volume	●	●	●	●	●	●
Equations & Formulas	●	●	●	●	●	●
Decimal Fractions	●	●	●	●	●	●
Patterns, Relations & Functions	●	●	●	●	●	●
Geometry: Transformations	●	●	●	●	●	●
Properties of Common & Decimal Fractions	●	●	●	●	●	●
Exponents & Orders of Magnitude	●	●	●	●	●	●
2-D Geometry: Coordinate Geometry	●	●	●	●	●	●
Exponents, Roots & Radicals	●	●	●	●	●	●
Percentages	●	●	●	●	●	●
Negative Numbers, Integers, & Their Properties	●	●	●	●	●	●
Proportionality Concepts	●	●	●	●	●	●
Proportionality Problems	●	●	●	●	●	●
Rational Numbers & Their Properties	●	●	●	●	●	●
Constructions Using Straightedge & Compass	●	●	●	●	●	●
Systematic Counting	●	●	●	●	●	●
Uncertainty & Probability	●	●	●	●	●	●
Real Numbers, Their Subsets & Properties	●	●	●	●	●	●
Geometry: Congruence & Similarity	●	●	●	●	●	●
Proportionality: Slope & Trigonometry	●	●	●	●	●	●
Validation & Justification	●	●	●	●	●	●

Intended in the CCSSM

● > 1 month of coverage

● > 1 week; < 1 month of coverage

● > 1 day; < 1 week of coverage

● 1 day or less of coverage

Textbook Series 2 (Gr. 1-5)

Topic	Grade				
	1	2	3	4	5
Whole Number: Meaning	●	●	●	●	●
Whole Number: Operations	●	●	●	●	●
Whole Numbers: Properties of Operations	●	●	●	●	●
Common Fractions	●	●	●	●	●
Measurement Units	●	●	●	●	●
2-D Geometry: Polygons & Circles	●	●	●	●	●
Data Representation & Analysis	●	●	●	●	●
3-D Geometry	●	●	●	●	●
Measurement: Estimation & Errors	●	●	●	●	●
Number Theory	●	●	●	●	●
2-D Geometry: Basics	●	●	●	●	●
Rounding & Significant Figures	●	●	●	●	●
Relation of Common & Decimal Fractions	●	●	●	●	●
Estimating Computations	●	●	●	●	●
Measurement: Perimeter, Area & Volume	●	●	●	●	●
Equations & Formulas	●	●	●	●	●
Decimal Fractions	●	●	●	●	●
Patterns, Relations & Functions	●	●	●	●	●
Geometry: Transformations	●	●	●	●	●
Properties of Common & Decimal Fractions	●	●	●	●	●
Exponents & Orders of Magnitude	●	●	●	●	●
2-D Geometry: Coordinate Geometry	●	●	●	●	●
Exponents, Roots & Radicals	●	●	●	●	●
Percentages	●	●	●	●	●
Negative Numbers, Integers, & Their Properties	●	●	●	●	●
Proportionality Concepts	●	●	●	●	●
Proportionality Problems	●	●	●	●	●
Rational Numbers & Their Properties	●	●	●	●	●
Constructions Using Straightedge & Compass	●	●	●	●	●
Systematic Counting	●	●	●	●	●
Uncertainty & Probability	●	●	●	●	●
Real Numbers, Their Subsets & Properties	●	●	●	●	●
Geometry: Congruence & Similarity	●	●	●	●	●
Proportionality: Slope & Trigonometry	●	●	●	●	●
Validation & Justification	●	●	●	●	●

Intended in the CCSSM

● > 1 month of coverage

● > 1 week; < 1 month of coverage

● > 1 day; < 1 week of coverage

● 1 day or less of coverage

Textbook Series 3 (Gr. 1-5)

Topic	Grade				
	1	2	3	4	5
Whole Number: Meaning	●	●	●	●	●
Whole Number: Operations	●	●	●	●	●
Whole Numbers: Properties of Operations	●	●	●	●	●
Common Fractions	●	●	●	●	●
Measurement Units	●	●	●	●	●
2-D Geometry: Polygons & Circles	●	●	●	●	●
Data Representation & Analysis	●	●	●	●	●
3-D Geometry	●	●	●	●	●
Measurement: Estimation & Errors	●	●	●	●	●
Number Theory	●	●	●	●	●
2-D Geometry: Basics	●	●	●	●	●
Rounding & Significant Figures	●	●	●	●	●
Relation of Common & Decimal Fractions	●	●	●	●	●
Estimating Computations	●	●	●	●	●
Measurement: Perimeter, Area & Volume	●	●	●	●	●
Equations & Formulas	●	●	●	●	●
Decimal Fractions	●	●	●	●	●
Patterns, Relations & Functions	●	●	●	●	●
Geometry: Transformations	●	●	●	●	●
Properties of Common & Decimal Fractions	●	●	●	●	●
Exponents & Orders of Magnitude	●	●	●	●	●
2-D Geometry: Coordinate Geometry	●	●	●	●	●
Exponents, Roots & Radicals	●	●	●	●	●
Percentages	●	●	●	●	●
Negative Numbers, Integers, & Their Properties	●	●	●	●	●
Proportionality Concepts	●	●	●	●	●
Proportionality Problems	●	●	●	●	●
Rational Numbers & Their Properties	●	●	●	●	●
Constructions Using Straightedge & Compass	●	●	●	●	●
Systematic Counting	●	●	●	●	●
Uncertainty & Probability	●	●	●	●	●
Real Numbers, Their Subsets & Properties	●	●	●	●	●
Geometry: Congruence & Similarity	●	●	●	●	●
Proportionality: Slope & Trigonometry	●	●	●	●	●
Validation & Justification	●	●	●	●	●

Intended in the CCSSM

- > 1 month of coverage
- > 1 week; < 1 month of coverage
- > 1 day; < 1 week of coverage
- 1 day or less of coverage

Textbook Series 4 (gr. 1-5)

Topic	Grade				
	1	2	3	4	5
Whole Number: Meaning	●	●	●	●	●
Whole Number: Operations	●	●	●	●	●
Whole Numbers: Properties of Operations	●	●	●	●	●
Common Fractions	●	●	●	●	●
Measurement Units	●	●	●	●	●
2-D Geometry: Polygons & Circles	●	●	●	●	●
Data Representation & Analysis	●	●	●	●	●
3-D Geometry	●	●	●	●	●
Measurement: Estimation & Errors	●	●	●	●	●
Number Theory	●	●	●	●	●
2-D Geometry: Basics	●	●	●	●	●
Rounding & Significant Figures	●	●	●	●	●
Relation of Common & Decimal Fractions	●	●	●	●	●
Estimating Computations	●	●	●	●	●
Measurement: Perimeter, Area & Volume	●	●	●	●	●
Equations & Formulas	●	●	●	●	●
Decimal Fractions	●	●	●	●	●
Patterns, Relations & Functions	●	●	●	●	●
Geometry: Transformations	●	●	●	●	●
Properties of Common & Decimal Fractions	●	●	●	●	●
Exponents & Orders of Magnitude	●	●	●	●	●
2-D Geometry: Coordinate Geometry	●	●	●	●	●
Exponents, Roots & Radicals	●	●	●	●	●
Percentages	●	●	●	●	●
Negative Numbers, Integers, & Their Properties	●	●	●	●	●
Proportionality Concepts	●	●	●	●	●
Proportionality Problems	●	●	●	●	●
Rational Numbers & Their Properties	●	●	●	●	●
Constructions Using Straightedge & Compass	●	●	●	●	●
Systematic Counting	●	●	●	●	●
Uncertainty & Probability	●	●	●	●	●
Real Numbers, Their Subsets & Properties	●	●	●	●	●
Geometry: Congruence & Similarity	●	●	●	●	●
Proportionality: Slope & Trigonometry	●	●	●	●	●
Validation & Justification	●	●	●	●	●

Intended in the CCSSM

- > 1 month of coverage
- > 1 week; < 1 month of coverage
- > 1 day; < 1 week of coverage
- 1 day or less of coverage

Textbook Series 5 (Gr. 6-8)

Topic	Grade		
	6	7	8
Whole Number: Meaning	●	●	
Whole Number: Operations	●	●	
Whole Numbers: Properties of Operations	●	●	
Common Fractions	●	●	●
Measurement Units	●	●	●
2-D Geometry: Polygons & Circles	●	●	●
Data Representation & Analysis	●	●	●
3-D Geometry	●	●	●
Measurement: Estimation & Errors	●	●	●
Number Theory	●	●	●
2-D Geometry: Basics	●	●	●
Rounding & Significant Figures	●	●	●
Relation of Common & Decimal Fractions	●	●	●
Estimating Computations	●	●	●
Measurement: Perimeter, Area & Volume	●	●	●
Equations & Formulas	●	●	●
Decimal Fractions	●	●	●
Patterns, Relations & Functions	●	●	●
Geometry: Transformations	●	●	●
Properties of Common & Decimal Fractions	●	●	●
Exponents & Orders of Magnitude	●	●	●
2-D Geometry: Coordinate Geometry	●	●	●
Exponents, Roots & Radicals	●	●	●
Percentages	●	●	●
Negative Numbers, Integers, & Their Properties	●	●	●
Proportionality Concepts	●	●	●
Proportionality Problems	●	●	●
Rational Numbers & Their Properties	●	●	●
Constructions Using Straightedge & Compass	●	●	●
Systematic Counting	●	●	●
Uncertainty & Probability	●	●	●
Real Numbers, Their Subsets & Properties	●	●	●
Geometry: Congruence & Similarity	●	●	●
Proportionality: Slope & Trigonometry	●	●	●
Validation & Justification	●	●	●

Intended in the CCSSM	
●	> 1 month of coverage
●	> 1 week; < 1 month of coverage
●	> 1 day; < 1 week of coverage
●	1 day or less of coverage

Textbook Series 6 (Gr. 6-8)

Topic	Grade		
	6	7	8
Whole Number: Meaning	●		
Whole Number: Operations	●		
Whole Numbers: Properties of Operations	●		
Common Fractions	●	●	●
Measurement Units	●	●	●
2-D Geometry: Polygons & Circles	●	●	●
Data Representation & Analysis	●	●	●
3-D Geometry	●	●	●
Measurement: Estimation & Errors	●	●	●
Number Theory	●	●	●
2-D Geometry: Basics	●	●	●
Rounding & Significant Figures	●	●	●
Relation of Common & Decimal Fractions	●	●	●
Estimating Computations	●	●	●
Measurement: Perimeter, Area & Volume	●	●	●
Equations & Formulas	●	●	●
Decimal Fractions	●	●	●
Patterns, Relations & Functions	●	●	●
Geometry: Transformations	●	●	●
Properties of Common & Decimal Fractions	●	●	●
Exponents & Orders of Magnitude	●	●	●
2-D Geometry: Coordinate Geometry	●	●	●
Exponents, Roots & Radicals	●	●	●
Percentages	●	●	●
Negative Numbers, Integers, & Their Properties	●	●	●
Proportionality Concepts	●	●	●
Proportionality Problems	●	●	●
Rational Numbers & Their Properties	●	●	●
Constructions Using Straightedge & Compass	●	●	●
Systematic Counting	●	●	●
Uncertainty & Probability	●	●	●
Real Numbers, Their Subsets & Properties	●	●	●
Geometry: Congruence & Similarity	●	●	●
Proportionality: Slope & Trigonometry	●	●	●
Validation & Justification	●	●	●

Intended in the CCSSM	
●	> 1 month of coverage
●	> 1 week; < 1 month of coverage
●	> 1 day; < 1 week of coverage
●	1 day or less of coverage

% of On-Grade Standards Covered

Grades	K	1	2	3	4	5	6	7	8
K-5	84%	54%	75%	59%	57%	50%			
K-5	80%	92%	75%	76%	81%	75%			
K-5	72%	79%	71%	65%	78%	55%			
K-5	84%	54%	75%	59%	57%	50%			
K-5	80%	79%	61%	51%	70%	53%			
K-5	96%	100%	93%	89%	92%	73%			
K-5	88%	100%	96%	97%	100%	93%			
K-6	76%	75%	86%	68%	76%	63%	57%		
K-6	80%	88%	71%	78%	51%	55%	70%		
6-8							19%	58%	50%
6-8							57%	63%	69%
6-8							34%	56%	67%
6-8							62%	77%	61%
6-8							40%	47%	56%

% of Covered Standards that are On-Grade

Grades	K	1	2	3	4	5	6	7	8
K-5	81%	33%	36%	30%	26%	31%			
K-5	61%	35%	30%	41%	27%	24%			
K-5	53%	42%	32%	37%	35%	21%			
K-5	81%	33%	36%	30%	26%	31%			
K-5	71%	42%	45%	43%	57%	33%			
K-5	92%	69%	74%	75%	92%	78%			
K-5	92%	86%	77%	72%	71%	61%			
K-6	43%	32%	34%	28%	27%	23%	27%		
K-6	51%	37%	32%	33%	23%	23%	31%		
6-8							14%	33%	22%
6-8							28%	27%	22%
6-8							26%	34%	27%
6-8							28%	33%	22%
6-8							63%	100%	80%

Allocation of Time from Three Sources

