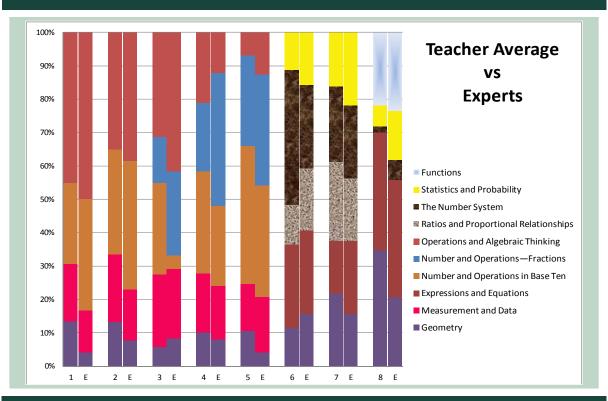
# U.S. Math Textbooks in the Common Core Era: A First Look

## Presentation 2

*ICMT -2014* July 30, 2014

MICHIGAN STATE UNIVERSITY William H. Schmidt Richard T. Houang

#### **How Teachers Allocate Their Time**



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#### **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	

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#### **Summary of Coverage in Textbook Series 1**

	Grade Level of Star	dards		K			1			2			3			4			5			6	
	Grade Level of Star	iuaius	EG	OG	LG																		
	Total Number of On Standards In			25			24			28			37			37			40			47	
		К		19		11			3			2			2								
г	Legend	1			14		18		10			3			3								
F	G Earlier Grades	2			7			17		24		9			4			2			1		
_	G On-Grade	3			1			8			20		25		22			9			5		
-	<b>G</b> Later Grades	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 Sta	ndards		19	25	11	18	28	13	24	33	14	25	49	31	28	45	30	25	52	33	27	39
	Total Number Sta	ndards		44			57			70			88			104			107			99	
	% of On-Grade Sta	ndards overed		76%			75%			86%			68%			76%			63%			57%	
	% of On-Grade Sta	ndards overed		24%			25%			14%			32%			24%			38%			43%	
	% of Covered Sta That are On			43%			32%			34%			28%			27%			23%			27%	
	Topics in Textbook I	out Not CCSSM		1									1			1			1			1	

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#### **Coverage in Grades 2 and 5**

			Grade 2			Grade 5	
		Below	On-Grade	Above	Below	On-Grade	Above
Numb On-G Standards in CC	rade		28			40	
	K	3					
	1	10					
	2		24		2		
	3			20	9		
Grade Level of the CCSSM	4			10	19		
Standards	5			2		25	
	6			1			27
	7						19
	8						6
	HS						
Number Stand Cov	ards ered	13	24	33	30	25	52

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#### **Summary of Coverage in Textbook Series 2**

	Grade Level of Star	مامسام		K			1			2			3			4			5	
	Grade Level of Star	laaras	EG	OG	LG															
	Total Number of On Grade Standards			25			24			28			37			37			40	
		К		21		18			12			2			3					
	Legend	1			4		13		17			6			2			1		
EC	Earlier Grades	2			1			5		21		21			6			1		
o	On-Grade	3						3			5		22		25			10		
LC	Later Grades	4						1			3			12		21		17		
		5												4			13		20	
		6												4			6			9
		7												1			4			6
		8									1			1			1			1
	Number Sta	ndards		21	5	18	13	9	29	21	9	29	22	22	36	21	24	29	20	16
	Total Number Sta	ndards		26			40			59			73			81			65	
	% of On-Grade Sta	ndards overed		84%			54%			75%			59%			57%			50%	
	% of On-Grade Sta	ndards overed		16%			46%			25%			41%			43%			50%	
	% of Covered Sta That are On			81%			33%			36%			30%			26%			31%	
	Topics in Textbook in	out Not CCSSM					1						1			1			1	
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#### **Summary of Coverage in Textbook Series 3**

	Grade Level of	C4	مامسمام		K			1			2			3			4			5	
	Grade Level of	Stan	aaras	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	L
	Total Number o Grade Stand				25			24			28			37			37			40	
			K		22		3			1											
	Legend		1			2		24		7			2			1					
G	Earlier Grades		2						1		27		5						1		
-	On-Grade		3											36		10			4		
G	Later Grades		4												5		37		14		
			5												1			2		37	
			6												1			2			-
			8																		
	Numbe	r Sta	ndards		22	2	3	24	1	8	27		7	36	7	11	37	4	19	37	
	Total Numbe	r Sta	ndards		24			28			35			50			52			61	
	% of On-Grade		ndards overed		88%			100%			96%			97%			100%			93%	
	% of On-Grade N		ndards overed		12%			0%			4%			3%			0%			8%	
	% of Covered That ar				92%			86%			77%			72%			71%			61%	
	Topics in Textbo		ut Not		1																

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#### **Summary of Coverage in Textbook Series 4**

				К			1			2			3			4			5	
	Grade Level of S	tandards	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LG	EG	OG	LC
	Total Number of Grade Standa			25			24			28			37			37			40	
		К		24		10														
	Legend	1			1		24		8			1								
	Earlier Grades	2						1		26		6						1		
-	On-Grade Later Grades	3			1						1		33		2			1		
.0	Later Grades	4												4		34		5		
		5															1		29	
		7																		:
	Number	Standards		24	2	10	24	1	8	26	1	7	33	4	2	34	1	7	29	:
	Total Number	Standards		26			35			35			44			37			37	
	% of On-Grade	Standards Covered		96%			100%			93%			89%			92%			73%	
	% of On-Grade NO	Standards T Covered		4%			0%			7%			11%			8%			28%	
	% of Covered That are	Standards On-Grade		92%			69%			74%			75%			92%			78%	
	Topics in Textboo	k but Not		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 Stan	darde		6			7			8	
Glade Level of Staff	uarus	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 Sta	ndards	42	27	26	54	27	19	69	25	18
Total Number Sta	ndards		95			100			112	
% of On-Grade Sta	ndards overed		57%			63%			69%	
% of On-Grade Sta			43%			37%			31%	
% of Covered Sta That are On			28%			27%			22%	
Topics in Textbook b	ut Not CCSSM		1			1			1	

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#### **Summary of Coverage in Textbook Series 6**

Legend
EG Earlier Grades

OG On-Grade LG Later Grades

Grade Level of Stan	darde		6			7			8	
Grade Level of Staff	uarus	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 Sta	ndards	3	19	8		20		5	20	
Total Number Sta	ndards		30			20			25	
% of On-Grade Sta	ndards overed		40%			47%			56%	
% of On-Grade Sta			60%			53%			44%	
% of Covered Sta That are On			63%			100%			80%	
Topics in Textbook b	ut Not		1			1			1	

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## **Textbook Series 1 (Gr. 1-6)**

Topic			G	rade		- 1		
Торіс	1	2	3	4	5	6		
Whole Number: Meaning			0		0	0		
Whole Number: Operations			0	0	0	0		
Whole Numbers: Properties of Operations	0		0	0	0	0		
Common Fractions			0	0	0	0		
Measurement Units			0	0	0	()		
2-D Geometry: Polygons & Circles	0	0	0	0	0	0		
Data Representation & Analysis	0	0	0	0	0			
3-D Geometry					0			
Measurement: Estimation & Errors	0		0	0	0	0	-	Intended in the CCSSM
Number Theory					0			michiged in the cossin
2-D Geometry: Basics	0			0	0	0		> 1 month of coverage
Rounding & Significant Figures		0	0	0			_	> 1 month of coverage
Relation of Common & Decimal Fractions	0			0	0	0		. 1
Estimating Computations			0		0			> 1 week; < 1 month of
Measurement: Perimeter, Area & Volume	0		0	0	0	0	_	coverage
Equations & Formulas				0	0	0	_	> 1 day; < 1 week of
Decimal Fractions		0		0	0	•	0	coverage
Patterns, Relations & Functions	0	0	0	•	0	0		coverage
Geometry: Transformations	0			0	0	0		1 day or less of coverage
Properties of Common & Decimal Fractions					0	0	9	1 day or less of coverage
Exponents & Orders of Magnitude				0				
2-D Geometry: Coordinate Geometry				0	0	0		
Exponents, Roots & Radicals				0	0	0		
Percentages				0		0		
Negative Numbers, Integers, & Their Properties			0	0		0		
Proportionality Concepts			0	0		0		
Proportionality Problems						0		
Rational Numbers & Their Properties			0	0	0			
Constructions Using Straightedge & Compass					0	0		
Systematic Counting					0	0		
Uncertainty & Probability			0	0		0		
Real Numbers, Their Subsets & Properties					0	0		
Geometry: Congruence & Similarity			0	0	0	0		
Proportionality: Slope & Trigonometry								
Validation & Justification						0		

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# **Textbook Series 2 (Gr. 1-5)**

Topic			Grade				
70. <b>*</b> 0.000	1	2	3	4	5		
Whole Number: Meaning	()	•	0	()	0		
Whole Number: Operations		•		•	•		
Whole Numbers: Properties of Operations		0	0	0	0		
Common Fractions	<u></u>	0	0	0			
Measurement Units	()	•	0	9			
2-D Geometry: Polygons & Circles	0	0	0	0	0		
Data Representation & Analysis		0	0	0	0		
3-D Geometry					•		
Measurement: Estimation & Errors			0				Intended in the CCSSM
Number Theory				0	0		
2-D Geometry: Basics		0					> 1 month of coverage
Rounding & Significant Figures			0		0	•	> 1 month of coverage
Relation of Common & Decimal Fractions			0	0	0		> 1 week; < 1 month of
Estimating Computations				0			
Measurement: Perimeter, Area & Volume		0	0	(	0	_	coverage
Equations & Formulas			0	0		_	> 1 day; < 1 week of
Decimal Fractions			0	0	0	0	coverage
Patterns, Relations & Functions	0			0			coverage
Geometry: Transformations	0			0	0		
Properties of Common & Decimal Fractions				0	0	9	1 day or less of coverag
Exponents & Orders of Magnitude							
2-D Geometry: Coordinate Geometry							
Exponents, Roots & Radicals			12.5		1000		
Percentages							
Negative Numbers, Integers, & Their Properties			0	0			
Proportionality Concepts	1			-			
Proportionality Problems	1		0	0			
Rational Numbers & Their Properties			0		•		
Constructions Using Straightedge & Compass							
Systematic Counting							
Uncertainty & Probability	1			0			
Real Numbers, Their Subsets & Properties							
Geometry: Congruence & Similarity		0	0		0		
Proportionality: Slope & Trigonometry	1						
Validation & Justification	1						

## **Textbook Series 3 (Gr. 1-5)**

Topic			Grade			
Торіс	1	2	3	4	5	
Whole Number: Meaning Whole Number: Operations Whole Numbers: Properties of Operations Common Fractions	9	9	0	(a)	9	
Measurement Units 2-D Geometry: Polygons & Circles Data Representation & Analysis 3-D Geometry	9	9	0	0	•	
Measurement: Estimation & Errors Number Theory 2-D Geometry: Basics Rounding & Significant Figures		0	0		•	Intended in the CCSSM  > 1 month of coverage
Relation of Common & Decimal Fractions Estimating Computations Measurement: Perimeter, Area & Volume Equations & Formulas		9	<u> </u>		•	> 1 week; < 1 month of coverage > 1 day; < 1 week of
Decimal Fractions Patterns, Relations & Functions Geometry: Transformations Properties of Common & Decimal Fractions				9	•	coverage  O 1 day or less of coverage
Exponents & Orders of Magnitude 2-D Geometry: Coordinate Geometry Exponents, Roots & Radicals Percentages					0	
Negative Numbers, Integers, & Their Properties Proportionality Concepts Proportionality Problems Rational Numbers & Their Properties			0	0		
Constructions Using Straightedge & Compass Systematic Counting Uncertainty & Probability Real Numbers, Their Subsets & Properties						
Geometry: Congruence & Similarity Proportionality: Slope & Trigonometry Validation & Justification					0	

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# **Textbook Series 4 (gr. 1-5)**

Topic			Grade				
70. <b>1</b> 0.00	1	2	3	4	5		
Whole Number: Meaning		•	0	()	0		
Whole Number: Operations		•		•	0		
Whole Numbers: Properties of Operations	<b>@</b>	0	0	0	0		
Common Fractions	<b>3</b>		0	0	•		
Measurement Units	()		0	0	0		
2-D Geometry: Polygons & Circles	0	0	0	0	0		
Data Representation & Analysis		0	0	0			
3-D Geometry			0		0		
Measurement: Estimation & Errors		0	0				Intended in the CCSSM
Number Theory		0		0	0		
2-D Geometry: Basics		0		0			> 1 month of coverage
Rounding & Significant Figures				0	0	_	> 1 month of coverage
Relation of Common & Decimal Fractions			0	0	0		> 1 week; < 1 month of
Estimating Computations							
Measurement: Perimeter, Area & Volume		0	0			_	coverage
Equations & Formulas						_	> 1 day; < 1 week of
Decimal Fractions				0	0	0	coverage
Patterns, Relations & Functions				0			coverage
Geometry: Transformations				0			1 day or less of coverage
Properties of Common & Decimal Fractions						9	1 day or less of coverag
Exponents & Orders of Magnitude				0	0		
2-D Geometry: Coordinate Geometry					0		
Exponents, Roots & Radicals				0	0		
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	- 1						

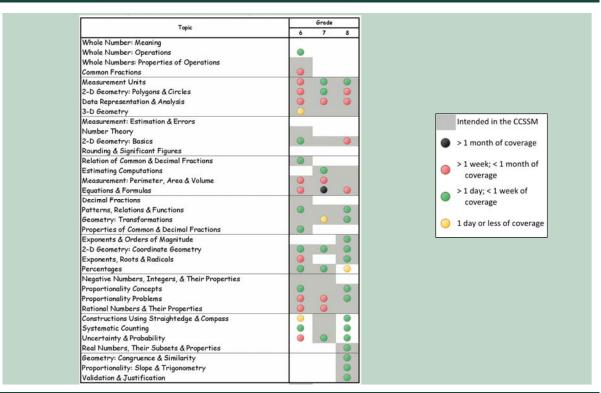
#### **Textbook Series 5 (Gr. 6-8)**

Topic	Grade			
U119 U20-1	6	7	8	
Whole Number: Meaning	0	0		
Whole Number: Operations	•	0		
Whole Numbers: Properties of Operations				
Common Fractions	<b>(</b>		0	
Measurement Units	0	0	0	
2-D Geometry: Polygons & Circles		0	0	
Data Representation & Analysis	<b>(</b>	0	0	
3-D Geometry				
Measurement: Estimation & Errors				Intended in the CCSSM
Number Theory				100000000000000000000000000000000000000
2-D Geometry: Basics	0	0	0	> 1 month of coverage
Rounding & Significant Figures	0	0		- 1 month of coverage
Relation of Common & Decimal Fractions	0		0	> 1 week; < 1 month of
Estimating Computations	0	0	0	(a) which is the control of the cont
Measurement: Perimeter, Area & Volume		0	0	coverage
Equations & Formulas	0	0		> 1 day; < 1 week of
Decimal Fractions	9	0	0	coverage
Patterns, Relations & Functions		0	0	coverage
Geometry: Transformations		0	0	1 day or less of coverage
Properties of Common & Decimal Fractions		()		1 day of less of coverag
Exponents & Orders of Magnitude	0	0	0	
2-D Geometry: Coordinate Geometry		0	0	
Exponents, Roots & Radicals	•		0	
Percentages		0	0	
Negative Numbers, Integers, & Their Properties	0	0		
Proportionality Concepts		0	0	
Proportionality Problems		0	0	
Rational Numbers & Their Properties			0	
Constructions Using Straightedge & Compass				
Systematic Counting	0	0	0	
Uncertainty & Probability		0	0	
Real Numbers, Their Subsets & Properties		0	0	
Geometry: Congruence & Similarity	0	0	0	
Proportionality: Slope & Trigonometry			0	
Validation & Justification	L	(3)	0	

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## **Textbook Series 6 (Gr. 6-8)**



#### % 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%

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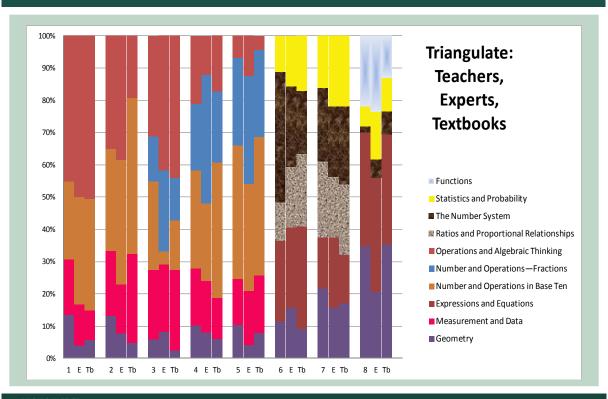
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#### % of Covered Standards that are On-Grade

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%

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#### **Allocation of Time from Three Sources**



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