GRADE 6

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
CONTENT	The learner	The learner	The learner		MATERIALS	EQUIPMENT
Grade 6- FIRST	QUARTER					
Number Sense	demonstrates understanding of the four fundamental operations involving fractions and decimals.	is able to apply the four fundamental operations involving fractions and decimals in mathematical problems and real-life situations.	1. adds and subtracts simple fractions and mixed numbers without or with regrouping.	M6NS-Ia-86	 Lesson Guide in Elem. Math Gr. 6 p. 203, 207, 212, 216, 219, 223 DLP Gr. 6 Module 31, 32 BEAM LG Gr. 6 Module 8A MISOSA Modules Gr.5 and 6– Subtraction of Mixed Numbers Lesson Guide in Elementary Math Grade 6. 2005. pp. 193-211 Lesson Guide in Elementary Math Grade 6. 2010. pp. 203-227 Proded Math. 33A: Adding and Subtracting Similar Fractions Proded Math. 33C: Add and Subtract Mixed Numbers (Similar Fractions) Proded Math. 34-A, 34-B & 34-C: Adding Dissimilar Fractions Mathematics for Everyone Grade 5. 	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODF	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					 2000. pp. 94-95* 11. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 203-227 12. Proded Math. III-A: Adding and Subtracting Similar Fractions 13. Proded Math. III-B: Add and Subtract Fractions and Wholes 14. Proded Math. III-C: Add and Subtract Mixed Numbers 	
			 solves routine and non-routine problems involving addition and/or subtraction of fractions using appropriate problem solving strategies and tools. 	M6NS-Ia- 87.3	 Lesson Guide in Elem. Math Gr. 6 p.232 BEAM LG Gr. 6 Module 8B MISOSA Module Gr.6 –Word Problems on Subtraction of Fractions Lesson Guide in Elementary Math Grade 6. 2005. pp. 219-221 Lesson Guide in Elementary Math Grade 6. 2010. pp. 232-237 Mathematics for Everyone Grade 5. 2000. pp. 96-97, 106- 109* Lesson Guide in Elem. 	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					Mathematics Grade 6. 2012. pp. 232-237 8. NFE Accreditation and Equivalency Learning Material. Addition and Subtraction of a Fraction. 1998. pp. 18-25	
			 creates problems (with reasonable answers) involving addition and/or subtraction of fractions. 	M6NS-Ia- 88.3		
			4. multiplies simple fractions and mixed fractions.	M6NS-Ib- 90.2	 Lesson Guide in Elem. Math Gr. 5 p.203, 209, Gr. 6 p. 237, 250 DLP Gr. 5 Module 24, 26, Gr. 6 Module 35 BEAM LG Gr. 5 Module 9, Gr. 6 Module 9 MISOSA Module Gr.5 and 6– Multiplication of Mixed Numbers and Fractions Lesson Guide in Elementary Math Grade 6. 2005. pp. 234-237 Mathematics for Everyday Use Grade 6. 1999. pp. 124-126* Mathematics for Everyone Grade 5. 2000. pp 118-119 Lesson Guide in Elem. Mathematics Grade 5. 	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					 2012. pp. 196-213 9. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 237-244, 250-253 10. BALS Video – Lesson 2: Multiplication and Division of Mixed Numbers 	
			5. solves routine or non-routine problems involving multiplication without or with addition or subtraction of fractions and mixed fractions using appropriate problem solving strategies and tools.	M6NS-Ib- 92.2	 Lesson Guide in Elem. Math Gr. 5 p.213, Gr. 6 p. 262 DLP Gr. 5 Module 27, 28, Gr. 6 Module 36, 37 BEAM LG Gr. 5 Module 9, Gr. 6 Module 9 MISOSA Module Gr.6 –Word Problems on Multiplication of Fractions Lesson Guide in Elementary Math Grade 6. 2005. pp. 242-249 Mathematics for Everyday Use Grade 6. 1999. pp. 126, 131- 133* Mathematics for Everyone Grade 5. 2000. pp. 120-121* Lesson Guide in Elem. Mathematics Grade 5. 	

CONTENT	CONTENTPERFORMANCESTANDARDSSTANDARDS	CODE	LEARNING	MATH		
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					2012. pp. 213-217 9. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 258-265	
			 creates problems (with reasonable answers) involving multiplication without or with addition or subtraction of fractions and mixed fractions. 	M6NS-Ib- 93.2		
			7. divides simple fractions and mixed fractions.	M6NS-Ic- 96.2	 Lesson Guide in Elem. Math Gr. 6 p.273, 277 BEAM LG Gr. 6 Module 10 MISOSA Module Gr.6 Division of Mixed Numbers Lesson Guide in Elementary Math Grade 6. 2005. pp. 260-265 Lesson Guide in Elementary Math Grade 6. 2010. pp. 273-282 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 270-282 BALS Video – Lesson 2: Multiplication and Division of Mixed Numbers 	

CONTENT	CONTENT PERFORMANCE STANDARDS STANDARDS LEARNING COMPETENCY	CODE	LEARNING	МАТН		
CONTENT	The learner	The learner	The learner		MATERIALS	EQUIPMENT
			 solves routine or non-routine problems involving division without or with any of the other operations of fractions and mixed fractions using appropriate problem solving strategies and tools. 	M6NS-Ic- 97.2	 Lesson Guide in Elem. Math Gr. 6 p.282, 286 DLP Gr. 6 Module 40, 41 BEAM LG Gr. 6 Module 10 Lesson Guide in Elementary Math Grade 6. 2005. pp. 266-273 Lesson Guide in Elementary Math Grade 6. 2010. pp. 282-289 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 282-289 	
			 creates problems (with reasonable answers) involving division without or with any of the other operations of fractions and mixed fractions. 	M6NS-Ic- 98.2		
			10. adds and subtracts decimals and mixed decimals through ten thousandths without or with regrouping.	M6NS-Id- 106.2	 Lesson Guide in Elem. Math Gr. 6 p.54, 56, 60, 62 DLP Gr. 6 Module 10, 11 BEAM LG Gr. 6 Module on Addition and Subtraction of Decimals MISOSA Modules Gr.5 –Addition and Subtraction of Mixed Decimals MISOSA Module Gr.6 	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					 Subtraction of Mixed Decimals Lesson Guide in Elementary Math Grade 6. 2005. pp. 53-61 Lesson Guide in Elementary Math Grade 6. 2010. pp. 54-65 Mathematics for Everyday Use Grade 6. 1999. pp. 159-168* Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 50-65 NFE Accreditation and Equivalency Learning Material. Pagdaragdag at Pagbabawas ng Desimal. 2001. pp. 19-21, 27-32 	
			11. solves 1 or more steps routine and non-routine problems involving addition and/or subtraction of decimals and mixed decimals using appropriate problem solving strategies and tools.	M6NS-Id- 108.2	 Lesson Guide in Elem. Math Gr. 6 p.68 DLP Gr. 6 Module 12, 17 BEAM LG Gr. 6 Module on Addition and Subtraction of Decimals MISOSA Module Gr.5 –Word problems on Addition and Subtraction of Decimals 	

CONTENT	CONTENT PEF STANDARDS ST	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	MATH EQUIPMENT
	The learner	The learner	The learner			
					 Lesson Guide in Elementary Math Grade 6. 2005. pp. 64-66 Lesson Guide in Elementary Math Grade 6. 2010. pp. 68-70 Mathematics for Everyday Use Grade 6. 1999. pp. 169-171* Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 68-70 NFE Accreditation and Equivalency Learning Material. Pagdaragdag at Pagbabawas ng Desimal. 2001. pp. 22-26 	
			12. creates problems (with reasonable answers) involving addition and/or subtraction of decimals and mixed decimals.	M6NS-Id- 109.2		
			13. multiplies decimals and mixed decimals with factors up to 2 decimal places.	M6NS-Ie- 111.3	 Lesson Guide in Elem. Math Gr. 5 p. 289, Gr. 6 p.73, 76, 80, 83 DLP Gr. 5 Module 37, 38, Gr. 6 Module 15 MISOSA Module Gr.5 and 6 –Multiplication of Mixed Decimals; Decimals through Hundredths Lesson Guide in Elementary Math 	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	MATH
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					Grade 6. 2005. pp.	
					75-78	
					5. Lesson Guide in	
					Elementary Math	
					Grade 6. 2010. pp.	
					80-80 6 Drodod Moth 26 Au	
					0. Ploueu Mauli. 30-A. Multiplying Decimals	
					7 Proded Math 36-B	
					Multiplying More	
					Decimals	
					8. Proded Math. 36-C:	
					Multiplying Mixed	
					Decimals	
					9. Lesson Guide in Elem.	
					Mathematics Grade 5.	
					2012. pp. 289-293	
					10. Lesson Guide in	
					Elem. Mathematics	
					Grade 6. 2012. pp.	
					73-76, 80-86	
					11. NFE Accreditation	
					and Equivalency	
					Learning Material.	
					Division of Decimals.	
					2001. pp. 4-16	

CONTENT CODE EQUIPMENT MATERIALS The learner... The learner... The learner... 1. Lesson Guide in Elem. Math Gr. 5 p. 293, Gr. 6 p.86 2. DLP Gr. 5 Module 40 3. BEAM LG Gr. 6 Module 4 4. MISOSA Modules Gr.5 -Multiplication of Decimals by 10 and 100, by 0.1, 0.01, and 0.001 5. Lesson Guide in Elementary Math 14. multiplies mentally decimals up M6NS-Ie-Grade 6. 2005. pp. to 2 decimals places by 0.1, 111.4 81-84 0.01,10, and 100. 6. Lesson Guide in Elementary Math Grade 6. 2010. pp. 86-89 7. Mathematics for Everyday Use Grade 6. 1999. pp. 178-180* 8. Lesson Guide in Elem. Mathematics Grade 5. 2012. pp. 293-297 9. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 86-89* 1. Lesson Guide in Elem. 15. solves routine and non-routine Math Gr. 5 p.301, Gr. 6 p.93 problems involving multiplication of decimals and M6NS-Ie-2. DLP Gr. 6 Module 41 mixed decimals including 113.2 3. BEAM LG Gr. 5

money using appropriate

problem solving strategies.

K to 12 BASIC EDUCATION CURRICULUM

LEARNING COMPETENCY

CONTENT

STANDARDS

PERFORMANCE

STANDARDS

Module 12

4. Lesson Guide in Elementary Math

LEARNING

MATH

CONTENT	CONTENT STANDARDS	F PERFORMANCE DS STANDARDS The learner	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	MATH EQUIPMENT
	The learner		The learner			
					Grade 6. 2005. pp. 88-91 5. Lesson Guide in Elementary Math Grade 6. 2010. pp. 93-96 6. Mathematics for Everyday Use Grade 6. 1999. pp. 181-182* 7. Lesson Guide in Elem. Mathematics Grade 5. 2012. pp. 301-305 8. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 93-96 9. NFE Accreditation and Equivalency Learning Material. Multiplication and Division of Decimals. 2001. pp. 17-21	
			16. solves multi-step problems involving multiplication and addition or subtraction of decimals, mixed decimals and whole numbers including money using appropriate problem solving strategies and tools.	M6NS-If- 113.3	 Lesson Guide in Elem. Math Gr. 6 p.96 Lesson Guide in Elementary Math Grade 6. 2005. pp. 91-94 Lesson Guide in Elementary Math Grade 6. 2010. pp. 96-100 Mathematics for Everyday Use Grade 6. 1999. pp. 182-185* Lesson Guide in Elem. Mathematics Grade 6. 	

PERFORMANCE CONTENT LEARNING COMPETENCY LEARNING MATH **STANDARDS STANDARDS** CONTENT CODE EQUIPMENT MATERIALS The learner... The learner... The learner... 2012. pp. 96-100 17. creates problems (with reasonable answers) involving multiplication without or with addition or subtraction of M6NS-If-114 decimals, mixed decimals and whole numbers including money. 1. Lesson Guide in Elem. Math Gr.5 p.310, Gr. 6 p.103, 105, 117 2. DLP Gr. 6 Module 19 3. BEAM LG Gr. 6 Module 5- Division of Decimals 4. MISOSA Module Gr.5 and 6 – Division of Decimals by Whole Numbers 5. Lesson Guide in Elementary Math 18. divides whole numbers by M6NS-Ig-Grade 6. 2005. pp. decimals up to 2 decimal places 116.3 97-103 and vice versa. 6. Lesson Guide in Elementary Math Grade 6. 2010. pp. 103-109; 117-121 7. Mathematics for Everyday Use Grade 6. 1999. pp. 186-187* 8. Lesson Guide in Elem. Mathematics Grade 5. 2012. pp. 310-314 9. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 103-109,

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODF	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					117-121	
			19. divides decimals/mixed decimals up to 2 decimal places.	M6NS-Ig- 116.4	 Lesson Guide in Elem. Math Gr. 6 p.121 DLP Gr. 6 Module 20 BEAM LG Gr. 6 Module 5- Division of Decimals Lesson Guide in Elementary Math Grade 6. 2005. pp. 115-118 Lesson Guide in Elementary Math Grade 6. 2010. pp. 125-127 Mathematics for Everyone Grade 5. 2000. pp. 162-163* Lesson Guide in Elem. Mathematics Grade 5. 2012. pp. 314-318 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 121-125 NFE Accreditation and Equivalency Learning Material. Multiplication and Division of Decimals. 2001. pp. 22-32 	
			20. divides decimals up to 4 decimal places by 0.1, 0.01, and 0.001.	M6NS-Ih- 116.5	 Lesson Guide in Elem. Math Gr. 6 p.127 BEAM LG Gr. 6 Module 5- Division of Decimals Lesson Guide in 	Base 10 Blocks

CONTENT	CONTENT STANDARDS	CONTENTPERFORMANCESTANDARDSSTANDARDS	CODE	LEARNING	MATH	
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					Elementary Math Grade 6. 2005. pp. 121-123 4. Lesson Guide in Elementary Math Grade 6. 2010. pp. 127-130 5. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 127-130	
			21. divides decimals up to 2 decimal places by 10, 100, and 1 000 mentally.	M6NS-Ih-118	 Lesson Guide in Elem. Math Gr. 6 p.125 BEAM LG Gr. 6 Module 5- Division of Decimals Lesson Guide in Elementary Math Grade 6. 2005. pp. 119-120 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 125-127 	
			22. differentiates terminating from repeating, non-terminating decimal quotients.	M6NS-Ii-119	 Lesson Guide in Elem. Math Gr. 6 p.111 MISOSA Module Gr.6 -Repeating and Terminating Decimals Lesson Guide in Elementary Math Grade 6. 2005. pp. 105-108 Lesson Guide in Elementary Math Grade 6. 2010. pp. 111-114 Lesson Guide in Elem. 	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	МАТН
001112111	The learner	The learner	The learner			EQUIPMENT
			23. solves routine and non-routine problems involving division of decimals, mixed decimals, and whole numbers including money using appropriate problem solving strategies and tools.	M6NS-Ii- 120.2	 Mathematics Grade 6. 2012. pp. 111-114 1. Lesson Guide in Elem. Math Gr. 5 p. 318, Gr. 6 p.130 2. DLP Gr. 6 Module 21 3. BEAM LG Gr. 6 Module 5- Division of Decimals 4. Lesson Guide in Elementary Math Grade 6. 2005. pp. 123-126 5. Lesson Guide in Elementary Math Grade 6. 2010. pp. 130-133 6. Mathematics for Everyday Use Grade 6. 1999. pp. 194-195* 7. Lesson Guide in Elem. Mathematics Grade 5. 2012. pp. 318-321 8. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 130-133 9. NFE Accreditation and Equivalency Learning Material. Multiplication and Division of Decimals. 2001. pp. 32-41 	
			24. solves multi-step routine and non-routine problems involving division and any of the other	M6NS-Ij- 120.3	 Lesson Guide in Liem. Math Gr. 6 p.133 Lesson Guide in 	
			operations of decimals, mixed		Elementary Math	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODF	LEARNING MATERIALS	MATH EQUIPMENT
CONTENT	The learner	The learner	The learner			
			decimals, and whole numbers including money using appropriate problem solving strategies and tools.		Grade 6. 2005. pp. 126-129 3. Lesson Guide in Elementary Math Grade 6. 2010. pp. 133-136 4. Mathematics for Everyday Use Grade 6. 1999. pp. 196-197* 5. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 133-136	
			25. creates problems (with reasonable answers) involving division without or with any of the other operations of decimals, mixed decimals and whole numbers including money.	M6NS-Ij- 121.2		
Grade 6- SECO	ND QUARTER	1				
Numbers and Number	demonstrates understanding of order	is able to apply knowledge of order of	26. expresses one value as a fraction of another given their ratio and vice versa.	M6NS-IIa- 129		
Selise	proportion, percent, exponents, and integers.	proportion, percent, exponents, and integers in mathematical problems and real-life situations.	27. finds how many times one value is as large as another given their ratio and vice versa.	M6NS-IIa- 130		
			28. defines and illustrates the meaning of ratio and proportion using concrete or pictorial models.	M6NS-IIb- 131		
			29. sets up proportions for groups of objects or numbers and for given situations.	M6NS-IIb- 132	1. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 289-293	

K to 12 Mathematics Curriculum Guide August 2016 Learning Materials are uploaded at <u>http://lrmds.deped.gov.ph/</u>.

Page **190** *of 257* ***These materials are in textbooks that have been delivered to schools.**

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
CONTENT	The learner	The learner	The learner		MATERIALS	EQUIPMENT
			30. finds a missing term in a proportion (direct, inverse, and partitive).	M6NS-IIb- 133	 Lesson Guide in Elem. Math Gr. 6 p.301, 304, 307 BEAM LG Gr. 6 Module 11 MISOSA Module Gr.6 –Word Problems on Direct, Partitive and Inverse Proportion Lesson Guide in Elementary Math Grade 6. 2005. pp. 280-283 Lesson Guide in Elementary Math Grade 6. 2010. pp. 301-310 Mathematics for Everyday Use Grade 6. 1999. pp. 146-150* Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 297-301 	
			31. solves problems involving direct proportion, partitive proportion, and inverse proportion in different contexts such as distance, rate, and time using appropriate strategies and tools.	M6NS-IIc- 134	 Lesson Guide in Elementary Math Grade 6. 2005. pp. 284-292 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 301-310 	
			32. creates problems involving ratio and proportion, with reasonable answers.	M6NS-IIc- 135		
			33. finds the percentage or rate or percent in a given problem.	M6NS-IId- 142	1. Lesson Guide in Elem. Math Gr. 6 p.316,	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
CONTENT	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					 320, 323 DLP Gr. 6 Module 47, 48, 49 MISOSA Module Gr.6 Finding the Percentage, Rate and Base Proded Math. 37-A: Finding Percentage Proded Math. 37-B: Finding Rate Proded Math. 37-C: Finding the Base Mathematics for Everyday Use Grade 1999. pp. 198-199, 202-203 Lesson Guide in Elem. Mathematics Grade 5. 2012. pp. 345-350 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 316-328 	
			34. solves routine and non-routine problems involving finding the percentage, rate and base using appropriate strategies and tools.	M6NS-IId- 143	 MISOSA Module Gr.6 Word Problems on Percentage Mathematics for Everyday Use Grade 6. 1999. p. 199, 203* 	
			35. solves percent problems such as percent of increase/decrease (discounts, original price, rate of discount, sale price, marked- up price), commission, sales tax, and simple interest.	M6NS-IIe- 144	 Lesson Guide in Elem. Math Gr. 6 p.332, 336, 340, 344 DLP Gr. 6 Module 50, 51, 52 BEAM LG Gr. 6 Module 17 	

CONTENT PERFORMANCE LEARNING COMPETENCY LEARNING MATH **STANDARDS STANDARDS** CONTENT CODE EQUIPMENT MATERIALS The learner... The learner... The learner... 4. Lesson Guide in Elementary Math Grade 6. 2005. pp. 313-324 5. Lesson Guide in Elementary Math Grade 6. 2010. pp. 332-347 6. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 332-347 7. NFE Accreditation and Equivalency Learning Material. Business Math. 2001. pp. 4-7, 23-30 8. NFE Accreditation and Equivalency Learning Material. Percentage, Ratio and Proportion. 1998. pp. 4-8, 14-21 9. BALS Video – Lesson 1: Solving Percentage Problems 36. creates problems involving M6NS-IIepercent, with reasonable 145 answers. 1. Lesson Guide in Elem. Math Gr. 6 p.6 2. DLP Gr. 6 Module 1 37. describes the exponent and the 3. MISOSA Module Gr.6 M6NS-IIfbase in a number expressed in -Exponents 146 exponential notation. 4. Lesson Guide in Elementary Math Grade 6. 2010. pp. 6-9

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	AFORMANCE LEARNING COMPETENCY CODE	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					5. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 6-9	
			38. gives the value of numbers expressed in exponential notation.	M6NS-IIf- 147	 Lesson Guide in Elem. Math Gr. 6 p.9 DLP Gr.4 Module 32 MISOSA Module Gr.6 –Expressions involving Exponents Lesson Guide in Elementary Math Grade 6. 2010. pp. 9- 12 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 9-12 	
			39. interprets and explains the Grouping, Exponent, Multiplication, Division, Addition, Subtraction (GEMDAS) rule.	M6NS-IIf- 148	DLP Gr. 6 Module 2	
			40. performs two or more different operations on whole numbers with or without exponents and grouping symbols.	M6NS-IIf- 149	 Lesson Guide in Elem. Math Gr. 6 p.13, 17, 21, 25, 28 BEAM LG Gr. 6 Module 1 – Order of Operations MISOSA Modules Gr.6 – Evaluating Expressions Lesson Guide in Elementary Math Grade 6. 2010. pp. 13-28 Lesson Guide in Elem. Mathematics Grade 6. 	

PERFORMANCE CONTENT LEARNING COMPETENCY LEARNING MATH **STANDARDS STANDARDS** CONTENT CODE EQUIPMENT MATERIALS The learner... The learner... The learner... 2012. pp. 13-28 41. identifies real-life situations that M6NS-IIgmake use of integers. 150 M6NS-IIg-42. describes the set of integers. 151 43. compares integers with other Lesson Guide in Elem. M6NS-IIg-Math Gr. 6. 2012. pp. numbers such as whole numbers, fractions, and 152 356-358 decimals. 1. Lesson Guide in Elem. Thermometer, Alcohol, -20°C to Math Gr. 6 p.353 2. Lesson Guide in 110°C Elementary Math 44. represents integers on the M6NS-IIh-Grade 6. 2010. pp. number line. 153 353-356 3. Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 353-356 1. Lesson Guide in Elem. Math Gr. 6 p.356, 358 2. DLP Gr. 6 Module 68, 69 3. BEAM LG Gr. 6 Module 18 -Expression and Integers 4. Lesson Guide in 45. compares and arranges M6NS-IIh-Elementary Math 154 integers. Grade 6. 2005. pp. 336-341 5. Lesson Guide in Elementary Math Grade 6. 2010. pp. 356-360 6. Lesson Guide in Elem. Mathematics Grade 6.

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					2012. pp. 358-360	
			46. describes and interprets the basic operations on integers using materials such as algebra tiles, counters, chips, and cards.	M6NS-IIh- 155		
			47. performs the basic operations on integers.	M6NS-IIi- 156		
			48. solves routine and non-routine problems involving basic operations of integers using appropriate strategies and tools.	M6NS-IIj- 157		
Grade 6- THIR	D QUARTER			1		
Geometry	demonstrates understanding of solid figures.	is able to construct and describe the different solid figures: cube, prism, pyramid, cylinder, cone, and sphere.	49. visualizes and describes the different solid figures: cube, prism, pyramid, cylinder, cone, and sphere.	M6GE-IIIa-27	 BEAM LG Gr. 6 Module 15 Mathematics for Everyone Grade 5. 2000. pp. 188-190* NFE Accreditation and Equivalency Learning Material. Geometric Shapes. 2001. pp. 19- 25 	
			50. differentiates solid figures from plane figures.	M6GE-IIIa-28		Blackboard Triangles Set (30° x 60° and 45° x 45°)
			51. illustrates the different solid figures using various concrete and pictorial models.	M6GE-IIIb-29		
			52. identifies the faces of a solid figure.	M6GE-IIIb-30	DLP Gr. 6 Module 54	
			53. visualizes and describes the different solid figures: cube, prism, pyramid, cylinder, cone, and sphere.	M6GE-IIIc-31		

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
			54. identifies the nets of the following space figures: cube, prism, pyramid, cylinder, cone, and sphere using plane figures.	M6GE-IIIc-32		
Patterns and Algebra	demonstrates understanding of sequence in forming rules, expressions and equations.	is able to apply knowledge of sequence, expressions, and equations in mathematical problems and real-life situations.	 55. formulates the rule in finding the <u>nth term</u> using different strategies (looking for a pattern, guessing and checking, working backwards) e.g. 4,7,13,16,n (the nth term is 3n+1) 	M6AL-IIId-7		
			56. differentiates expression from equation.	M6AL-IIId-15	 Lesson Guide in Elem. Math Gr. 6 p.1, 3 BEAM LG Gr. 6 Module 18 – Expression and Integers Lesson Guide in Elementary Math Grade 6. 2005. pp. 1- 3 Lesson Guide in Elementary Math Grade 6. 2010. pp. 1- 3 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 1-5 	
			57. gives the translation of real- life verbal expressions and equations into letters or symbols and vice versa.	M6AL-IIIe-16		

PERFORMANCE CONTENT LEARNING COMPETENCY LEARNING MATH **STANDARDS STANDARDS** CONTENT CODE EQUIPMENT MATERIALS The learner... The learner... The learner... 58. defines a variable in an algebraic expression and M6AL-IIIe-17 equation. 59. represents quantities in reallife situations using algebraic M6AL-IIIe-18 expressions and equations. 60. solves routine and non-routine DLP Gr. 6 Module 70, problems involving different 71 types of numerical expressions M6AL-IIIf-19 and equations such as 7+9 = + 6. 61. creates routine and nonroutine problems involving M6AL-IIIf-20 numerical expressions and equations. 1. NFE Accreditation and Measurement demonstrates is able to apply Equivalency Learning knowledge of speed, Material, Time, 2001. understanding of rate and speed, and of area, and surface area 62. calculates speed, distance, M6ME-IIIapp. 20-33 of plane and solid/space area and surface area 2. NFE Accreditation and and time. 17 of plane and figures in mathematical Equivalency Learning solid/space figures. problems and real-life Material. Oras. 2001. situations pp. 21-35 63. solves problems involving M6ME-IIIgaverage rate and speed. 18 1. Circle Area 64. finds the area of composite Demonstrator figures formed by any two or 2. Geoboard, 5 x M6ME-IIIhmore of the following: 89 5 triangle, square, rectangle, 3. Geoboard, 11 x circle, and semi-circle. 11 65. solves routine and non-routine problems involving area of M6ME-IIIhcomposite figures formed by 90 any two or more of the

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
			following: triangle, square, rectangle, circle, and semi- circle.			
			66. visualizes and describes surface area and names the unit of measure used for measuring the surface area of solid/space figures.	M6ME-IIIi-91	 Lesson Guide in Elem. Math Gr. 6 p.371 Lesson Guide in Elementary Math Grade 6. 2010. pp. 371-373 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 371-373 	 Meterstick, plastic Ruler, 12" or 30cm Tape Measure, 1.5 meter
			67. derives a formula for finding the surface area of cubes, prisms, pyramids, cylinders, cones, and spheres.	M6ME-IIIi-92	 Lesson Guide in Elem. Math Gr. 6 p.369, 381 DLP Gr. 6 Module 55 BEAM LG Gr. 6 Module 16 – Surface Area Lesson Guide in Elementary Math Grade 6. 2005. pp. 348-350 Lesson Guide in Elementary Math Grade 6. 2010. pp. 369-371; 381-384 	Sphere with 32 Movable Segments
			68. finds the surface area of cubes, prisms, pyramids, cylinders, cones, and spheres.	M6ME-IIIi-93	 BEAM LG Gr. 6 Module 16 – Surface Area MISOSA Module Gr.6 – Surface Area on Cube, Rectangular Prism, Pyramid and Cylinder 	

CONTENT	CONTENT STANDARDS	CONTENT PERFORMANCE STANDARDS STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	МАТН
	The learner	The learner	The learner			EQUIPMENT
			69. solves word problems involving measurement of surface area.	M6ME-IIIj-94	 DLP Gr. 6 Module 56 BEAM LG Gr. 6 Module 17 – Surface Area 	
Grade 6- FOUR	TH QUARTER					
Measurement	demonstrates understanding of volume of solid figures and meter reading.	is able to apply knowledge of volume of solid figures and meter reading in mathematical problems and real-life situations.	 70. determines the relationship of the volume between 70.1 a rectangular prism and a pyramid; 70.2 a cylinder and a cone; 70.3 and a cylinder and sphere. 	M6ME-IVa-95		Volume Demonstrator Set Includes the following: Cylinder and Cone Volume Comparing Tool, Quadrangular Volume Demonstrator
			71. derives the formula for finding the volume of cylinders, pyramids, cones, and spheres.	M6ME-IVa-96	 DLP Gr. 6 Module 58 BEAM LG Gr. 6 Module 18 – Volume Lesson Guide in Elementary Math Grade 6. 2005. pp. 373-381 	 Basic 3- Dimensional Models Sphere with 32 Movable Segments
			72. finds the volume of cylinders, pyramids, cones, and spheres.	M6ME-IVb-97	 Lesson Guide in Elem. Math Gr. 6 p.394, 398 BEAM LG Gr. 6 Module 18 – Volume MISOSA Module Gr.6 – Volume of Rectangular Prism, Pyramid and Cylinder Lesson Guide in Elementary Math Grade 6. 2010. pp. 394-402 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 394-402 	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
			73. solves routine and non-routine problems involving volumes of solids.	M6ME-IVc-98	 Lesson Guide in Elem. Math Gr. 6 p.402 DLP Gr. 6 Module 59 BEAM LG Gr. 6 Module 19 – Volume Lesson Guide in Elementary Math Grade 6. 2010. pp. 402-406 Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 402-406 	
			74. creates problems involving surface area and volume of solid/space figures, with reasonable answers.	M6ME-IVc-99		
			75. reads and interprets electric and water meter readings.	M6ME-IVd- 100	 Lesson Guide in Elem. Math Gr. 6 p.406, 409 DLP Gr. 6 Module 60, 61 BEAM LG Gr. 6 Module 20 – Meter Reading Lesson Guide in Elementary Math Grade 6. 2005. pp. 385-390 Lesson Guide in Elementary Math Grade 6. 2010. pp. 406-412 Mathematics for Everyday Use Grade 6. 1999. pp. 252-253* Lesson Guide in Elem. Mathematics Grade 6. 	 Manipulative Electricity Consumption Meter Model, blackboard Manipulative Water Consumption Meter Model, blackboard

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING	МАТН
	The learner	The learner	The learner		MATERIALS	EQUIPMENT
					 2012. pp. 406-412 8. NFE Accreditation and Equivalency Learning Material. Interpreting Electric Meters and Bills. 2001. pp. 5-18 9. BALS Video – Lesson 1: How to Read and Interpret the Electric Meter 	
			76. solves routine and non-routine problems involving electric and water consumption.	M6ME-IVd- 101	 Lesson Guide in Elem. Math Gr. 6 p.412, 415 DLP Gr. 6 Module 62 BEAM LG Gr. 6 Module 20 – Meter Reading Lesson Guide in Elementary Math Grade 6. 2005. pp. 391-397 Lesson Guide in Elementary Math Grade 6. 2010. pp. 412-418 Mathematics for Everyday Use Gr. 6. 1999. pp. 254-255* Lesson Guide in Elem. Mathematics Grade 6. 2012. pp. 412-418 NFE Accreditation and Equivalency Learning Material. Interpreting Electric Meters and Bills 2001 pp. 19-25 	

CONTENT	CONTENT STANDARDS	CONTENT PERFORMANCE STANDARDS STANDARDS	LEARNING COMPETENCY	EARNING COMPETENCY CODE learner	LEARNING MATERIALS	MATH EQUIPMENT
	The learner	The learner	The learner			
			77. creates problems involving electric and water consumption, with reasonable answers.	M6ME-IVd- 102		
Statistics and	demonstrates	is able to create and	is able to create and interpret 78. collects data on one or two variables using any source.	M6SP-IVe-1.6		
Probability	understanding of pie graphs and experimental probability.	Interpret representations of data (tables and pie graphs) and apply experimental probability in mathematical problems and real-life situations.	79. constructs a pie graph based on a given set of data.	M6SP-IVe-2.6	 Lesson Guide in Elem. Math Gr. 6 p.426 DLP Gr. 6 Module 65 BEAM LG Gr. 6 Module 21 - Circle Graphs MISOSA Module Gr.6 - Constructing Circle Graph Lesson Guide in Elementary Math Grade 6. 2005. pp. 404-408 Lesson Guide in Elementary Math Grade 6. 2010. pp. 426-430 Mathematics for Everyday Use Grade 6. 1999. pp. 268-272* 	
			80. interprets data presented in a pie graph.	M6SP-IVf-3.6	 Lesson Guide in Elem. Math Gr. 6 p.422 DLP Gr. 6 Module 64 BEAM LG Gr. 6 Module 21 – Circle Graphs MISOSA Module Gr.6 –Interpreting Circle Graph Lesson Guide in 	

PERFORMANCE CONTENT LEARNING COMPETENCY LEARNING MATH **STANDARDS STANDARDS** CONTENT CODE EQUIPMENT MATERIALS The learner... The learner... The learner... Elementary Math Grade 6. 2005. pp. 400-404 6. Lesson Guide in Elementary Math Grade 6. 2010. pp. 422-426 7. Mathematics for Everyday Use Grade 6. 1999. pp. 264-265* 1. Mathematics for 81. solves routine and non-routine Everyday Use Grade problems using data M6SP-IVf-4.6 6. 1999. pp. 265-267* presented in a pie graph. 82. creates problems that can be answered using information M6SP-IVg-6 presented in a pie graph. 83. describes the meaning of probability such as 50% M6SP-IVg-19 chance of rain and one in a million chance of winning. 84. quantifies the phrases "most likely to happen" and "unlikely M6SP-IVh-20 to happen". 1. Lesson Guide in Elem. Calculator, Scientific Math Gr. 6 p.349 2. BEAM LG Gr. 6 Module 17 – Prediction and 85. performs experiments and M6SP-IVh-21 Outcome records outcomes. 3. Lesson Guide in Elementary Math Grade 6. 2010. pp. 350-353

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	MATH EQUIPMENT
	The learner	The learner	The learner			
			86. makes listings and diagrams of outcomes and tells the number of favorable outcomes and chances using these listings and diagrams.	M6SP-IVi-22	1. BEAM LG Gr. 6 Module 17 – Prediction and Outcome	
			87. makes simple predictions of events based on the results of experiments.	M6SP-IVi-23	 Lesson Guide in Elem. Math Gr. 6 p.347 DLP Gr. 6 Module 67 BEAM LG Gr. 6 Module 17 – Prediction and Outcome Lesson Guide in Elementary Math Grade 6. 2005. pp. 328-330 Lesson Guide in Elementary Math Grade 6. 2010. pp. 347-349 	
			88. solves routine and non-routine problems involving experimental and theoretical probability.	M6SP-IVj-24		
			89. creates problems involving experimental and theoretical probability.	M6SP-IVj-25		

GLOSSARY

Accuracy	the quality of being correct and precise.
Applying	the skill of using concepts, procedures, algorithms and other mathematical constructs in practical situations and phenomena.
Communicating	the use of notations, symbols, figures, equations and functions to convey mathematical ideas.
Computing	the skill of calculating using correct algorithms, procedures and tools to arrive at a final exact result.
Conjecturing	the skill of formulating mathematical theories that still need to be proven.
Connecting	the skill of integrating mathematics to other school subjects and other areas in life.
Constructivism	the theory that knowledge is constructed when the learner is able to draw ideas from his/her own experiences and connects them to new ideas that are encountered.
Context	a locale, situation, or set of conditions of students that may influence their study and use of mathematics to develop critical thinking and problem solving skills.
Cooperative Learning	learning that is achieved by working with fellow learners as they all engage in a shared task.
Creativity	the skill of using available procedures in Mathematics and non-conventional methods to solve a problem and produce answers.
Critical Thinking	the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action (Scriven& Paul, 1987).
Decision-making	the skill of arriving at a choice or decision based on sound, logical procedures and mathematical analyses.
Discovery Learning	learning that is achieved by allowing students to discover new ideas using their experiences (Bruner, 1961).
Estimating	the skill of roughly calculating or judging a numerical value or quantity.
Experiential Learning	learning that occurs by making sense of direct everyday experiences (Kolb, 1984)
Inquiry-based Learning	learning that focuses on students asking questions and finding answers to their questions using their personal experiences.
Knowing and Understanding Mathematical Broklam	meaningful acquisition of concepts that include memorizing and recalling of facts and procedures
Solving	finding a solution to a problem that is unknown (Polya, 1945 & 1962).
Modeling	the use of functions and graphs to represent relationships between and among quantities in a phenomenon.
Objectivity	the quality of judging, evaluating and making decisions based on mathematical facts and results without being influenced by subjective conditions.

GLOSSARY

Perseverance	firmness in finishing a task despite difficulties and obstacles.
Productivity	the quality of pursuing an activity to arrive at a meaningful and useful result or product.
Proving	the skill of demonstrating the truth or falsity of a theory using reasoning and arguments.
Reasoning	the process of explaining using sound analyses, following the rules of logic.
Reflective Learning	learning that is facilitated by deep thinking.
Representing	the use of figures and shapes, variables, equations and functions to concretize and illustrate quantities and their relationships.
Situated Learning	learning in the same context in which concepts and theories are applied.
Solving	to find the answer to an algebraic or mathematical problem using any procedures and tools available.
Visualizing	using one's creativity and imagination to produce images, pictures and other means to represent and understand mathematical concepts (MATHTED & SEI, 2010).

Code Book Legend

Sample: M7AL-IIg-2

LEGEN	D	SAMPLE		DOMAIN/ COMPONENT	CODE
Eirct Entry	Learning Area and Strand/ Subject or Specialization	Mathematics	M7	Number Sense	NS
First Entry	Grade Level	Grade 7	M7	Geometry	GE
Uppercase Letter/s	Domain/Content/ Component/ Topic	Patterns and Algebra	AL		
			-	Patterns and Algebra	
Roman Numeral *Zero if no specific quarter	Quarter	Second Quarter	II		
Lowercase Letter/s *Put a hyphen (-) in between letters to indicate more than a specific week	Week	Week seven	g	Measurement	ME
			-		
Arabic Number	Competency	Solves problems involving algebraic expressions	2	2 Statistics and Probability	

REFERENCES

Akihiko Takahashi, Ted Watanabe, and Makoto Yoshida. *English Translation of the Japanese Mathematics Curricula in the course of Study,* (Madison: Global Education Resources L.L.C., 2008). <u>http://ncm.gu.se/media/kursplaner/andralander/Japanese COS2008Math.pdf</u>

- "Australian Math Curriculum," Australian Curriculum, Assessment and Reporting Authority, accessed May 23, 2013, <u>http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?layout=1&y=2&y=3&y=4&y=5&y=6&s=NA&s=MG&s=SP</u>
- Bureau of Elementary Education, 2002 Basic Education Curriculum, (Pasig City: Department of Education, 2002)
- Bureau of Secondary Education, Department of Education. *Basic Education Curriculum*. Pasig City, 2002.
- Bureau of Secondary Education, Department of Education Culture and Sports. Desired Learning Competencies New Secondary Education Curriculum Pasig City, 1991.
- Bureau of Secondary Education, Department of Education Culture and Sports. *Desired Learning Competencies Philippine Secondary Schools Learning Competencies*. Pasig City, 1998.
- Bureau of Secondary Education, Department of Education. Secondary Education Curriculum. Pasig City, 2010.
- California Department of Education, *California Common Core States Standard: Mathematics (Electronic Edition),* (California: Department of Education, 2013, 2014), http://www.cde.ca.gov/be/st/ss/documents/ccssmathstandardaug2013.pdf
- Ministry of Education Singapore, *Mathematics Syllabus Primary*, (Singapore: Ministry of Education, 2006). <u>https://www.moe.gov.sg/docs/default-source/document/education/syllabuses/sciences/files/2007-mathematics-%28primary%29-syllabus.pdf</u>
- South Africa Math Curriculum, *Curriculum and Policy Statement,* (South Africa: Department of Basic Education, 2011), <u>file:///C:/Users/BLimuaco/Downloads/CAPS%20IP%20%20MATHEMATICS%20GR%204-6%20web.pdf</u>