

Course Alignment to the Competencies for Elementary K-6 Teachers: Math																							
Course	Counting Cardinality	Operations and Algebraic Thinking			Numbers and Operations in Base Ten			Numbers and Operations Fractions		Ratios and Proportional Relationships		The Number Systems			Expressions and Equations		Measurement and Data			Geometry		Statistics and Probability	
	1.1	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	5.1	5.2	6.1	6.2	6.3	7.1	7.2	8.1	8.2	8.3	9.1	9.2	10.1	10.2
MATH 1003 Survey of Mathematics		X								X	X											X	X
MATH 1043 College Algebra				X											X	X		X	X				
MAED 2243 Fundamentals of Geometric Concepts																				X	X		
MAED 3552 Number Systems	X		X		X	X	X	X	X	X	X	X	X	X									
PHYS 1003 Elements of Physics																	X					X	X

ACEI = Association for Childhood Education International

ATS (InTASC) = Arkansas Teaching Standards (Interstate Teacher Assessment and Support Consortium)

CCSS-MATH = Common Core State Standards – Mathematics

Praxis II (5033) = Praxis II Elementary Education: Mathematics Subtest

# Competencies for Elementary K-6 Teachers: MATHEMATICS

In addition to the Arkansas Teacher Standards, the Elementary Education K-6 teacher will demonstrate knowledge and/or competencies in the following mathematics areas:

<b>1. Counting and Cardinality</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: CC.K Praxis II (5033): IA1	1.1 Understands pre-numeration concepts (e.g., informal counting, meaning of number, patterns)
<b>2. Operations and Algebraic Thinking</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: OA.1-5 Praxis II (5033): IA3, IA4, IB2	2.1 Understands four basic operations (i.e., addition, subtractions, multiplication, and division) and their properties (e.g., commutative, associative, distributive, order of operations)  2.2 Understands basic concepts of number theory (e.g., factors, multiples, place value, odd/even, prime/composite)  2.3 Understands how to solve problems, including word problems, using multiple strategies (e.g., modeling, estimation, algorithms) and assess the reasonableness of results
<b>3. Numbers and Operations in Base Ten</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: NBT.K-5 Praxis II (5033): IA2, IA3, IA4	3.1 Understands basic number systems (e.g., whole numbers, integers, rational numbers, fractions, decimals)  3.2 Understands four basic operations (i.e., addition, subtractions, multiplication, and division) and their properties (e.g., commutative, associative, distributive, order of operations)  3.3 Understands basic concepts of number theory (e.g., factors, multiples, place value, odd/even, prime/composite)
<b>4. Numbers and Operations – Fractions</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: NF.3-5 Praxis II (5033): IA2, IA3	4.1 Understands basic number systems (e.g., whole numbers, integers, rational numbers, fractions, decimals)  4.2 Understands four basic operations (i.e., addition, subtractions, multiplication, and division) and their properties (e.g., commutative, associative, distributive, order of operations)
<b>5. Ratios and Proportional Relationships</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: RP.6 Praxis II (5033): IA2, IB1	5.1 Understands basic number systems (e.g., whole numbers, integers, rational numbers, fractions, decimals)  5.2 Understands how to solve problems, including word problems, using multiple strategies (e.g., modeling, estimation, algorithms) and assess the reasonableness of results
<b>6. The Number Systems</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: NS.6 Praxis II (5033): IA2, IA3, IA4	6.1 Understands basic number systems (e.g., whole numbers, integers, rational numbers, fractions, decimals)  6.2 Understands four basic operations (i.e., addition, subtractions, multiplication, and division) and their properties (e.g., commutative, associative, distributive, order of operations)  6.3 Understands basic concepts of number theory (e.g., factors, multiples, place value, odd/even, prime/composite)

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<b>7. Expressions and Equations</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: EE.6 Praxis II (5033): IB3, IB7	7.1 Understands basic algebraic methods and representations (e.g., variables, expressions, ordered pairs, tables, graphs) 7.2 Understands equations and inequalities
<b>8. Measurement and Data</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: MD.K-5 Praxis II (5033): IIB1, IIB2, IIB4	8.1 Understands nonstandard, customary, and metric units of measurement (e.g., length, time, temperature, volume, mass) 8.2 Understands visual displays of quantitative data (e.g., picture graphs, bar graphs, pie charts, line plots) 8.3 Understands fundamental counting techniques (e.g., permutations, combinations, tree diagrams)
<b>9. Geometry</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: G.K-6 Praxis II (5033): IIA1, IIA2	9.1 Understands properties and attributes of two- or three-dimensional figures and their hierarchy of classification 9.2 Understands transformations (i.e., rotations, reflections, and translations), geometric models, and nets
<b>10. Statistics and Probability</b> ACEI: 2.3 ATS (InTASC): Standard 4 CCSS-MATH: SP.6 Praxis II (5033): IIB3, IIB5	10.1 Understands basic descriptive statistics (i.e., mean, median, mode, and range) 10.2 Understands simple probability and intuitive concepts of chance (e.g., flipping a coin, spinning a spinner, rolling a number cube)

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