Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
MATHEMATICS	X	X	X	X	X	X	X	X	1
I. FUNDAMENTALS OF THE DECIMAL SYSTEM	X	X	X	X	X	X	X	X	2
I.A. Can count to 10 by units	X	X	X	X	X	X	X	X	3
I.A.1. Table top number rods	X								4
I.A.2. Sandpaper numerals	X								5
I.A.3. Association of number rods to numerals	X								6
I.A.4. Spindle boxes	X								7
I.A.5. Cards and counters	X								8
I.A.6. Short bead stair	X								9
I.B. Can count from 11 to 19 by units	X	X	X	X	X	X	X	X	10
I.B.1. Bead bars and cards	X	X							11
I.B.2. Teen board and beads	X	X							12
I.C. Can count from 1 to 100 by units	X	X	X	X	X	X	X	X	13
I.C.1. Ten boards and beads	X	X							14
I.C.2. 100 chain	X	X							15

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
I.C.3. Hundred Board	I	X	X						16
I.D. Can count from 1 to 1,000:	X	X	X	X	X	X	X	X	17
I.C.1. Linear counting with bead chains	I	X	X						18
I.C.2. Linear counting with number rolls		I	X						19
I.C.3. Skip counting with bead chains and number rolls	X	X	X	X	X	X	X	X	20
I.C.3.a. 2's, 5's, and 10's		X	X						21
I.C.3.b. 3's, 4's, and 6's			X	X					22
I.C.3.c. 7's, 8's, and 9's			X	X					23
I.D. Numerical Place Value	X	X	X	X	X	X	X	X	24
I.D.1. Can recognize quantities up to 9,999	X	X	X	X	X	X	X	X	25
I.D.1.a. Golden Beads only	X	X	X						26
I.D.1.b. Number cards	X	X	X						27
I.D.1.c. Golden Beads and Number Cards	X	X	X						28
I.D.1.d. Exchanging Game	I	X	X						29
I.D.1.e. Stamp Game		X	X						30

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
I.D.1.f. Small Bead Frame		I	X						31
I.D.2. Can recognize quantities up to 9,999,999	X	X	X	X	X	X	X	X	32
I.D.2.a. Hierarchy of Decimal System material			I	X					33
I.D.2.b. Large Bead Frame			I	X					34
I.D.2.c. Golden Mat			I	X					35
I.D.2.d. Multiplication Checkerboard				I	X	X			36
I.D.2.e. Long Division Racks and Tubes				I	X	X			37
I.D.2.f. Flat Bead Frame					X	X			38
I.D.2.g. Pegboard					X	X			39
I.D.3. Can recognize quantities up to 999,999,999				I	X				40
I.D.4. Can recognize quantities up to 999,999,999,999					I	X			41
I.D.5. Can recognize quantities up to 999,999,999,999,999						I	X		42
II. OPERATIONS WITH WHOLE NUMBERS	X	X	X	X	X	X	X	X	43
II.A. THE PROCESS OF ADDITION	X	X	X	X	X	X	X	X	44
II.A.1. Addition of two 4 digit addends without exchanging	X	X	X	X	X	X	X	X	45

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.A.1.a. Golden Beads	X	X							46
II.A.1.b. Stamp Game			X						47
II.A.1.c. Dot Board			X						48
II.A.1.d. Golden Mat			X	X					49
II.A.1.e. Small Bead Frame		I	X	X					50
II.A.2. Addition of two 4 digit addends with exchanging	X	X	X	X	X	X	X	X	51
II.A.2.a. Golden Beads	I	X							52
II.A.2.b. Stamp Game	I	X	X						53
II.A.2.c. Dot Board		I	X						54
II.A.2.d. Golden Mat			X	X					55
II.A.2.e. Small Bead Frame			X	X					56
II.A.3. Addition of multiple addends	X	X	X	X	X	X	X	X	57
II.A.3.a. Golden Beads	X	X	X						58
II.A.3.b. Stamp Game		X	X	X					59
II.A.3.c. Dot Board			X	X					60

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.A.3.d. Golden Mat			X	X					61
II.A.3.e. Small Bead Frame			X	X					62
II.A.4. Addition of two 7-digit addends without exchanging	X	X	X	X	X	X	X	X	63
II.A.4.a. Large Bead Frame			I	X					64
II.A.4.b. Long Division Racks and Tubes			I	X					65
II.A.4.c. Golden Mat			I	X					66
II.A.5. Addition of two 7-digit addends with exchanging	X	X	X	X	X	X	X	X	67
II.A.5.a. Large Bead Frame			I	X					68
II.A.5.b. Long Division Racks and Tubes			I	X					69
II.A.5.c. Golden Mat			I	X					70
II.A.6. Addition: Exercises leading to the memorization of addition facts	X	X	X	X	X	X	X	X	71
II.A.6.a. Basic addition facts: Two addends between 1-10	X	X	X	X	X	X	X	X	72
II.A.6.a1. Addition Snake Game	I	X	X						73
II.A.6.a2. Bead Bars	I	X	X						74
II.A.6.a3. Addition Strip Board	I	X	X						75

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.A.6.a4. Addition Charts		X	X						76
II.A.6.b. Associative and Commutative Properties of Addition	X	X	X	X	X	X	X	X	77
II.A.6.b1. Bead Bars		I	X	X					78
II.A.6.b2. Flash Card Sets			X	X					79
II.A.6.c. Missing addends c1. Bead Bars			X	X					80
II.A.6.c2. Flash Card Sets			X	X					81
II.A.7. Addition: The Passage to Abstraction	X	X	X	X	X	X	X	X	82
II.A.7.a. Two Addends up to 9,999				X	X				83
II.A.7.b. Multiple addends up to 9,999,999				X	X				84
II.B. THE PROCESS OF SUBTRACTION	X	X	X	X	X	X	X	X	85
II.B.1. Subtraction of two 4 digit numbers without exchanging	X	X	X	X	X	X	X	X	86
II.B.1.a. Golden Beads	X	X							87
II.B.1.b. Stamp Game		X	X						88
II.B.1.c. Golden Mat			X						89
II.B.1.d. Small Bead Frame			X	X					90

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.B.2. Subtraction of two 4 digit numbers with exchanging	X	X	X	X	X	X	X	X	91
II.B.2.a. Golden Beads	I	X							92
II.B.2.b. Stamp Game		I	X						93
II.B.2.c. Golden Mat			X	X					94
II.B.2.d. Small Bead Frame			X	X					95
II.B.3. Subtraction of two 7-digit numbers without exchanging	X	X	X	X	X	X	X	X	96
II.B.3.a. Large Bead Frames			X	X					97
II.B.4. Subtraction of two 7-digit numbers with exchanging	X	X	X	X	X	X	X	X	98
II.B.4.a. Large Bead Frames			X	X					99
II.B.5. Subtraction: Activities Leading To The Memorization of Subtraction Facts	X	X	X	X	X	X	X	X	100
II.B.5.a. Basic subtraction facts: Relationships between the numbers 1-18	X	X	X	X	X	X	X	X	101
II.B.5.a1. Subtraction Strip Board		I	X						102
II.B.5.a2. Subtraction Charts		I	X						103
II.B.5.a3. Flash Cards		I	X						104
II.B.5.a4. Negative Snake Game			I	X					105

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.B.5.b. Missing Factors	X	X	X	X	X	X	X	X	106
II.B.5.b1. Bead Bars			X	X					107
II.B.5.b2. Flash Cards			X	X					108
II.B.6. Subtraction: The Passage To Abstraction	X	X	X	X	X	X	X	X	109
II.B.6.a. Numbers up to 4 digits				X	X				110
II.B.6.b. Numbers up to 7 digits				X	X				111
II.C. MULTIPLICATION	X	X	X	X	X	X	X	X	112
II.C.1. The Process of Multiplication	X	X	X	X	X	X	X	X	113
II.C.1.a. Multiplication of a 4 digit number by a 1 digit multiplier	X	X	X	X	X	X	X	X	114
II.C.1.a1. Golden Beads	X	X							115
II.C.1.a2. Stamp Game		X	X	X					116
II.C.1.a3. Golden Mat				X					117
II.C.1.a4. Small Bead Frame				X					118
II.C.1.b. Multiplication of a 7 digit number by a 1 digit multiplier	X	X	X	X	X	X	X	X	119
II.C.1.b1. Golden Mat				X	X				120

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.C.1.b2. Large Bead Frame				X	X				121
II.C.1.b3. Multiplication Checkerboard				I	X				122
II.C.1.b4. Flat Bead Frame				I	X				123
II.C.1.c. Multiplication of a 7 digit number by a 2 digit multiplier	X	X	X	X	X	X	X	X	124
II.C.1.c1. Golden Mat					X				125
II.C.1.c2. Large Bead Frame					X				126
II.C.1.c3. Multiplication Checkerboard					X	X			127
II.C.1.c4. Flat Bead Frame					X	X			128
II.C.1.c5. Junior Bank Game					X	X			129
II.C.2. Multiplication: Activities Leading To The Memorization of Multiplication Facts	X	X	X	X	X	X	X	X	130
II.C.2.a. Basic multiplication facts: Tables 1-10	X	X	X	X	X	X	X	X	131
II.C.2.a1. Bead Chains		I	X	X	X				132
II.C.2.a2. Bead Bars		I	X	X	X				133
II.C.2.a3. Multiplication Charts			I	X	X				134
II.C.2.a4. Flash Cards			I	X	X				135

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.C.2.a5. Deconomial			I	X	X				136
II.C.2.b. Multiplication: Missing Factors	X	X	X	X	X	X	X	X	137
II.C.2.b1. Bead Bars					X	X			138
II.C.2.b2. Card Sets					X	X			139
II.C.3. Multiplication: The Passage to Abstraction	X	X	X	X	X	X	X	X	140
II.C.3.a. Multiplying numbers up to 4 digits by 1 digit					X	X			141
II.C.3.b. Multiplying numbers up to 7 digits by 1 digit					X	X			142
II.C.3.c. Multiplying numbers up to 7 digits by 2 digits						X	X		143
II.D. DIVISION	X	X	X	X	X	X	X	X	144
II.D.1. The Process of Division	X	X	X	X	X	X	X	X	145
II.D.1.a. Division of a 4 digit number by 1 digit divisor with no remainder a1. Golden Beads		I	X						146
II.D.1.a2. Stamp Game			X	X					147
II.D.1.a3. Golden Mat					X				148
II.D.1.a4. Long Division Racks And Tubes				X	X				149
II.D.1.b. Division of a 4 digit number by 1 digit divisor with a remainder	X	X	X	X	X	X	X	X	150

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.D.1.b1. Golden Beads		I							151
II.D.1.b2. Stamp Game		I	X	X					152
II.D.1.b3. Golden Mat				X	X				153
II.D.1.b4. Long Division Racks And Tubes				X	X				154
II.D.1.c. Division of a 7 digit number by 1 digit divisor with or without a remainder	X	X	X	X	X	X	X	X	155
II.D.1.c1. Golden Mat				X	X				156
II.D.1.c2. Long Division Racks And Tubes				X	X				157
II.D.1.d. Division of a 7 digit number by a 2-digit divisor with or without a remainder d1. Long Division				I	X	X			158
II.D.1.e. Division of a 7 digit number by a 3 or 4-digit divisor with or without a remainder	X	X	X	X	X	X	X	X	159
II.D.1.e1. Long Division Racks And Tubes					X	X	X		160
II.D.2. Division: Exercises Leading To The Memorization of Division Facts	X	X	X	X	X	X	X	X	161
II.D.2.a. Basic division facts: Divisors 1-9	X	X	X	X	X	X	X	X	162
II.D.2.a1. Units Division Board				X	X				163
II.D.2.b. Basic division facts for divisor of 10					X	X	X		164
II.D.2.c. Missing Factors						X	X		165

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
II.D.3. Division: The Passage To Abstraction	X	X	X	X	X	X	X	X	166
II.D.3.a. Numbers up to 4 digits divided by a 1-digit divisor with no remainder				I	X	X			167
II.D.3.b. Numbers up to 4 digits divided by a 1-digit divisor with a remainder				I	X	X			168
II.D.3.c. Numbers up to 7 digits divided by a 1-digit divisor with or without a remainder				I	X	X			169
II.D.3.d. Numbers up to 7 digits divided by a 2-digit divisor with or without a remainder					I	X	X		170
II.D.3.e. Numbers up to 7 digits divided by a 3 or 4-digit divisor with or without a remainder					I	X	X		171
III. FACTORS	X	X	X	X	X	X	X	X	172
III.A. Multiples	X	X	X	X	X	X	X	X	173
III.A.1. Pegboard				X		X			174
III.B. Lowest Common Multiple	X	X	X	X	X	X	X	X	175
III.B.1. Bead Chains				X		X			176
III.C. Factoring numbers from 1 to 50					X	X			177
III.D. Can identify the prime numbers from 1 to 50					X	X			178
III.E. Knows the rules of divisibility for 2's, 5's, 10's, and 9's					X	X	X		179
IV. FRACTIONS	X	X	X	X	X	X	X	X	180

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Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
IV.A. Introduction To Fractions	X	X	X	X	X	X	X	X	181
IV.A.1. Recognition of fractions: concrete material & symbol	X	X	X	X	X	X	X	X	182
IV.A.1.a. Fraction Skittles		I	X	X					183
IV.A.1.b. Fraction Circles		I	X	X	X				184
IV.A.2. Equivalences	X	X	X	X	X	X	X	X	185
IV.A.2.a. Fraction Circles			X	X	X				186
IV.A.2.b. Fraction Circle Box				X	X				187
IV.A.2.c. Fraction Charts				X	X				188
IV.B. Operations With Fractions	X	X	X	X	X	X	X	X	189
IV.B.1. Addition of fractions that share a common denominator	X	X	X	X	X	X	X	X	190
IV.B.1.a. Fraction Circles			X	X					191
IV.B.1.b. Fraction Circle Box				X	X	X			192
IV.B.1.c. Fraction Charts				X	X	X			193
IV.B.2. Subtraction of fractions that share a common denominator	X	X	X	X	X	X	X	X	194
IV.B.2.a. Fraction Circles				X	X	X			195

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Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
IV.B.2.b. Fraction Circle Box				X	X	X			196
IV.B.2.c. Fraction Charts				X	X	X			197
IV.B.3. Multiplication of a whole number by a simple fraction	X	X	X	X	X	X	X	X	198
IV.B.3.a. Fraction Circles					X	X	X		199
IV.B.3.b. Fraction Circle Box					X	X	X		200
IV.B.3.c. Fraction Charts					X	X	X		201
IV.B.4. Division of a fraction by a whole number	X	X	X	X	X	X	X	X	202
IV.B.4.a. Fraction Circles					I	X	X		203
IV.B.4.b. Fraction Circle Box					I	X	X		204
IV.B.4.c. Fraction Charts					I	X	X		205
IV.B.5. Addition of fractions that have different denominators	X	X	X	X	X	X	X	X	206
IV.B.5.a. Fraction Circles						I	X	X	207
IV.B.5.b. Fraction Circle Box						I	X	X	208
IV.B.5.c. Fraction Charts						I	X	X	209
IV.B.6. Subtraction of fractions that have different denominators	X	X	X	X	X	X	X	X	210

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Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
IV.B.6.a. Fraction Circles						I	X	X	211
IV.B.6.b. Fraction Circle Box						I	X	X	212
IV.B.6.c. Fraction Charts						I	X	X	213
IV.B.7. Multiplication of a fraction by a fraction	X	X	X	X	X	X	X	X	214
IV.B.7.a. Fraction Circles						I	X	X	215
IV.B.7.b. Fraction Circle Box						I	X	X	216
IV.B.7.c. Fraction Charts						I	X	X	217
IV.B.8. Division of fractions by fractions	X	X	X	X	X	X	X	X	218
IV.B.8.a. Fraction Circles						I	X	X	219
IV.B.8.b. Fraction Circle Box						I	X	X	220
IV.B.8.c. Fraction Charts						I	X	X	221
IV.C. Improper Fractions: Mixed Numbers	X	X	X	X	X	X	X	X	222
IV.C.1. Simplification of improper fractions.as whole numbers: $12/6 = 2$	X	X	X	X	X	X	X	X	223
IV.C.1.a. Fraction Circle Box						I	X	X	224
IV.C.2. Simplification of improper fractions as mixed numbers: $15/6 = 2\ 1/2$	X	X	X	X	X	X	X	X	225

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Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
IV.C.2.a. Fraction Circle Box						I	X	X	226
IV.C.3. Addition of mixed numbers	X	X	X	X	X	X	X	X	227
IV.C.3.a. Fraction Circle Box						I	X	X	228
IV.C.4. Subtraction of mixed numbers	X	X	X	X	X	X	X	X	229
IV.C.4.a. Fraction Circle Box						I	X	X	230
IV.C.5. Multiplication of mixed numbers	X	X	X	X	X	X	X	X	231
IV.C.5.a. Fraction Circle Box						I	X	X	232
IV.C.6. Division of mixed numbers	X	X	X	X	X	X	X	X	233
IV.C.6.a. Fraction Circle Box						I	X	X	234
IV.C.7. In long division, can express the remainder as a fraction						I	X	X	235
IV.D. Can count by fractions to 100 by: 1/2's 1/3's 1/4's 1/5's 1/6's 1/7's 1/8's 1/9's 1/10ths	X	X	X	X	X	X	X	X	236
IV.D.1. Number lines					I	X			237
V. DECIMAL FRACTIONS	X	X	X	X	X	X	X	X	238
V.A. Introduction to Decimal Fractions	X	X	X	X	X	X	X	X	239
V.A.1. Nomenclature and Recognition of Decimal Fractions to .9999	X	X	X	X	X	X	X	X	240

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Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
V.A.1.a. Decimal Fraction Board						I	X	X	241
V.A.2. Equivalences to regular fractions: 1/2 to 1/10	X	X	X	X	X	X	X	X	242
V.A.2.a. Fraction Circles						I	X	X	243
V.A.2.b. Decimal Fraction Board						I	X	X	244
V.A.2.3. Equivalences to any other regular fractions						I	X	X	245
V.B. Operations With Decimal Fractions	X	X	X	X	X	X	X	X	246
V.B.1. Addition of Decimal Fractions	X	X	X	X	X	X	X	X	247
V.B.1.a. Decimal Fraction Board						I	X	X	248
V.B.2. Subtraction of Decimal Fractions	X	X	X	X	X	X	X	X	249
V.B.2.a. Decimal Fraction Board						I	X	X	250
V.B.3. Multiplication of Decimal Fractions	X	X	X	X	X	X	X	X	251
V.B.3.a. Decimal Fraction Board							X	X	252
V.B.4. Division of Decimal Fractions	X	X	X	X	X	X	X	X	253
V.B.4.a. Decimal Fraction Board							X	X	254
V.B.5. Nomenclature and Recognition of Decimal Fractions to .999999						I	X	X	255

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Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
V.C. Conversion of fractions (less than 1) to percent equivalents							X	X	256
V.D. Conversion of percents (less than 1) to fraction equivalents							X	X	257
	X	X	X	X	X	X	X	X	258
VI. ROUNDING OFF NUMBERS	X	X	X	X	X	X	X	X	259
VI.A. Can round whole numbers off to the nearest unit of tens, hundreds, or thousands				I	X	X			260
VI.B. Can round mixed numbers off to the nearest whole number					I	X			261
VI.C. Can round mixed numbers off to the nearest unit of tenths, hundredths, or thousandths						X			262
VI.D. Can accurately estimate sums or differences, using sums up to 3 digits						X	X	X	263
VI.E. Can estimate sums, differences, products, or quotients, using very large sums or very small								X	264
VII. PRACTICAL APPLICATIONS OF MATHEMATICS	X	X	X	X	X	X	X	X	265
VII.A. Solving Word Problems	X	X	X	X	X	X	X	X	266
VII.A.1. Addition			X	X	X	X			267
VII.A.2. Subtraction			X	X	X	X			268
VII.A.3. Multiplication				X	X	X	X		269
VII.A.4. Division				X	X	X	X		270

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
VII.A.5. Two operations in the same problem: addition and subtraction				X	X	X	X		271
VII.A.6. Two operations in the same problem: addition, subtraction, multiplication, or division						X	X	X	272
VII.B. Money	X	X	X	X	X	X	X	X	273
VII.B.1. Can identify units of currency	X	X	X	X	X	X	X	X	274
VII.B.1.a. Coins	I	X	X	X					275
VII.B.1.b. Bills		I	X	X					276
VII.B.2. Can count money			X	X					277
VII.B.3. Can make change				X		X			278
VII.B.4. Can calculate simple interest on a loan or earned on savings							I	X	279
VII.B.5. Can convert American money into a given foreign currency, and vice versa							I	X	280
VII.C. Measurement of the physical properties of matter	X	X	X	X	X	X	X	X	281
VII.C.1. Length	X	X	X	X	X	X	X	X	282
VII.C.1.a. Nomenclature	X	X	X	X	X	X	X	X	283
VII.C.1.a2. Metric			X	X					284
VII.C.1.b. Measurement	X	X	X	X	X	X	X	X	285

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
VII.C.1.b1. Using a ruler		I	X	X					286
VII.C.1.b2. Using a yardstick/meterstick		I	X	X					287
VII.C.1.b3. Using a trundle wheel				X		X			288
VII.C.1.c. Can solve word problems involving the measurement of length					I	X			289
VII.C.1.d. Can use a conversion table to determine English/Metric equivalent lengths						X	X		290
VII.C.2. Weight	X	X	X	X	X	X	X	X	291
VII.C.2.a. Nomenclature	X	X	X	X	X	X	X	X	292
VII.C.2.a1. English				X	X				293
VII.C.2.b. Measurement	X	X	X	X	X	X	X	X	294
VII.C.2.b1. Using a balance scale		I	X	X	X	X			295
VII.C.2.b2. Using a bathroom scale		I		X	X	X			296
VII.C.2.c. Can solve word problems involving the measurement of weight					I	X			297
VII.C.2.d. Can use a conversion table to determine English/Metric equivalent weights						X	X		298
VII.C.3. Volume	X	X	X	X	X	X	X	X	299
VII.C.3.a. Nomenclature	X	X	X	X	X	X	X	X	300

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
VII.C.3.a1. English					X	X	X		301
VII.C.3.a2. Metric					X	X	X		302
VII.C.3.b. Measurement	X	X	X	X	X	X	X	X	303
VII.C.3.b1. Appropriate containers				X	X	X			304
VII.C.3.c. Can solve word problems involving the measurement of volume							I	X	305
VII.C.3.d. Practical Applications: Cooking, science, etc.				I	X	X	X	X	306
VII.C.3.e. Can use a conversion table to determine English/Metric volume equivalents								X	307
VII.C.4. Temperature	X	X	X	X	X	X	X	X	308
VII.C.4.a. Nomenclature	X	X	X	X	X	X	X	X	309
VII.C.4.a1. Fahrenheit		I	X	X	X	X			310
VII.C.4.a2. Centigrade			I	X	X	X			311
VII.C.4.b. Measurement	X	X	X	X	X	X	X	X	312
VII.C.4.b1. Thermometers		I	X	X	X	X			313
VII.C.4.c. Can solve word problems involving the measurement of temperature					I	X			314
VII.C.4.d. Can use a conversion table to determine Fahrenheit/centigrade equivalent temperature								X	315

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
VII.C.4.e. Practical Applications:				I	X	X	X	X	316
VII.D. Graphs	X	X	X	X	X	X	X	X	317
VII.E.1. Can read graphs and make inferences from the information graphically displayed	X	X	X	X	X	X	X	X	318
VII.E.1.a. Picture graphs		I	X	X	X				319
VII.E.1.b. Circle graphs			I	X	X	X	X	X	320
VII.E.1.c. Bar graphs		I	X	X	X	X	X	X	321
VII.E.1.d. Line graphs				I	X	X	X	X	322
VII.E.1.e. Scatter distributions						I	X	X	323
VII.E.2. Can prepare graphs from gathered data:	X	X	X	X	X	X	X	X	324
VII.E.2.a. Picture graphs			I	X	X				325
VII.E.2.b. Circle graphs using fractions				I	X	X	X	X	326
VII.E.2.c. Bar graphs			I	X	X	X	X	X	327
VII.E.2.d. Line graphs				I	X	X	X	X	328
VII.E.2.e. Scatter distributions						I	X	X	329
VII.E.2.f. Graphs for two variables						I	X	X	330

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
VII.E.2.g. Circle graphs using percents						I	X	X	331
VII.E.2.h. Redraw a graph, using a different scale						I	X	X	332
VII.E.3. Tabulates data into a table						I	X	X	333
VII.E.4. Coordinate graphs	X	X	X	X	X	X	X	X	334
VII.E.4.a. Can show location on a 2-axis grid as blocks over or up from one axis						I	X		335
VII.E.4.b. Can identify the location of a given ordered pair on a grid							X		336
VII.E.4.c. Given a location on a grid, can identify the ordered pair							X		337
VII.E.4.d. Can locate points for given coordinates and name the coordinates of a given point in any of the four						I	X		338
VII.E.4.e. Given a sum, can graph on a grid all of the possible ordered pairs of addends							X		339
VII.E.5. Introduction to statistics	X	X	X	X	X	X	X	X	340
VII.E.5.a. Can determine the 'average' for given data							X	X	341
VII.E.5.b. Can determine the 'mean' for given data, and identify it on a graph							X	X	342
VII.E.5.c. Can determine the 'median' for given data, and identify it on a distribution table							X	X	343
VII.E.5.d. Can construct a frequency table							I	X	344
VIII. INEQUALITIES	X	X	X	X	X	X	X	X	345

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
VIII.A. Is familiar with the relationships between simple quantities and sets and their symbols	X	X	X	X	X	X	X	X	346
VIII.A.1. "Greater Than ..." (>)			I	X		X			347
VIII.A.2. "Less Than ..."			I	X		X			348
VIII.A.3. "Equal To.."		I	X	X		X			349
VIII.B. Is familiar with the relationships between quantities involving multiple operations (3 x 4 > 2 + 3)	X	X	X	X	X	X	X	X	350
VIII.B.1. "Greater Than ..." (>)			I	X		X			351
VIII.B.2. "Less Than ..."			I	X		X			352
VIII.B.3. "Equal To.."			I	X		X			353
IX. Ratios and percents	X	X	X	X	X	X	X	X	354
IX.A. Can write the ratio of two quantities as a fracti on						I	X	X	355
IX.B. Can solve for a missing term in a proportion						I	X	X	356
IX.C. Can write a ratio with a denominator of 100 as a percent (%) and a percent as a ratio with a denominator						I	X	X	357
IX.D. Can write a decimal (less than 1) as a percent and a percent (less than 100%) as a decimal						I	X	X	358
IX.E. Can write a percent as a fraction in simplest form and a common fraction as a percent						I	X	X	359
IX.F. Can find a percent (greater than 1% but less than 100%) of a given number						I	X	X	360

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
IX.G. Can find a percent (less than 1% or greater than 100%) of a given number						I	X	X	361
IX.H. Can write a decimal (greater than 1) as a percent and a percent (greater than 100%) as a decimal						I	X	X	362
IX.I. Can use a proportion to determine the percent one number is greater than another number						I	X	X	363
IX.J. Can use a proportion to determine the number of which a given number is a percent						I	X	X	364
X. Negative numbers	X	X	X	X	X	X	X	X	365
X.A. Can count from -20 to +20						I	X	X	366
X.B. Can order positive and negative numbers						I	X	X	367
X.C. Can name additive inverses for positive and negative numbers						I	X	X	368
X.D. Can name equivalent forms for positive and negative numbers						I	X	X	369
X.E. Can add and subtract positive and negative numbers						I	X	X	370
X.F. Can multiply positive and negative numbers						I	X	X	371
X.G. Can name reciprocals for positive and negative numbers						I	X	X	372
X.H. Can divide positive and negative numbers						I	X	X	373
X.I. Can simplify expressions using two or more operations and positive and negative numbers						I	X	X	374
XI. ADDITIONAL TOPICS	X	X	X	X	X	X	X	X	375

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
XI.A. Can recognize irrational numbers such as 2 and							I	X	376
XI.B. Can count accurately in Base 2, Base 3, Base 4, Base 5, Base 6, Base 7							I	X	377
XI.C. Can identify the prime numbers from 1 to 50							I	X	378
XII. PRE-ALGEBRA	X	X	X	X	X	X	X	X	379
XII.A. Equations	X	X	X	X	X	X	X	X	380
XII.A.1. Can Solve equations and inequalities containing positive and negative numbers and one						I	X	X	381
XII.A.2. Can solve equations and inequalities containing positive and negative	X	X	X	X	X	X	X	X	382
XII.A.numbers and one variable by multiplication						I	X	X	383
XII.A.3. Can solve equations and inequalities containing positive and negative numbers and one						I	X	X	384
XII.A.4. Apply the fundamental operations to solve open sentences and word problems using real numbers						I	X	X	385
XII.B. POWERS OF NUMBERS	X	X	X	X	X	X	X	X	386
XII.B.1. Can name the squares of the numbers 1-10	X	X	X	X	X	X	X	X	387
XII.B.1.a. Bead Bars			I	X	X	X	X		388
XII.B.1.b. Bead Cabinet			I	X	X	X	X		389
XII.B.2. Can name the cubes of the numbers 1-10	X	X	X	X	X	X	X	X	390

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
XII.B.2.a. Bead Bars			I	X	X	X	X		391
XII.B.2.b. Bead Cabinet			I	X	X	X	X		392
XII.B.3. Can calculate the square of a binomial					I	X	X	X	393
XII.B.4. Can calculate the square of a trinomial					I	X	X	X	394
XII.B.5. Can calculate the cube of a binomial						I	X	X	395
XII.B.6. Can calculate the cube of a trinomial						I	X	X	396
XII.B.7. Can calculate square roots					I	X	X	X	397
XII.B.8. Can calculate the square roots of binomials					I	X	X	X	398
XII.B.9. Can calculate the square roots of trinomials						I	X	X	399
XII.B.10. Can calculate cube roots							I	X	400
XII.B.11. Can calculate the cube roots of binomials							I	X	401
XII.B.12. Can calculate the cube roots of trinomials							I	X	402
XII.B.13. Understands and can calculate exponents	X	X	X	X	X	X	X	X	403
XII.B.13.a. Exponential notation 101 through 106						I	X	X	404
XII.B.13.b. Exponential notation 10-1 through 10-6						I	X	X	405

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
XII.B.13.c. Exponential notation 10^0 through 10^6						I	X	X	406
XII.B.13.d. Exponential notation 10^7 through 10^{12}						I	X	X	407
XII.B.13.e. Exponential notation 10^{-1} through 10^{-6}						I	X	X	408
XII.C. Scientific notation	X	X	X	X	X	X	X	X	409
XII.C.1. Can convert large whole numbers to scientific notation						I	X	X	410
XII.C.2. Can convert very small decimal fractions to scientific notation						I	X	X	411
XIII.Geometry	X	X	X	X	X	X	X	X	412
XIII.A. Recognition and nomenclature of geometric figures	X	X	X	X	X	X	X	X	413
XIII.1. Can identify basic geometric shapes	I	X							414
XIII.A.2. Can identify types of triangle by their sides		I	X	X					415
XIII.A.3. Can identify types of triangle by their angles: right, scalene, obtuse, equilateral		I	X	X	X	X			416
XIII.A.4. Can identify regular polygons through the decagon	I	X	X	X	X	X			417
XIII.A.5. Can identify irregular polygons through the decagon		I	X	X	X	X			418
XIII.A.6. Can identify all of the quadrilaterals	I	X	X	X	X	X			419
XIII.A.7. Can differentiate between a circle, ellipse, and oval	I	X	X						420

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
XIII.A.8. Can identify a cube, sphere, cylinder, pyramid, and cone	I	X	X						421
XIII.A.9. Can identify a rectangular prism, triangular prism, ovoid, and ellipsoid	I	X	X						422
XIII.A.10. Can identify the faces, edges, and surfaces of solid geometric objects		I	X	X	X	X			423
XIII.A.11. Can identify congruent shapes by matching	I	X	X	X	X	X			424
XIII.A.12. Can identify the parts of a circle: radius, diameter, circumference				I	X	X	X		425
XIII.A.13. Can identify the parts of a triangle				I	X	X	X		426
XIII.A.14. Can identify the parts of a square				I	X	X	X		427
XIII.B. Angles, similarities and congruence	X	X	X	X	X	X	X	X	428
XIII.B.1. Can measure angles with a protractor				I	X	X			429
XIII.B.2. Can add angles and compute arcs				I	X	X			430
XIII.B.3. Can recognize congruent figures			I	X	X	X			431
XIII.B.4. Can recognize similar figures			I	X	X	X			432
XIII.B.5. Can recognize equivalent figures			I	X	X	X			433
XIII.B.6. Can identify angles as being acute, right, obtuse, and straight			I	X	X	X			434
XIII.B.7. Can identify the relations between two straight lines: parallel & perpendicular			I	X	X	X			435

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
XIII.B.8. Can name angles formed by two straight lines cut by a transversal				X	X	X			436
XIII.B.9. Can name the relationships between two angles				X	X	X			437
XIII.B.10. The Pythagorean Theorem	X	X	X	X	X	X	X	X	438
XIII.B.10.a. Recognizes the 3-4-5 case of the Pythagorean Theorem								I	439
XIII.B.10.b.. Recognizes the isosceles right triangle case of the Pythagorean Theorem								I	440
XIII.B.10.c.. Understands the generalized proof of the Pythagorean Theorem								I	441
XIII.B.11. Can identify the sum of the interior angles of a triangle or regular polygon						I	X	X	442
	X	X	X	X	X	X	X	X	443
XIII.C.. Construction of geometric figures	X	X	X	X	X	X	X	X	444
XIII.C.1. Can demonstrate line symmetry in a given shape by folding along its center line	I	X	X	X	X	X	X	X	445
XIII.C.2. Can construct an angle of a given measure with a protractor and straightedge				I	X				446
XIII.C.3. Can bisect an angle with a compass and straightedge				I	X	X	X	X	447
XIII.C.4. Can bisect a line segment with a compass and straightedge				I	X	X	X	X	448
XIII.C.5. Can draw a line perpendicular to another line with a straightedge, compass, and protractor				I	X	X	X	X	449
XIII.C.6. Can draw a line parallel to another line with a straightedge, compass, and protractor				I	X	X	X	X	450

Mathematics Scope and Sequence

Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
XIII.C.7. Can construct a square with a protractor and straightedge				I	X	X	X	X	451
XIII.C.8. Can construct a circle with a compass					I	X	X	X	452
XIII.C.9. Can construct an ellipse					I	X	X	X	453
XIII.C.10. Can measure the radius and diameter of a circle					I	X			454
XIII.C.11. Can measure the circumference of a circle				I	X	X	X		455
XIII.C.12. Can construct a scale model or drawing of an object given a scale to follow						I	X		456
XIII.C.13. Can construct a tetrahedron						I	X	X	457
XIII.C.14. Can construct a cube						I	X	X	458
XIII.C.15. Construct an octagon, dodecahedra, icosahedra						I	X	X	459
XIII.D. CALCULATION OF AREA	X	X	X	X	X	X	X	X	460
XIII.D.1. Can calculate the area of a square					I	X	X		461
XIII.D.2. Can calculate the area of a rectangle					I	X	X		462
XIII.D.3. Can calculate the area of a triangle						I	X	X	463
XIII.D.4. Can calculate the area of a parallelogram						I	X	X	464
XIII.D.5. Can calculate the area of a trapezoid						I	X	X	465

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Curriculum Element — Commonly, by the grade level(s) given below, the student will be able to:	N	K	1st	2nd	3rd	4th	5th	6th	Serial #
XIII.D.6. Can calculate the area of a regular pentagon						I	X	X	466
XIII.D.7. Can calculate the area of a regular hexagon						I	X	X	467
XIII.D.8. Can calculate the area of a regular octagon						I	X	X	468
XIII.D.9. Can calculate the area of a decagon						I	X	X	469
XIII.D.10. Can calculate the area of any regular polygon						I	X	X	470
XIII.D.11. Can calculate the area of any irregular polygon						I	X	X	471
XIII.D.12. Can calculate the area of a circle						I	X	X	472
XIII.E. Calculation of volume	X	X	X	X	X	X	X	X	473
XIII.E.1. Can calculate the volume of a cube							I	X	474
XIII.E.2. Can calculate the volume of a rectangular prism							I	X	475
XIII.E.3. Can calculate the volume of a pyramid							I	X	476
XIII.E.4. Can calculate the volume of a cylinder							I	X	477
XIII.E.5. Can calculate the volume of a cone							I	X	478
XIII.E.6. Calculate the volume of a sphere							I	X	479
MATHEMATICS	X	X	X	X	X	X	X	X	481