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Kentucky Academic Standards for Mathematics (2019)

Grade 4

Module/Lesson	Name	From page	To page	Citations
Module 1: Place Value of Whole Numbers				
Lesson 1.1	Understand Place Value Relationships	5	10	SMP.6; SMP.7; KY.4.NBT.1
Lesson 1.2	Read and Write Numbers	11	14	SMP.6; KY.4.NBT.2
Lesson 1.3	Regroup and Rename Numbers	15	18	SMP.6; KY.4.NBT.1
Lesson 1.4	Compare and Order Numbers	19	22	SMP.2; SMP.5; KY.4.NBT.2
Lesson 1.5	Use Place Value Understanding to Round Numbers	23	26	SMP.2; KY.4.NBT.3
Module 2: Addition and Subtraction of Whole Numbers				
Lesson 2.1	Add Whole Numbers and Assess Reasonableness	31	34	SMP.1; SMP.3; SMP.7; KY.4.NBT.4
Lesson 2.2	Subtract Whole Numbers and Assess Reasonableness	35	38	SMP.1; SMP.7; KY.4.NBT.4

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Lesson 2.3	Use Addition and Subtraction to Solve Comparison Problems	39	42	SMP.1; SMP.4; KY.4.NBT.4
Lesson 2.4	Apply the Perimeter Formula for Rectangles	43	46	SMP.1; SMP.2; SMP.4; SMP.6; SMP.7; KY.4.MD.3
Module 3: Interpret and Solve Problem Situations				
Lesson 3.1	Explore Multiplicative Comparisons to Solve Problems	53	56	SMP.3; SMP.4; SMP.5; KY.4.OA.1; KY.4.OA.2
Lesson 3.2	Distinguish Between Multiplicative and Additive Comparisons	57	60	SMP.2; SMP.4; SMP.5; KY.4.OA.1; KY.4.OA.2
Lesson 3.3	Use Division to Solve Multiplicative Comparison Problems	61	64	SMP.1; SMP.2; SMP.4; SMP.5; SMP.7; KY.4.OA.2
Lesson 3.4	Use Comparisons to Solve Problem Situations	65	68	SMP.1; SMP.2; SMP.4; SMP.7; KY.4.OA.2
Lesson 3.5	Solve Multiplication and Division Problems	69	72	SMP.1; SMP.4; SMP.5; KY.4.OA.2; KY.4.OA.3
Module 4: Mental Math and Estimation Strategies				
Lesson 4.1	Explore Multiplication Patterns with Tens, Hundreds, and Thousands	77	80	SMP.7; KY.4.NBT.5
Lesson 4.2	Explore Division Patterns with Tens, Hundreds, and Thousands	81	84	SMP.7; KY.4.NBT.6
Lesson 4.3	Estimate Products by 1-Digit Numbers	85	88	SMP.3; KY.4.NBT.5

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Lesson 4.4	Estimate Quotients Using Compatible Numbers	89	92	SMP.3; KY.4.NBT.6
Lesson 4.5	Use Mental Math Strategies for Multiplication and Division	93	96	KY.4.NBT.5; KY.4.NBT.6
Module 5: Multiply by 1-Digit Numbers				
Lesson 5.1	Represent Multiplication	101	104	SMP.2; KY.4.NBT.5
Lesson 5.2	Use Area Models and the Distributive Property to Multiply	105	108	SMP.2; KY.4.NBT.5
Lesson 5.3	Multiply Using Expanded Form	109	112	SMP.1; SMP.2; KY.4.NBT.5
Lesson 5.4	Multiply Using Partial Products	113	116	KY.4.NBT.5
Lesson 5.5	Use Place Value to Multiply 2-Digit Numbers	117	120	SMP.1; SMP.2; KY.4.NBT.5
Lesson 5.6	Multiply 3-Digit and 4-Digit Numbers	121	124	SMP.2; KY.4.NBT.5
Lesson 5.7	Use Equations to Solve Multistep Problems	125	128	SMP.1; SMP.4; KY.4.OA.3
Module 6: Understand Division by 1-Digit Numbers				
Lesson 6.1	Represent Division	133	136	SMP.1; SMP.4; SMP.5; KY.4.NBT.6

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Lesson 6.2	Investigate Remainders	137	140	SMP.1; SMP.2; SMP.5; KY.4.NBT.6
Lesson 6.3	Interpret Remainders	141	144	SMP.1; SMP.5; KY.4.NBT.6
Lesson 6.4	Use Area Models and the Distributive Property to Divide	145	148	SMP.5; SMP.7; KY.4.NBT.6
Lesson 6.5	Divide Using Repeated Subtraction	149	152	SMP.4; SMP.5; KY.4.NBT.6
Lesson 6.6	Divide Using Partial Quotients	153	156	SMP.6; SMP.7; KY.4.NBT.6
Module 7: Divide by 1-Digit Numbers				
Lesson 7.1	Represent Division with Regrouping	161	164	SMP.5; KY.4.NBT.6
Lesson 7.2	Use Place Value to Divide	165	168	SMP.5; KY.4.NBT.6
Lesson 7.3	Divide by 1-Digit Numbers	169	174	SMP.2; SMP.3; SMP.5; SMP.6; SMP.7; KY.4.NBT.6
Lesson 7.4	Solve Multistep Multiplication and Division Problems	175	178	SMP.1; SMP.2; SMP.3; SMP.4; SMP.6; KY.4.OA.3
Module 8: Multiply by 2-Digit Numbers				
Lesson 8.1	Multiply with Tens	185	188	SMP.1; SMP.2; KY.4.NBT.5

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Lesson 8.2	Estimate Products	189	194	SMP.2; SMP.3; SMP.7; KY.4.NBT.3
Lesson 8.3	Relate Area Models and Partial Products	195	198	SMP.2; SMP.5; KY.4.NBT.5
Lesson 8.4	Multiply Using Partial Products	199	202	SMP.4; SMP.7; SMP.8; KY.4.NBT.5
Lesson 8.5	Multiply with Regrouping	203	206	SMP.2; SMP.3; KY.4.NBT.5
Lesson 8.6	Choose a Multiplication Strategy	207	210	SMP.2; SMP.3; SMP.4; SMP.8; KY.4.NBT.5
Lesson 8.7	Solve Multistep Problems and Assess Reasonableness	211	214	SMP.1; SMP.2; SMP.4; SMP.6; KY.4.OA.3
Module 9: Apply Multiplication to Area				
Lesson 9.1	Apply the Area Formula to Rectangles	219	222	SMP.1; SMP.2; SMP.7; KY.4.MD.3
Lesson 9.2	the Area of Combined Rectangles	223	226	SMP.2; SMP.3; KY.4.MD.3
Lesson 9.3	Find Unknown Measures	227	230	SMP.1; SMP.2; SMP.7; KY.4.MD.3
Lesson 9.4	Solve Area Problems	231	234	SMP.1; SMP.2; SMP.7; KY.4.MD.3
Module 10: Algebraic Thinking: Number Theory				

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Lesson 10.1	Investigate Factors	241	244	SMP.3; SMP.5; KY.4.OA.4
Lesson 10.2	Identify Factors	245	250	SMP.5; SMP.7; SMP.8; KY.4.OA.4
Lesson 10.3	Generate Multiples Using Factors	251	254	SMP.1; SMP.3; SMP.6; SMP.8; KY.4.OA.4
Lesson 10.4	Identify Prime and Composite Numbers	255	258	SMP.2; SMP.3; SMP.5; SMP.7; KY.4.OA.4
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Module 11: Fraction Equivalence and Comparison				
Lesson 11.1	Compare Fractions Using Visual Models	267	270	SMP.2; SMP.5; KY.4.NF.2
Lesson 11.2	Compare Fractions Using Benchmarks	271	274	SMP.3; SMP.4; KY.4.NF.2
Lesson 11.3	Explain Fraction Equivalence Using Visual Models	275	278	SMP.2; SMP.4; KY.4.NF.1
Lesson 11.4	Generate Equivalent Fractions	279	282	SMP.2; SMP.5; SMP.6; SMP.8; KY.4.NF.1
Lesson 11.5	Use Common Multiples to Write Equivalent Fractions	283	286	SMP.2; SMP.3; SMP.6; KY.4.NF.1; KY.4.NF.2
Lesson 11.6	Compare Fractions Using Strategies	287	290	SMP.2; SMP.3; SMP.7; KY.4.NF.2

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Lesson 11.7	Use Comparisons to Order Fractions	291	294	SMP.2; SMP.3; KY.4.NF.2
Module 12: Relate Fractions and Decimals				
Lesson 12.1	Represent Tenths as Fractions and Decimals	299	302	SMP.5; SMP.7; KY.4.NF.6
Lesson 12.2	Represent Hundredths as Fractions and Decimals	303	306	SMP.2; SMP.5; SMP.7; KY.4.NF.6
Lesson 12.3	Identify Equivalent Fractions and Decimals	307	310	SMP.3; SMP.7; KY.4.NF.5; KY.4.NF.6
Lesson 12.4	Compare Decimals	311	314	SMP.1; SMP.5; SMP.7; KY.4.NF.7
Lesson 12.5	Relate Fractions, Decimals, and Money	315	318	SMP.2; SMP.5; SMP.6; SMP.8; KY.4.NF.6
Lesson 12.6	Solve Multistep Money Problems	319	322	SMP.1; SMP.2; SMP.3; SMP.6; SMP.8; KY.4.MD.2
Module 13: Use Fractions to Understand Angles				
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Lesson 13.2	Explore Angles	331	334	SMP.2; KY.4.MD.5
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Lesson 13.5	Measure and Draw Angles Using a Protractor	345	348	SMP.2; SMP.5; KY.4.MD.6
Lesson 13.6	Join and Separate Angles	349	352	SMP.2; SMP.5; KY.4.MD.7
Lesson 13.7	Find Unknown Angle Measures	353	356	SMP.1; SMP.3; KY.4.MD.7
Module 14: Understand Addition and Subtraction of Fractions with Like Denominators				
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Lesson 14.3	Represent Addition of Fractions	371	374	SMP.1; SMP.4; SMP.7; KY.4.NF.3
Lesson 14.4	Separate Parts of the Same Whole	375	378	SMP.5; KY.4.NF.3
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Lesson 15.3	Add and Subtract Mixed Numbers to Solve Problems	399	404	SMP.1; SMP.2; SMP.3; SMP.5; SMP.6; KY.4.NF.3
Lesson 15.4	Rename Mixed Numbers to Subtract	405	408	SMP.1; SMP.2; KY.4.NF.3
Lesson 15.5	Apply Properties of Addition to Add Fractions and Mixed Numbers	409	412	SMP.2; SMP.6; SMP.7; KY.4.NF.3
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Module 16: Multiply Fractions by Whole Numbers				
Lesson 16.1	Understand Multiples of Unit Fractions	421	424	SMP.5; SMP.7; SMP.8; KY.4.NF.4
Lesson 16.2	Find Multiples of Fractions	425	428	SMP.2; SMP.5; KY.4.NF.4
Lesson 16.3	Represent Multiplication of a Fraction by a Whole Number	429	434	SMP.2; SMP.4; SMP.7; SMP.8; KY.4.NF.4
Lesson 16.4	Solve Problems Using Multiplication of a Fraction or Mixed Number by a Whole Number	435	438	SMP.1; SMP.2; SMP.3; SMP.4; SMP.6; SMP.7; SMP.8; KY.4.NF.4

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Lesson 17.2	Identify and Classify Triangles by Angles	449	452	SMP.2; KY.4.G.1; KY.4.G.2
Lesson 17.3	Identify and Classify Triangles by Sides	453	456	SMP.3; SMP.5; SMP.6; KY.4.G.1; KY.4.G.2
Lesson 17.4	Identify and Classify Quadrilaterals	457	460	SMP.2; SMP.3; KY.4.G.1; KY.4.G.2
Lesson 17.5	Measure and Draw Angles of Two-Dimensional Figures	461	464	SMP.2; SMP.4; SMP.5; SMP.6; KY.4.G.1
Module 18: Symmetry and Patterns				
Lesson 18.1	Recognize Lines of Symmetry	469	472	SMP.6; KY.4.G.3
Lesson 18.2	Identify and Draw Lines of Symmetry	473	478	SMP.3; KY.4.G.3
Lesson 18.3	Generate and Identify Shape Patterns	479	482	SMP.6; KY.4.OA.5
Module 19: Relative Sizes of Customary Measurement Units				
Lesson 19.1	Identify Customary Measurement Benchmarks	489	492	SMP.3; SMP.6; KY.4.MD.1
Lesson 19.2	Compare Customary Units of Length	493	498	SMP.3; SMP.6; SMP.7; KY.4.MD.1; KY.4.MD.2

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Lesson 19.3	Compare Customary Units of Weight	499	502	SMP.7; SMP.8; KY.4.MD.1; KY.4.MD.2
Lesson 19.4	Compare Customary Units of Liquid Volume	503	506	SMP.4; KY.4.MD.1; KY.4.MD.2
Lesson 19.5	Represent and Interpret Measurement Data in Line Plots	507	510	SMP.4; SMP.5; SMP.6; KY.4.MD.4
Module 20: Relative Sizes of Metric Measurement Units				
Lesson 20.1	Identify Metric Measurement Benchmarks	515	518	SMP.2; KY.4.MD.1
Lesson 20.2	Compare Metric Units of Length	519	522	SMP.2; SMP.7; KY.4.MD.1
Lesson 20.3	Compare Metric Units of Mass and Liquid Volume	523	526	SMP.6; KY.4.MD.1
Lesson 20.4	Solve Problems Using Measurements	527	530	SMP.1; SMP.2; SMP.3; SMP.6; KY.4.MD.1; KY.4.MD.2
Module 21: Solve Problems with Time and Measurement				
Lesson 21.1	Compare Units of Time	535	538	SMP.2; SMP.7; KY.4.MD.1
Lesson 21.2	Solve Problems Involving Elapsed Time	539	542	SMP.1; SMP.2; SMP.3; SMP.4; SMP.6; KY.4.MD.2
Lesson 21.3	Solve Problems Involving Start Time and End Time	543	546	SMP.1; SMP.5; SMP.6; KY.4.MD.2

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Lesson 21.4	Practice with Mixed Measures	547	550	SMP.1; SMP.2; SMP.6; SMP.7; KY.4.MD.2