Saxon® *Math 5/4*, *Math 6/5*, *Math 7/6*, and *Math 8/7* Scope and Sequence

	Saxon *Math 5/4*	Saxon *Math 6/5*	Saxon *Math 7/6*	Saxon *Math 8/7*
Numbers and Operations				
Numeration	•	•	•	•
Digits	•	•	•	•
Reading and writing numbers	•	•	•	•
Ordinal numbers	•	•	•	•
Place value	•	•	•	•
Number line	•	•	•	•
Expanded notation	•	•	•	•
Operations				
Addition				
Addends and sum	•	•	•	•
Adding whole numbers	•	•	•	•
Regrouping	•	•	•	•
Adding decimals	•	•	•	•
Adding fractions and mixed numbers	•	•	•	•
Adding signed numbers			•	•
Mental addition strategies	•	•	•	
Subtraction				
Difference, subtrahend, and minuend	•	•	•	•
Subtracting whole numbers	•	•	•	•
Regrouping (borrowing)	•	•	•	•
Subtracting decimals	•	•	•	•
Subtracting fractions and mixed numbers	•	•	•	•
Subtracting signed numbers			•	•
Mental subtraction strategies	•	•	•	•
Multiplication				
Multiplication as repeated addition	•	•	•	•
Factors and product	•	•	•	•
Multiplication table	•	•	•	•
Regrouping	•	•	•	•
Multiplication notations: $a \times b$, $a \cdot b$, and $a(b)$	•	•	•	•
Multiplying whole numbers	•	•	•	•
Multiplying decimals		•	•	•
Multiplying fractions and mixed numbers		•	•	•
Multiplying signed numbers			•	•
Mental multiplication strategies	•	•	•	•
Division				
Dividend, divisor, and quotient	•	•	•	•
Dividing with whole numbers	•	•	•	•
Remainders	•	•	•	•

	Saxon *Math 5/4*	Saxon *Math 6/5*	Saxon *Math 7/6*	Saxon *Math 8/7*
Dividing with decimals		•	•	•
Dividing with fractions and mixed numbers		•	•	•
Dividing with signed numbers			•	•
Mental division strategies	•	•	•	•
Division notations: division box, division sign, and division bar	•	•	•	•
Powers				
Powers as repeated multiplication	•	•	•	•
Base and exponent	•	•	•	•
Powers of whole numbers	•	•	•	•
Powers of decimals			•	•
Powers of fractions			•	•
Negative exponents				•
Scientific notation				•
Relationship of place value to powers of 10	•	•	•	•
Roots				
Square roots	•	•	•	•
Cube roots				•
Index				•
Using a calculator to find roots			•	•
Mastering basic facts	•	•	•	•
Order of operations	•	•	•	•
Inverse operations		•	•	•
Fraction Concepts				
Fractions and Mixed Numbers				
Reading and writing fractions and mixed numbers	•	•	•	•
Numerator and denominator	•	•	•	•
Fractional part of a whole, group, set, or number	•	•	•	•
Comparing and ordering fractions	•	•	•	•
Equivalent fractions	•	•	•	•
Reducing	•	•	•	•
Improper fractions	•	•	•	•
Least common denominator	•	•	•	•
Converting fractions to decimals and percents	•	•	•	•
Reciprocals		•	•	•
Complex fractions				•
Decimals				
Reading and writing decimals	•	•	•	•
Comparing and ordering decimals	•	•	•	•
Converting decimals to fractions and percents	•	•	•	•
Percents				
Reading and writing percents	•	•	•	•
Identify/find percent of a whole, group, set, or number	•	•	•	•

	Saxon Math 5/4	Saxon Math 6/5	Saxon Math 7/6	Saxon Math 8/7
Converting percents to fractions and decimals	•	•	•	•
Percents greater than 100%			•	•
Percent of change				•
Ratios and proportions		•	•	•
Rates	•		•	•
Estimation				
Rounding whole numbers	•	•	•	•
Rounding decimals	•	•	•	•
Rounding mixed numbers		•	•	•
Estimating sums	•	•	•	•
Estimating differences	•	•	•	•
Estimating products	•	•	•	•
Estimating quotients	•	•	•	•
Estimating roots			•	•
Using estimation to verify reasonableness of calculations	•	•	•	•
Deciding whether an exact answer or approximate answer is desired	•	•	•	
Number Theory				
Fact families	•	•	•	•
Even and odd	•	•	•	•
Factors, multiples, and divisibility	•	•	•	•
Prime and composite numbers		•	•	•
Greatest common factor (GCF)		•	•	•
Least common multiple (LCM)		•	•	•
Divisibility tests		•	•	•
Prime factorization			•	•
Number Sets and Number Systems				
Counting numbers (natural numbers)	•	•	•	•
Whole numbers	•	•	•	•
Decimal number system	•	•	•	•
Negative numbers	•	•	•	•
Integers		•	•	•
Rational numbers				•
Irrational numbers			•	•
Real numbers				•
Roman numerals	•	•	•	•
Base 5	•	•		
Base 2				•
Measurement				
Units				
U.S. Customary				
Length (inch, foot, yard, mile)	•	•	•	•
Capacity (cup, pint, quart, gallon)	•	•	•	•

	Saxon Math 5/4	Saxon Math 6/5	Saxon Math 7/6	Saxon Math 8/7
Weight (ounce, pound, ton)	•	•	•	•
Metric				
Prefixes (milli-, centi-, deci-, deka-, hecto-, kilo-)	•	•	•	•
Length (meter)	•	•	•	•
Capacity (liter)	•	•	•	•
Mass (kilogram)	•	•	•	•
Temperature				
Fahrenheit scale	•	•	•	•
Celsius scale	•	•	•	•
Kelvin scale				
Time				
Seconds, minutes, and hours	•	•	•	•
Days, months, and years	•	•		
Decades, centuries, and millennia	•	•		
Digital and analog time displays	•	•		
Writing time of day	•	•	•	
Writing dates	•	•		
Square units	•	•	•	•
Cubic units	•	•	•	•
Degrees of arc	•	•	•	•
Standard abbreviations	•	•	•	•
Nonstandard units	•	•	•	•
Unit Conversion				
Conversion in the U.S. Customary System	•	•	•	•
Conversion in the metric system	•	•	•	•
Conversion between systems	•	•	•	•
Simplifying mixed measures		•	•	•
Unit multipliers			•	•
Conversion between temperature scales				•
Measuring				
Length	•	•	•	•
Time	•	•	•	
Capacity	•	•	•	
Mass/weight	•	•	•	
Angles	•	•	•	•
Rotation (clockwise and counterclockwise)	•	•	•	
Benchmarks for measurements	•	•	•	•
Measurement activities	•	•	•	•
Estimating activities	•	•	•	•
Selecting appropriate units	•	•	•	•
Using metric scales to reinforce decimal concepts	•	•		•
Determining whether measures are reasonable	•	•	•	•
Determining the precision of a measuring tool				•

	Saxon Math 5/4	Saxon Math 6/5	Saxon Math 7/6	Saxon Math 8/7
Indirect Measure				
Scale factor		•	•	•
Using similar triangles			•	•
Scale drawings (two-dimensional)		•	•	•
Scale models (three-dimensional)		•	•	•
Tools				
Ruler (U.S. Customary and metric)	•	•	•	•
Protractor	•	•	•	•
Thermometer	•	•	•	•
Balance scale	•	•		
Measuring cup	•	•	•	
Stopwatch	•	•		
Geometry				
Basic Terms				
Points	•	•	•	•
Segments	•	•	•	•
Rays	•	•	•	•
Lines	•	•	•	•
Angles	•	•	•	•
Planes		•	•	•
Lines				
Parallel, perpendicular, and intersecting	•	•	•	•
Horizontal, vertical, and oblique		•	•	•
Slope				•
Angles				
Acute, obtuse, right, and straight	•	•	•	•
Complementary and supplementary			•	•
Angles formed by transversals			•	•
Calculate to find unknown angle measures			•	•
Angle bisectors			•	•
Vertical				•
Adjacent angles				•
Polygons				
Describing and classifying	•	•	•	•
Drawing	•	•	•	•
Sides and vertices	•	•	•	•
Perimeter	•	•	•	•
Area	•	•	•	•
Regular	•	•	•	•
Similarity and congruence	•	•	•	•
Complex figures		•	•	•
Interior and exterior angles			•	•
Sum of angle measures			•	•

	Saxon Math 5/4	Saxon Math 6/5	Saxon Math 7/6	Saxon Math 8/7
Diagonals				•
Triangles				
Perimeter and area	•	•	•	•
Acute, obtuse, and right	•	•	•	•
Equilateral, isosceles, and scalene	•	•	•	•
Proportional triangles				•
Pythagorean theorem				•
Quadrilaterals				
Parallelograms	•	•	•	•
Squares	•	•	•	•
Rhombuses	•	•	•	•
Rectangles	•	•	•	•
Trapezoids	•	•	•	•
Trapeziums		•	•	•
Kites				•
Circles				
Center	•	•	•	•
Radius and diameter	•	•	•	•
Circumference		•	•	•
Pi			•	•
Area			•	•
Arcs			•	•
Sectors		•	•	•
Concentric circles			•	•
Solids	•	•	•	•
Describing and classifying	•	•	•	•
Faces, edges, and vertices	•	•	•	•
Drawing	•	•	•	•
Volume	•	•	•	•
Surface area			•	•
Polyhedrons		•	•	•
Platonic solids			•	
Nets (maps)	•	•	•	•
Perimeter				
Polygons	•	•	•	•
Circles		•	•	•
Complex figures			•	•
Area				
Triangles	•		•	•
Rectangles	•	•	•	•
Parallelograms			•	•
Trapezoids			•	•
Circles			•	•

	Saxon *Math 5/4*	Saxon *Math 6/5*	Saxon *Math 7/6*	Saxon *Math 8/7*
Semicircles and sectors				•
Complex figures		•	•	•
Estimating area	•	•	•	
Volume				
Prisms	•	•	•	•
Cylinders			•	•
Pyramids			•	•
Cones				•
Spheres				•
Estimating volume				•
Coordinate Geometry				
Naming and graphing ordered pairs	•	•	•	•
Origin		•	•	•
Intercepts of a line				•
Slope of a line				•
Creating straight-line drawings	•	•	•	•
Patterns				
Tessellations	•	•		
Line symmetry (reflective symmetry)	•	•	•	•
Rotational symmetry		•		
Point symmetry				•
Constructions				
Circles	•		•	•
Congruent segments				•
Congruent angles				•
Angle bisectors			•	•
Perpendicular bisectors			•	•
Inscribed polygons				•
Congruent triangles				•
Transformational Geometry				
Rotation	•	•	•	•
Reflection	•	•	•	•
Translation	•	•	•	•
Graphing transformations on the coordinate plane				•
Algebra				
Patterns				
Numeric patterns	•	•	•	•
Geometric patterns	•	•	•	•
Story-problem patterns	•	•	•	•
Triangular numbers	•	•	•	•
Coding and decoding	•			
Palindromes				•
Pascal's triangle	•			

	Saxon Math 5/4	Saxon Math 6/5	Saxon Math 7/6	Saxon Math 8/7
Sierpinski's triangle				•
Sequences				
Terms		•	•	•
Period		•		
Arithmetic sequences	•	•	•	•
Geometric sequences	•	•	•	•
Pictorial sequences	•	•	•	•
Fibonacci sequence	•	•	•	•
Integers				
Adding and subtracting integers/signed numbers			•	•
Multiplying and dividing integers/signed numbers			•	•
Absolute value				•
Algebraic Concepts and Procedures				
Variables	•	•	•	•
Symbols of inclusion	•	•	•	•
Evaluating	•		•	•
Substitution		•	•	•
Constants				•
Coefficients				•
Polynomials				•
Simplifying				•
Factoring				•
Combining like terms				•
Equations				
Solving for an unknown	•	•	•	•
Solving multi-step equations	•	•	•	•
Writing an equation for a given word problem	•	•	•	•
Writing a word problem for a given equation		•		•
Transforming equations (using the addition rule and the multiplication rule)			•	•
Balance scale as a model for solving equations	•	•		•
Nonlinear equations				•
Solving simple quadratic equations				•
Literal equations				•
Inequalities				
Solving				•
Graphing on a number line				•
Graphing on a coordinate plane				•
Functions				
Formulas	•	•	•	•
Input-output tables	•	•	•	•
Function rules		•	•	•
Graphs	•		•	•

	Saxon Math 5/4	Saxon Math 6/5	Saxon Math 7/6	Saxon Math 8/7
Linear functions			•	•
Nonlinear functions				•
Analyzing functional relationships			•	•
Rates			•	•
Properties				
Associative property of addition	•	•	•	•
Commutative property of addition	•	•	•	•
Associative property of multiplication	•	•	•	•
Commutative property of multiplication	•	•	•	•
Identity property of multiplication	•	•	•	•
Distributive property	•	•	•	•
Zero property of multiplication	•	•	•	•
Graphing				
Number line	•	•	•	•
Coordinate plane	•	•	•	•
Origin		•	•	•
Quadrants				•
Graphing points	•	•	•	•
Graphing lines			•	•
Graphing parabolas				•
Graphing hyperbolas				•
Graphing inequalities				•
Slope-intercept form				•
Statistics, Data Analysis, and Probability				
Statistics and Data Analysis				
Collecting Data				
Tallies	•	•	•	•
Surveys	•	•	•	
Closed-option questions	•		•	
Open-option questions	•		•	
Quantitative data		•	•	
Qualitative data		•	•	
Populations	•		•	
Representative samples	•		•	
Bias	•		•	
Organizing and Analyzing Data				
Tables	•	•	•	•
Frequency tables	•	•	•	•
Average	•	•	•	•
Mean, median, mode, and range	•	•	•	•
Selecting the best measure of central tendency for a given situation			•	•
Choosing an appropriate graph	•	•	•	

	Saxon *Math 5/4*	Saxon *Math 6/5*	Saxon *Math 7/6*	Saxon *Math 8/7*
Identifying misleading graphs				•
Outliers	•	•	•	•
Clusters		•		
Quartiles				•
Making predictions based on statistics		•	•	•
Schedules	•	•		
Representing Data				
Legend (key)	•	•	•	•
Bar graphs	•	•	•	•
Comparative bar graphs (double-bar graphs)		•	•	•
Histograms		•	•	•
Line graphs	•	•	•	•
Double-line graphs		•	•	•
Circle graphs (pie graphs)	•	•	•	•
Pictographs	•	•	•	•
Line plots		•	•	
Stem-and-leaf plots		•	•	•
Box-and-whisker plots				•
Venn diagrams		•		•
Coordinate planes	•	•	•	•
Probability				
Notations for expressing probability	•	•	•	•
Theoretical Probability				
Classifying events as impossible, unlikely, likely, or certain		•	•	
Simple probability	•	•	•	•
Chance	•	•	•	•
Odds			•	•
Outcomes	•	•	•	•
Independent events				•
Dependent events				•
Sample spaces		•		•
Tree diagrams			•	•
Permutations		•	•	•
Combinations			•	•
Experimental Probability				
Performing probability experiments	•	•	•	•
Making predictions based on experiments	•	•	•	
Accuracy of predictions as affected by number of trials	•		•	•
Compound experiments		•	•	•
Experiment tables	•	•	•	•
Problem-Solving Strategies				
Break a problem into simpler parts	•	•	•	•

	Saxon *Math 5/4*	Saxon *Math 6/5*	Saxon *Math 7/6*	Saxon *Math 8/7*
Act out the problem	•	•	•	•
Use logical reasoning	•	•	•	•
Draw a diagram	•	•	•	•
Draw a picture	•	•	•	•
Find a pattern	•	•	•	•
Work backward	•	•	•	•
Make a chart, graph, or list	•	•	•	•
Guess and check (trial and error)	•	•	•	•
Distinguish between relevant and irrelevant information	•	•	•	•
Find missing information	•	•	•	•
Extend patterns	•	•	•	•
Apply solution strategies for simple problems to complex problems	•	•	•	•
Use an algorithm	•	•	•	•

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