

Scope and Sequence

- Math K–4
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SAXON MATH™

Intermediate 3–5

Scope and Sequence

The Scope and Sequence for the *Saxon Intermediate 3–5* mathematics series is intended to help educators view the progression of mathematical topics throughout the series. Topics are grouped into nine strands:

1. Numbers and Operations
2. Measurement
3. Geometry
4. Patterns, Algebra, and Functions
5. Statistics, Data Analysis, and Probability
6. Problem Solving
7. Communication
8. Mathematical Reasoning
9. Connections

The locators in the Scope and Sequence identify lessons in which direct instruction of a topic is presented. Once a topic is presented, students are continually exposed to the topic in the daily problem sets that follow. Because of space considerations, the daily problem sets are not referenced in the Scope and Sequence. Consequently, student exposure to individual topics is actually stronger than indicated on the following pages.

SAXON MATH™

SCOPE AND SEQUENCE

The locators in this Scope and Sequence indicate where direct instruction on each topic can be found. Locators refer to lesson and investigation numbers.

	Intermediate 3	Intermediate 4	Intermediate 5
Numbers and Operations			
Numeration			
Uses digits to write numbers	11, 32	3, 5, 10	1, 4, 7
Reads and writes whole numbers through 999	12	7	
Reads and writes whole numbers through 999,999	32	33	7
Reads and writes whole numbers through 999,999,999		34	
Reads and writes whole numbers through 999,999,999,999			52
Identifies place value through hundreds	11	4	3
Identifies place value through hundred thousands	32	33	
Identifies place value through hundred millions		34	
Identifies place value through hundred billions			52
Locates and names whole numbers on a number line	4, 15, 17, 33	Investigation 1	12, 27, 33
Reads and writes numbers in expanded form	11, 13, 14	16, 33	3, 48
Reads and writes numbers in expanded notation			48, 52, 78
Uses comparison symbols ($=$, $<$, $>$)	17, 27	56, 91, 103	4
Compares and orders whole numbers	17, 27, 39, 99, 103	5, 7, 33, 34; Investigation 1	4, 7
Basic operations			
Addition			
Models addition	6, 9, 13, 16	1	6, 41
Adds whole numbers	6, 8, 9, 10, 13, 16, 18, 24, 36, 92, 94	1, 2, 11, 13, 45	6, 8, 10, 24
Adds decimal numbers	22, 25, 92, 94	8, 22, 43, 50, 91	13, 73, 99
Adds fractions and mixed numbers			41, 43, 116
Uses regrouping in addition	13, 16		6
Finds the value of a collection of coins and bills	21, 22, 25, 81; Investigation 2	8, 22	
Subtraction			
Models subtraction	7, 14, 19	34	9, 41, 43, 59, 63
Subtracts whole numbers	7, 8, 14, 19, 20, 23, 28, 40, 92, 94	6, 12, 14, 16, 25, 41	8, 9, 14, 16, 24
Subtracts decimal numbers	26, 92, 94	30, 43, 50, 91	13, 73, 99, 102
Subtracts fractions and mixed numbers			41, 43, 59, 63, 116
Uses regrouping in subtraction	14, 19, 28	30	9, 16

Numbers and Operations, continued**Basic Operations, continued****Multiplication**

Models multiplication	54, 55, 57, 60, 61, 62	35	17, 76, 86
Understands the relationship between multiplication and repeated addition	54	27; Investigation 3	13, 17
Multiplies by one-digit whole numbers	56, 59, 61, 64, 70, 76	29, 32, 38	17
Multiplies by two-digit whole numbers	81, 84	44, 48, 87, 90	51
Multiplies by three-digit whole numbers	91, 97	58, 113	55, 56
Uses regrouping in multiplication	84, 91, 97		17, 51, 55, 56
Multiplies by multiples of 10 and 100		67, 85, 86	29, 111
Multiplies by multiples of 1000		85	111
Multiplies decimal numbers		67	109, 110, 111
Multiplies fractions and mixed numbers			76, 86, 120

Division

Models division	82, 85, 101		87, 96
Divides whole numbers	82, 83, 85, 86, 89, 90, 101	46, 64, 65, 68, 71, 76, 80, 88, 105, 110, 118	19, 20, 22, 26, 42, 54, 92
Understands and uses division notations: division box, division sign, and division bar	82	47, 65	20
Solves division problems with remainders		53, 68, 71, 76, 80, 88, 105, 118	22, 26, 40, 58
Divides decimal numbers		76	117, 118, 119
Divides fractions and mixed numbers			87, 96
Divides by multiples of 10 and 100		105, 110	54

Properties of numbers and operations

Identifies even and odd numbers	88	10	2
Identifies and uses multiples	78	55	15, 29, 112
Identifies and uses factors		55	15, 18, 25, 80, 82
Understands divisibility		64, 65	25, 42
Uses divisibility rules		64, 65, 105	22, 42
Identifies prime and composite numbers		55	80, 112
Finds the greatest common factor (GCF)			82, 90
Finds the least common multiple (LCM)			112
Uses positive exponents with whole numbers		62	78
Understands the concept of square numbers and square roots	61	Investigation 3	78
Uses the correct order of operations	92	45	24
Learns fact families and understands inverse operations	8, 9, 40, 86, 89	2, 6, 24, 46, 47	8, 10, 14, 19

Numbers and Operations, continued

Fractions, decimals, and percents			
Reads and writes fractions and mixed numbers	5, 29, 41	22, 35, 102	Investigation 2
Locates and names fractions and mixed numbers on a number line	48	37, 102	38
Compares and orders fractions	43, 49	56, 103; Investigation 9	38, 39, 116; Investigations 2, 3
Models a fractional part of a whole	5, 29, 41, 42, 43, 46, 47, 49	26	37; Investigations 2, 3
Names a fractional part of a whole	5, 29, 41, 46, 47, 49	22, 61	30, 60; Investigations 2, 3
Models a fractional part of a group or set	49	70, 95	46
Names a fractional part of a group or set	44, 49	70, 74, 95	30, 46
Finds equivalent fractions	43, 46, 47	103, 109, 115, 116; Investigation 9	23, 79, 81, 90, 91; Investigations 2, 3
Finds the least common denominator (LCD)		116	116
Converts between improper fractions and mixed numbers		89, 104	75, 113
Simplifies fractions		112, 114, 119, 120	81, 82, 90, 91
Reads and writes decimals		4, 22; Investigations 4A, 4B	64, 67, 68, 70, 100, 106
Locates and names decimals on a number line		102	66, 104
Compares and orders decimals		22, 91	69; Investigations 2, 3
Converts between fractions, decimals, and percents		84; Investigations 4A, 4B, 5	30, 67, 71; Investigations 2, 3
Finds a percent of a whole		Investigation 5	30, 43
Finds a percent of a group or set			107
Writes reciprocals of numbers			95, 96
Finds rates and ratios		57, 60	97
Estimation			
Rounds whole numbers	15	20, 42, 54, 117	33, 62
Rounds decimals and mixed numbers		102, 103	101, 104, 106
Rounds money amounts to the nearest dollar	96	20	62
Rounds money amounts to the nearest 25 cents		20	
Estimates sums, differences, and products	30, 92, 93, 94, 95, 99	48, 49, 59, 90, 93	33, 51, 55, 59, 62, 73, 101
Estimates quotients		59, 93	33, 94
Uses compatible numbers	92, 94		

	Intermediate 3	Intermediate 4	Intermediate 5
Algebra			
Patterns, relations, and functions			
Describes and extends an arithmetic or geometric sequence	2, 4, 53, 61	3, 38; Investigation 1	1, 2; Investigation 4
Recognizes patterns in multiplication	54, 55, 59, 61, 64, 76, 78	28	Investigation 4
Completes function tables	25, 34	94; Investigation 11	Investigation 4
Analyzes a pattern or sequence to name a rule		3	1; Investigation 4
Variables, expressions, and equations			
Solves addition equations using concrete and pictorial models	6, 9, 13, 16, 36	1; Investigation 12	11
Solves subtraction equations using concrete and pictorial models	7, 14, 19, 28	25, 31	35
Solves multiplication equations using concrete and pictorial models	55, 57, 61	Investigation 12	
Solves division equations using concrete and pictorial models	82, 85	52, 70	
Writes and solves equations to solve word problems	6, 7, 8, 9, 18, 20, 30, 36, 40, 60, 73	1, 11, 25, 31, 49, 52, 61	10, 11, 16, 21; Investigation 1
Chooses an appropriate formula to solve a problem		62	53, 72, 103, 114
Solves one-step equations with whole numbers	9, 36, 40, 86	31, 49, 52, 68, 70	10, 21, 35
Solves two-step equations with whole numbers		61, 94	49, 62, 72, 84
Geometry			
Basic terms			
Describes and names points	4, 109	23	12
Describes, identifies, and draws segments	Investigation 4	23, 45	31, 32, 61
Describes, identifies, and names angles	65	23, 45	31, 36
Describes, identifies, and draws rays		23	12, 61
Describes, identifies, and draws lines		23, 45	12, 31, 61
Describes planes			32
Properties and relationships of lines			
Describes, identifies, and draws parallel and perpendicular lines	66, 71; Investigation 4	23, 45	31, 32, 45
Describes, identifies, and draws horizontal, vertical, intersecting, and oblique lines		23	12, 31
Angles			
Describes, identifies, and draws acute, obtuse, right, and straight angles	65, 66, 69	23, 63, 78, 81	31, 36, 61; Investigation 10
Identifies and describes interior and exterior angles			Investigation 10
Calculates to find unknown angle measures			Investigation 10
2-Dimensional figures			
Identifies and describes polygons by their attributes	51, 66, 67, 68, 69, 104	21, 63	32, 36, 61
Classifies triangles	69	78	36

Geometry, continued			
2-Dimensional figures, continued			
Classifies quadrilaterals	51, 66	63, 92	32, 45
Understands congruence	68	66, 73	32, 36
Understands similarity		66	32
Identifies parts of a circle		21	53
3-Dimensional figures			
Identifies and describes geometric solids by their attributes	71, 75; Investigation 8	98, 99, 100	83
Identifies congruent parts of geometric solids		99	83, 89
Coordinate geometry			
Names and graphs ordered pairs	109, 110; Investigation 11	Investigation 8	Investigation 8
Identifies types of symmetry	Investigations 7, 9	79	88, 105; Investigations 8, 12
Identifies transformations		73, 75, 78, 82	105; Investigation 8
Graphs reflections			88; Investigation 8
Measurement			
Measuring physical attributes			
Uses customary units of length	34, 35, 37, 58	39; Investigation 2	44, 47
Uses customary units of weight	74, 98	77	47, 77
Uses customary units of capacity	87	40	47, 85, 103
Uses metric units of length	79	69, 102; Investigation 2	44, 65, 66
Uses metric units of mass	80, 98	77	77
Uses metric units of capacity	87	40	85, 103
Uses temperature scales: Fahrenheit, Celsius	4	18	27, 98
Measures time	3, 5, 8	5, 54	28
Measures elapsed time		19, 27	28, 35, 108
Chooses an appropriate unit of measurement	34, 74, 79, 80, 87	77	65, 72, 74, 103
Systems of measurement			
Converts in the U.S. Customary System		40, 77; Investigation 2	47, 74, 77, 85
Converts in the metric system		40, 69, 77, 102; Investigations 2, 11	44, 65, 74, 77, 85
Solving measurement problems			
Finds the perimeter of polygons	58, 66, 67	108; Investigation 2	53
Estimates perimeter		111; Investigation 3	101, 104

	Intermediate 3	Intermediate 4	Intermediate 5
Measurement, continued			
Solving measurement problems, continued			
Finds the area of rectangles	53, 62, 63	Investigation 3	72, 115
Finds the area of complex figures		108	103
Estimates area	63	111; Investigation 3	72, 104
Finds the volume of rectangular prisms	72, 73, 77	Investigation 11	103, 104, 114
Estimates volume		111; Investigation 11	104
Finds the measures of a circle			53
Solving problems of similarity			
Solves problems involving scale factor			Investigation 11
Solves problems involving scale drawings: two-dimensional figures			Investigation 11
Solves problems involving scale models: three-dimensional figures			Investigation 11
Use appropriate measurement instruments			
Uses rulers (U.S. Customary and metric)	34, 35, 37, 79; Investigation 4	39, 69, 102	44, 65, 66
Uses a thermometer	4	18	98
Uses a stopwatch		Investigation 4B	69
Uses a compass		21	
Uses a protractor			Investigation 10
Data Analysis and Probability			
Data collection and representation			
Collects data	Investigations 3, 6	Investigation 7	Investigations 5, 6, 7, 9
Displays data	105; Investigations 1, 3, 6	83; Investigation 6	Investigations 5, 6, 7, 9
Represents and interprets data using pictographs	Investigations 1, 3	Investigation 6	Investigations 5, 7
Represents and interprets data using bar graphs	Investigations 1, 6	Investigations 6, 10	93; Investigations 5, 7
Represents and interprets data using tables and charts		101; Investigations 6, 8	98, 108; Investigations 5, 6, 7
Represents and interprets data using frequency tables		Investigation 10	Investigations 5, 7, 9
Represents and interprets data using line graphs		Investigations 6, 8	93; Investigations 5, 6, 7
Represents and interprets data using circle graphs		Investigation 6	Investigation 7
Represents and interprets data using line plots		97	Investigations 5, 7
Represents and interprets data using histograms			Investigation 7

Data Analysis and Probability, continued**Data collection and representation, continued**

Represents and interprets data using stem-and-leaf plots			Investigation 7
Represents and interprets data using Venn diagrams			Investigation 7
Chooses an appropriate graph		Investigations 7, 8	Investigations 5, 6
Draws and compares different representations			Investigations 5, 7

Data set characteristics

Finds the mean, median, mode, and range		96, 97	50, 84; Investigations 5, 7
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Probability

Describes the likelihood that an event will occur	45, 50; Investigation 5	Investigation 10	57
Calculates simple probability		Investigation 10	57, 81
Calculates experimental probability		Investigation 10	57; Investigation 9
Makes predictions based on experiments		Investigation 10	57; Investigation 9

Problem Solving**Focus Strategies**

Acts it out or makes a model	13, 14, 17	1, 2, 6	12, 52, 120
Draws a picture or diagram	7, 8, 11	9, 10, 12	21, 43, 44
Finds/extends a pattern	1, 2, 3	8, 11, 12	1, 2, 11
Guesses and checks	18, 23, 31	15, 16, 19	18, 22, 26
Makes an organized list	45, 46, 51	24, 36, 46	4, 5, 7
Makes it simpler	67, 68, 69	20, 29, 48	42, 65, 66
Makes or uses a table, chart, or graph	4, 5, 10	3, 4, 5	40, 49, 67
Uses logical reasoning	30, 19, 30	13, 14, 17	3, 6, 13
Works backwards	59, 66, 79	57, 68, 71	13, 14, 16
Writes a number sentence or equation	20, 21, 22	11, 28, 29	17, 28, 32

Communication

Questions and responds	8, 13, 16	2, 6, 9	2, 3, 7
Works with partners or in groups	1, 2, 6	1, 3, 8	2, 7, 8
Communicates mathematical ideas through objects, words, pictures, numbers, technology, and symbols	3, 6, 8	1, 3, 4	1, 2, 4
Writes about math	51, 56	1, 2, 3	11, 12; Investigation 1

Mathematical Reasoning

Uses algebraic reasoning	2, 34, 53	3, 94	1, 11; Investigation 4
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	Intermediate 3	Intermediate 4	Intermediate 5
Mathematical Reasoning, continued			
Uses spatial reasoning	51, 66, 69, 71, 75; Investigations 7, 9	23, 63, 66, 73, 75, 79, 99	32, 83, 88, 105
Classifies and sorts	67, 69, 102, 104	63, 78, 92, 98	12, 32, 36, 45
Explains an answer	7, 25, 26	4, 5, 6	2, 3, 4
Makes generalizations	2, 4, 12	29; Investigations 1, 2	1, 2, 3
Justifies conclusions	8, 20, 27	11, 13, 15	7, 11; Investigation 1
Connections			
Connects math to geography	21, 31, 33	7, 8; Investigation 1	5, 7, 21
Connects math to history	3, 33, 39	27, 33, 59	5, 30, 33
Connects math to science	3, 4, 5, 18, 20; Investigation 1	9, 11; Investigation 1	4, 24, 27
Connects math to sports	10, 18, 36	19, 32, 36	21, 35, 37