Correlation to the Common Core State Standards

Saxon Math Course 2
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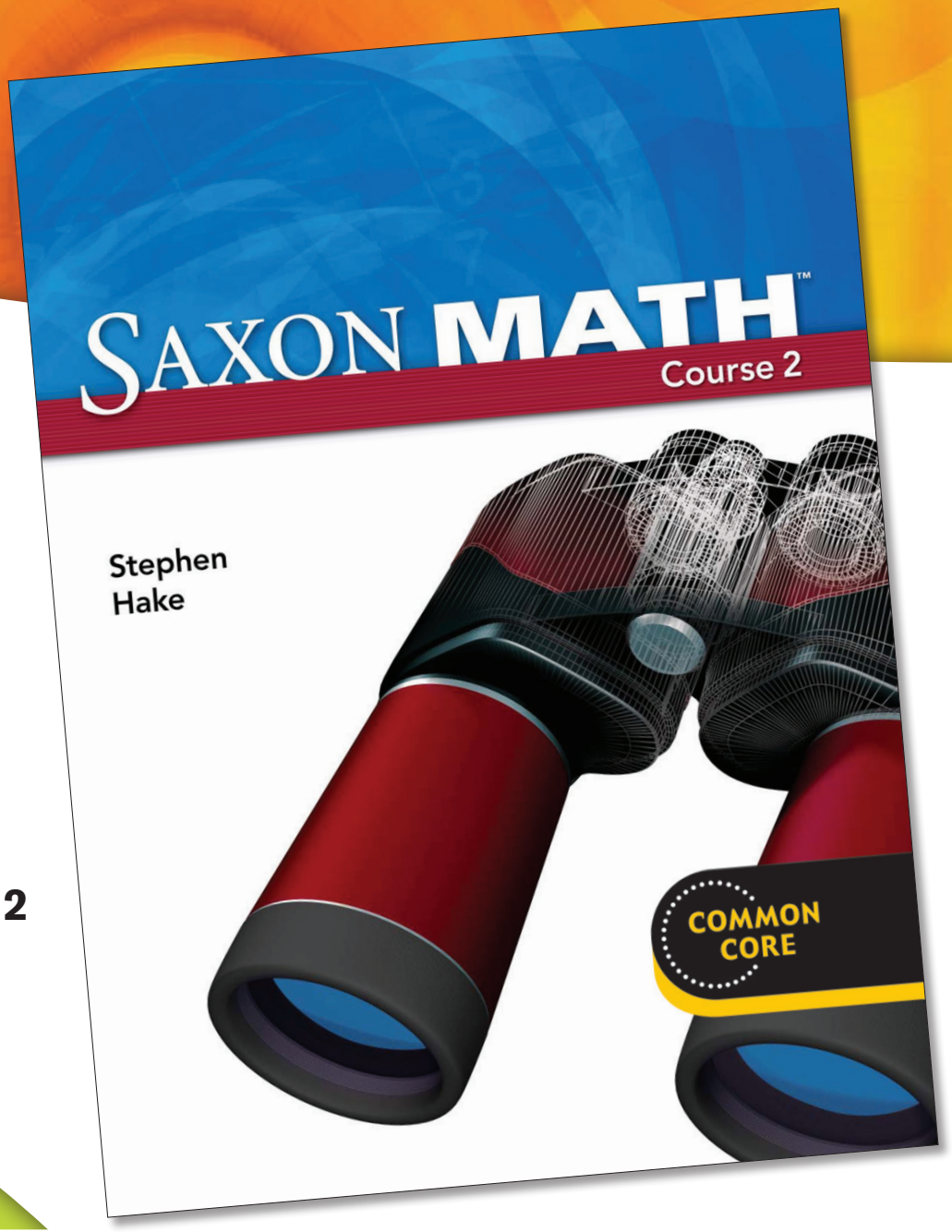

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HOUGHTON MIFFLIN HARCOURT | SAXON

Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations	Narrative
Standards for Mathematical Practice	**1.**	Make sense of problems and persevere in solving them.	**INSTRUCTION:** **New Concept:** Lesson 1, pp. 7-10; Lesson 11, pp. 75-79; Lesson 14, pp. 93-98; Lesson 22, pp. 157-159; Lesson 28, pp. 194-197; Lesson 41, pp. 296-299; Lesson 50, pp. 352-355; Lesson 52, pp. 369-372; Lesson 55, pp. 386-389; Lesson 81, pp. 562-565; Lesson 106, pp. 739-741 **Investigation:** Investigation 4, pp. 293-295; Investigation 8, pp. 558-561; Investigation 11, pp. 773-777 **MAINTENANCE:** **Problem Solving:** Lesson 1, p. 6; Lesson 14, p. 93; Lesson 20, p. 134; Lesson 28, p. 194; Lesson 30, p. 208; Lesson 34, p. 241; Lesson 45, p. 323; Lesson 56, p. 393; Lesson 68, p. 480; Lesson 74, p. 518; Lesson 81, p. 562; Lesson 100, p. 693; Lesson 109, p. 759; Lesson 117, p. 817 **Written Practice:** Lesson 3, pp. 24-25 (#1, #2, #15); Lesson 14, pp. 98-99 (#1, #2, #5); Lesson 17, pp. 118-119 (#2, #13, #20); Lesson 24, pp. 172-174 (#3, #5); Lesson 31, pp. 225-227 (#1, #2, #16); Lesson 54, pp. 382-385 (#9, #16, #24); Lesson 71, pp. 504-506 (#2, #3, #20); Lesson 87, pp. 600-603 (#2, #17, #18); Lesson 96, pp. 664-667 (#1, #3); Lesson 107, pp. 751-753 (#3, #16, #24); Lesson 115, pp. 806-808 (#1, #9, #12); Lesson 120, pp. 841-843 (#1, #11) **Standards Success Activity:** Activity 7, pp. 13-14, Activity 9, pp. 17-18, Activity 10, pp. 19-20, Activity 11, pp. 21-22, Activity 12, pp. 23-24, Activity 17, pp. 33-34, Activity 26, pp. 51-52	Developing enthusiastic, independent, and proficient problem solvers is the focus of the *Saxon Math* series. To reinforce this commitment from day one, *Course 2* opens with a "Problem-Solving Overview" on pages 1 - 5. Working from Polya's classic four-step problem solving process, and beginning with ten general strategies, students are guided to **understand** the information that has been provided and the question being asked, to **plan** accordingly, to use their plan to **solve** the problem while remaining open to re-direction, and to **check** their solution for reasonableness and possible extensions. The process and strategies outlined in the overview are discussed daily in the Problem Solving portion of the daily Power Up, and practiced daily in the integrated Written Practice, where students are not only expected to solve, but to also formulate problems. All problems build in complexity throughout the year, and to support good questioning, teacher materials include a "Problem Solving Discussion Guide" for each Power-Up, and "Math Conversation" prompts for each Lesson and Written Practice. Saxon's pedagogy of daily integrating and gently evolving domains simultaneously naturally promotes **perseverance**. Students are provided both the time to master and the material to maintain skill sets. This avoids the current phenomenon of students learning enough to get by on the next test but forgetting those skills shortly thereafter, forcing them to be reviewed again the following year.

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Standards for Mathematical Practice	**2.**	Reason abstractly and quantitatively.	**INSTRUCTION:** **New Concept:** Lesson 3, pp. 21-23; Lesson 12, pp. 83-85; Lesson 14, pp. 93-98; Lesson 79, pp. 545-546; Lesson 96, pp. 660-663; Lesson 100, pp. 693-696 **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Problem Solving:** Lesson 2, p. 13; Lesson 5, p. 34; Lesson 6, p. 40; Lesson 15, p. 100; Lesson 34, p. 241; Lesson 38, p. 273; Lesson 45, p. 323; Lesson 56, p. 393; Lesson 64, p. 453; Lesson 66, p. 466; Lesson 79, p. 545; Lesson 90, p. 618 **Written Practice:** Lesson 3, pp. 24-25 (#2, #7, #9); Lesson 4, pp. 32-33 (#7, #9, #10); Lesson 13, pp. 90-92 (#1, #3, #7); Lesson 14, pp. 98-99 (#2, #5, #30); Lesson 16, pp. 111-113 (#1, #4, #14); Lesson 90, pp. 621-623; Lesson 96, pp. 664-667 (#14, #27); Lesson 100, pp. 696-698 (#2, #11, #18); Lesson 101, pp. 707-709 (#7, #10, #28); Lesson 102, pp. 714-716 (#1, #18, #24) **Standards Success Activity:** Activity 16, pp. 31-32, Activity 17, pp. 33-34, Activity 22, pp. 43-44, Activity 23, pp. 45-46, Activity 26, pp.51-52, Activity 27, pp. 53-54	The foundation of the *Saxon Math* series is mathematically proficient students, as measured by computational fluency, effective modeling of conceptual understanding, and meaningful application of concepts. Daily Written Practice does not focus simplistically on one standard at a time, but involves multiple domains just as real-world situations require. Examples and Practice Problems in the student text are marked with blue icons signifying to students the need to coherently "Generalize," "Represent," "Formulate," and "Model" their work. Students develop habits of fluency and flexibility in both contextualizing (generating models of their understanding) and decontextualizing (simplifying a problem into symbolic form).

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Standards for Mathematical Practice	**3.**	Construct viable arguments and critique the reasoning of others.	**INSTRUCTION:** **New Concept:** Lesson 12, pp. 83-85; Lesson 16, pp. 107-111; Lesson 29, pp. 200-204; Lesson 94, pp. 648-650 **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Problem Solving:** Lesson 3, p. 20; Lesson 15, p. 100; Lesson 20, p. 134; Lesson 35, p. 247; Lesson 43, p. 309; Lesson 57, p. 400; Lesson 64, p. 453; Lesson 75, p. 523; Lesson 82, p. 569; Lesson 95, p. 653; Lesson 103, p. 717; Lesson 113, p. 791 **Written Practice:** Lesson 12, pp. 85-87 (#3, #4, #5); Lesson 19, pp. 131-133 (#4, #7, #29); Lesson 22, pp. 161-161 (#27); Lesson 29, pp. 204-207 (#1, #8, #9); Lesson 30, pp. 213-215 (#3, #6, #8); Lesson 33, pp. 239-240 (#4, #28, #29); Lesson 35, pp. 251-254 (#28); Lesson 70, pp. 493-495 (#19); Lesson 94, pp. 650-652 (#30); Lesson 95, pp. 656-659 (#17) **Standards Success Activity:** Activity 3, pp. 5-6, Activity 4, pp. 7-8, Activity 14, pp. 27-28 , Activity 19, pp. 37-38, Activity 24, pp. 47-48	Mathematically proficient students are able to communicate their personal thinking, ask useful questions, and clarify or improve upon the arguments of others. The opening "Power Up" activities of each lesson provided throughout the *Saxon Math* series are designed to foster discussion within the classroom and amongst classmates as to individual perspectives and preferences, strategies, and techniques of problem solving. Students hear and respond to novel approaches to solve problems, and teachers guide the discussion to ensure that student answers are based on solid mathematical reasoning. Examples, Practice Problems, and "Thinking Skill" prompts in the margins of the student text are marked with blue icons signifying to students the need to "Discuss," "Explain," "Justify," and "Verify" their solutions. Teacher Manuals provide daily "Error Alert" and "Error and Misconceptions Analysis" prompts to emphasize opportunities for evaluative discussion of student thinking.

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Standards for Mathematical Practice	**4.**	Model with mathematics	**INSTRUCTION:** **New Concept:** Lesson 7, pp. 46-50; Lesson 9, pp. 60-61, Examples 2-3; Lesson 22, pp. 157-159; Lesson 25, pp. 175-179; Lesson 98, pp. 677-682, Examples 1-2, 4-5; Lesson 102, pp. 710-713, Examples 1-2, 5 **Investigation:** Investigation 1, pp. 72-74; Investigation 2, pp. 143-148; Investigation 4, pp. 293-295; Investigation 11, pp. 773-777 **MAINTENANCE:** **Problem Solving:** Lesson 14, p. 93; Lesson 28, p. 194; Lesson 30, p. 208; Lesson 34, p. 241; Lesson 40, p. 285; Lesson 50, p. 352; Lesson 54, p. 380; Lesson 90, p. 618 **Written Practice:** Lesson 24, pp. 172-174 (#4, #6, #12); Lesson 26, pp. 185-187 (#8, #10, #30); Lesson 36, pp. 261-263 (#5, #16); Lesson 56, pp. 397-399 (#23, #29); Lesson 62, pp. 444-446 (#6); Lesson 71, pp. 504-506 (#18); Lesson 77, pp. 537-539; Lesson 83, pp. 577-579 (#9); Lesson 87, pp. 600-603; Lesson 100, pp. 696-698 (#13, #14, #25); Lesson 118, pp. 828-830 (#5, #10) **Standards Success Activity:** Activity 15, pp. 29-30, Activity 18, pp. 35-36, Activity 22, pp. 43-44, Activity 23, pp. 45-46	*Saxon Math* is based on the belief that people learn by doing, and the ultimate "doing" is applying mathematical concepts to everyday life situations. The *Saxon Math* series seeks to produce mathematically proficient students who can then use the quantitative skills they have honed to create solutions, and apply quantitative methods to practical challenges. Examples and Practice Problems in the student text are marked with blue icons signifying to students the need to "Represent," "Formulate," and "Model" their work. Visual support throughout the program ensures that students are able to represent mathematical situations using charts, tables, and other graphic organizers to guide their understanding of increasingly complex problems. One key example in *Course 2* involves the ratio box. First introduced in Lesson 53, this problem-solving tool serves as an important middle step that allows students to model a concrete mathematical problem before making the leap to an abstract proportional relationship. It is first used for straight-forward ratio word problems but gradually builds towards more complicated problem-solving situations, including (but not limited to) percent of change, scale models, and successive discounts.

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Standards for Mathematical Practice	**5.**	Use appropriate tools strategically.	**INSTRUCTION:** **New Concept:** Lesson 17, pp. 115-118; Lesson 34, pp. 241-244; Lesson 37, pp. 264-270; Lesson 43, pp. 309-313; Lesson 51, pp. 363-366; Lesson 52, pp. 369-372; Lesson 57, pp. 400-403; Lesson 65, pp. 459-462; Lesson 112, pp. 784-787 **Investigation:** Investigation 2, pp. 143-148; Investigation 3, pp. 216-220; Investigation 7, pp. 496-501; Investigation 10, pp. 699-703 **MAINTENANCE:** **Problem Solving:** Lesson 2, p. 13; Lesson 24, p. 169; Lesson 30, p. 208; Lesson 34, p. 241; Lesson 50, p. 352; Lesson 80, p. 550 **Written Practice:** Lesson 17, pp. 118-119 (#6, #10); Lesson 18, pp. 124-127 (#25, #26); Lesson 19, pp. 131-133 (#13); Lesson 22, pp. 160-161 (#28); Lesson 25, pp. 179-181 (#2, #4, #15); Lesson 32, pp. 232-234 (#29, #30); Lesson 36, pp. 261-263 (#6, #13, #30); Lesson 37, pp. 270-272 (#7, #15, #29) **Standards Success Activity:** Activity 5, pp. 9-10, Activity 8, pp. 15-16, Activity 18, pp. 35-36, Activity 25, pp. 49-50, Activity 28, pp. 55-56	*Saxon Math* requests and requires the use of grade level appropriate tools for instruction and problem solving. This begins with concrete models at the primary level, regularly includes representational tools such as graphs, charts, tables and diagrams, and moves to more sophisticated tools like geometry software at the secondary level. Saxon offers instruction and guidance for appropriate use of tools throughout the program, and has compiled a complete manipulative set for grades 6–8. Icons in the margins of the textbook indicate to students appropriate places for use of scientific calculators, and graphing calculator icons indicate related/extension activities available on-line. Alongside the standard use of tools, "Alternate Approach with Manipulatives" notes in the Teacher Manual and the "Adaptation Teaching Guide" provide additional techniques for working with at-risk students via standard manipulatives, reference guides, and adaptation prompts. Students learn how these tools and resources can support them in solving problems without over-relying on them or letting them impede their ability to solve problems independently.

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Standards for Mathematical Practice	**6.**	Attend to precision.	**INSTRUCTION:** **New Concept:** Lesson 8, pp. 54-58; Lesson 15, pp. 100-104; Lesson 17, pp. 115-118; Lesson 20, pp. 134-139; Lesson 32, pp. 228-231; Lesson 34, pp. 241-244; Lesson 35, pp. 247-251 **Investigation:** Investigation 2, pp. 143-148; Investigation 3, pp. 216-220; Investigation 10, pp. 699-703; Investigation 11, pp. 773-777 **MAINTENANCE:** **Problem Solving:** Lesson 69, p. 485; Lesson 79, p. 545; Lesson 80, p. 550; Lesson 82, p. 569 **Written Practice:** Lesson 15, pp. 105-106 (#3, #5, #8); Lesson 16, p. 112 (#5, #6, #9); Lesson 21, pp. 154-156 (#3, #4, #25); Lesson 22, pp. 160-161 (#7, #11, #28); Lesson 32, pp. 233-234 (#15, #29, #30); Lesson 34, pp. 245-246 (#12, #14, #27); Lesson 35, pp. 252-253 (#9, #11, #14); Lesson 37, pp. 270-272 (#3, #16, #28); Lesson 66, pp. 468-471 (#3, #18, #30); Lesson 86, pp. 595-597 (#15, #20) **Standards Success Activity:** Activity 2, pp. 3-4, Activity 3, pp. 5-6	To ensure students calculate accurately and efficiently, and then maintain that proficiency, 30 fully integrated and evolving Written Practice problems have been designed to daily guarantee students' minds do not go on autopilot, which is the brain's natural tendency when presented with too many of the same thing in a single sitting. Conscientious effort has been made by author Stephen Hake to guarantee that if, for example, a proportional reasoning problem is to be posed daily, that it be presented from different perspectives so as to very naturally require and instill attention to detail. Students may simply define the process on one day, represent the problem symbolically the next day, formulate their own problem, or generate a solution – but for different components each time. Each practice and assessment question is referenced to its lesson of initial instruction to encourage students to reference rather than guess when in doubt. Automaticity of basic skill sets is promoted with a 2-3 minute timed practice set that opens the Power-Up portion of each lesson. Parallel to the student textbook, the "Student Adaptation Workbook" provides additional starting points, hints/tips for progressing, and reminders to label to encourage and reinforce precision with special needs and at-risk students.

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Standards for Mathematical Practice	**7.**	Look for and make use of structure.	**INSTRUCTION:** **New Concept:** Lesson 2, pp. 14-18; Lesson 9, pp. 60-63; Lesson 15, pp. 100-104; Lesson 19, pp. 128-131; Lesson 41, pp. 296-299; Lesson 52, pp. 369-372; Lesson 81, pp. 562-565; Lesson 85, pp. 586-589; Lesson 101, pp. 704-707; Lesson 106, pp. 739-741; Lesson 108, pp. 754-755 **Investigation**: Investigation 11, pp. 773-777 **MAINTENANCE:** **Written Practice** Lesson 3, p. 24 (#3, #5, #6); Lesson 7, pp. 51-52 (#2, #23, #24); Lesson 14, p. 99 (#8, #21, #22); Lesson 19, pp. 131-133 (#4, #8, #30); Lesson 27, pp. 191-193 (#9, #6, #16); Lesson 41, pp. 299-301 (#9, #14, #29); Lesson 42, pp. 305-308 (#8, #19, #21); Lesson 59, pp. 417-419 (#14, #28); Lesson 60, pp. 423-426 (#21, #22); Lesson 81, pp. 565-568 (#10, #16, #26); Lesson 85, pp. 585-591 (#17, #28); Lesson 101, pp. 707-709 (#5, #11, #13); Lesson 107, pp. 751-753 (#11, #16, #30) **Standards Success Activity:** Activity 20, pp. 39-40, Activity 21, pp. 41-42, Activity 27, pp. 53-54	*Saxon Math* builds solid structure throughout the program first by explicitly teaching number properties and how concepts connect, and then by encouraging students to use both problem solving strategies and their skill fluency to notice possible patterns and apply basic structures to new or unique challenges. Saxon's program gradually evolves from these particulars to the deeper structures inherent in the discipline. The integrated Written Practice takes this one step further by forcing students to develop flexibility in their mathematical understanding. Rather than presenting 20 identical problems with slightly different numeration side-by-side, *Saxon Math* asks students to practice a myriad of concepts from different strands on a daily basis, ensuring that their use of structure is not simply a function of the problem type. Author Stephen Hake is careful to phrase examples and practice problems of a single concept in a variety of ways to assure flexibility of student thinking exists within the fluency. "What is NOT?" is a frequent form of questioning, and blue icons identify "Connect," "Classify," and "Analyze" questions within the Written Practice that require students to step back, get an overview of the problem at hand, and shift their perspective if necessary.

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Standards for Mathematical Practice	**8.**	Look for and express regularity in repeated reasoning.	**INSTRUCTION:** **New Concept:** Lesson 4, pp. 29-31; Lesson 6, pp. 40-43; Lesson 24, pp. 169-172; Lesson 27, pp. 188-191; Lesson 115, pp. 804-806 **Investigation:** Investigation 8, pp. 558-561, Investigation 11, pp. 773-777 **MAINTENANCE:** **Problem Solving:** Lesson 1, p. 6; Lesson 12, p. 82; Lesson 16, p. 107; Lesson 21, p. 149; Lesson 42, p. 302 **Written Practice:** Lesson 4, pp. 32-33 (#4, #5, #17); Lesson 5, pp. 38-39 (#2, #6, #28); Lesson 8, pp. 58-59 (#1, #4, #26); Lesson 25, pp. 179-181 (#9, #13, #30); Lesson 26, pp. 185-187 (#9, #14, #21); Lesson 28, pp. 197-199 (#7, #8, #15); Lesson 31, pp. 225-227 (#21, #29); Lesson 117, pp. 821-824 (#2, #13, #19); Lesson 119, pp. 834-836 (#8)	Distributing the instruction of key concepts over the course of the school year allows Saxon curriculum to daily visit the ever increasing "big picture," while attending to finer and finer detail. The development of regularity and repeated reasoning in Saxon students happens over the entire year rather than "cramming" repeated exposures to skills and concepts into a massed practice set or a three-week chapter or unit. This is a much more natural progression of skills, allowing students to discover these patterns and develop a deeper mathematical understanding at their own pace. "Shortcuts" are not introduced or utilized in Saxon until students exemplify proficiency with all subtasks of the skill set. For instance, in Lesson 16 of *Course 2* students revisit function tables, and in Investigation 3 the coordinate plane. They proceed to plotting (Lesson 56) and graphing (Investigation 9) functions, solve and transform literal equations (Lesson 106), and define slope (Lesson 107), but not until Lesson 116 is the "aha" – the shortcut - of using the slope-intercept method of graphing linear equations utilized. Frequently in Saxon, the shortcut has already been discovered and utilized by students themselves by the time it is formally introduced.

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7. RP Ratios and Proportional Relationships		**Analyze proportional relationships and use them to solve real-world and mathematical problems.**	*Course 2* extends students' understanding of ratio to that of proportionality. Students will distinguish proportional from other relationships, represent their work with numbers, words, pictures and equations, relate unit rates of measure to the steepness of the slope of a line, and apply proportional reasoning to solve problems involving percents and scale factors. Knowledge and use of proportional relationships for 7th grade is expanded upon in *Course 2* at the following points: Lesson 14 Problems About Parts of a Whole Lesson 22 Problems About a Fraction of a Group Lesson 36 Ratio Lesson 39 Proportions Lesson 46 Rates Lesson 50 Unit Multipliers Lesson 53 Ratio Word Problems Lesson 54 Rate Word Problems Lesson 55 Rate Problems with Multiple Steps Lesson 60 Fractional Part and the Percent of a Number, Parts 1 Lesson 66 Ratio Problems Involving Totals Lesson 71 Finding the Whole Group When a Fraction is Known Lesson 72 Implied Ratios Lesson 74 Fractional Parts of a Number, Part 2 Lesson 76 Complex Fractions Lesson 77 Percent of a Number, Part 2 Lesson 81 Using Proportions to Solve Percent Problems Lesson 88 Multiple Unit Multipliers Investigation 9 Graphing Functions Lesson 92 Percent of Change Lesson 97 Similar Triangles; Indirect Measurement Lesson 98 Scale Factor Lesson 101 Translating Expressions into Equations Lesson 107 Slope Lesson 110 Successive Discounts Investigation 11 Scale Factor in Surface Area and Volume

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7. RP Ratios and Proportional Relationships	7.RP.1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.	**INSTRUCTION:** **New Concept:** Lesson 46, pp. 329-333; Lesson 53, pp. 375-376 **Investigation:** Investigation 11, pp. 773-777 **MAINTENANCE:** **Problem Solving:** Lesson 57, p. 400; Lesson 67, p. 472; Lesson 102, p. 710 **Written Practice:** Lesson 46, p. 333 (#1, #2, #11); Lesson 48, pp. 344-345 (#1, #5, #15); Lesson 49, pp. 349 (#3); Lesson 50, pp. 356 (#3, #4); Lesson 51, pp. 366 (#4); Lesson 52, pp. 372 (#4, #5); Lesson 55, pp. 390 (#2, #3, #10); Lesson 57, pp. 404 (#11); Lesson 61, pp. 437 (#1, #4); Lesson 62, pp. 444 (#3); Lesson 65, pp. 462 (#1); Lesson 68, pp. 482 (#4, #5, #6); Lesson 70, pp. 493 (#1, #4); Lesson 74, pp. 520 (#2); Lesson 75, pp. 526 (#2); Lesson 76, pp. 531 (#1); Lesson 79, pp. 547 (#2); Lesson 86, pp. 595 (#1, #5); Lesson 91, pp. 633 (#3); Lesson 92, pp. 639 (#3); Lesson 93, pp. 645 (#1); Lesson 98, pp. 683 (#7); Lesson 103, pp. 721 (#3, #4); Lesson 106, pp. 742 (#1, #3); Lesson 112, pp. 788 (#4); Lesson 113, pp. 796 (#4); Lesson 114, pp. 801 (#1, #4) **Standards Success Activity:** Activity 13, pp. 25-26
	7.RP.2	**Recognize and represent proportional relationships between quantities.**	
	7.RP.2.a	Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.	**INSTRUCTION:** **New Concept:** Lesson 98, pp. 677-682 **Investigation:** Investigation 9, pp. 624-630 **MAINTENANCE:** **Written Practice:** Lesson 91, pp. 634 (#19); Lesson 109, pp. 763 (#11) **Standards Success Activity:** Activity 19, pp. 37-38

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7. RP Ratios and Proportional Relationships	**7.RP.2.b**	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	**INSTRUCTION:** **New Concept:** Lesson 46, pp. 329-333 **Investigation:** Investigation 9, pp. 624-630 **MAINTENANCE:** **Problem Solving:** Lesson 57, p. 400; Lesson 67, p. 472; Lesson 102, p. 710 **Written Practice:** Lesson 46, p. 333 (#1, #2, #11); Lesson 48, pp. 344-345 (#1, #5, #15); Lesson 49, p. 349 (#3); Lesson 50, p. 356 (#3, #4); Lesson 51, p. 366 (#4); Lesson 52, p. 372 (#4, #5); Lesson 55, p. 390 (#3); Lesson 57, p. 404 (#11); Lesson 61, p. 437 (#1, #4); Lesson 62, p. 444 (#3); Lesson 65, p. 462 (#1); Lesson 68, p. 482 (#4, #5); Lesson 70, p. 493 (#4); Lesson 74, p. 520 (#2); Lesson 75, p. 526 (#2); Lesson 76, p. 531 (#1); Lesson 79, p. 547 (#2); Lesson 86, p. 595 (#1, #5); Lesson 91, p. 633 (#3, #12); Lesson 92, p. 639 (#3); Lesson 93, p. 645 (#1) **Standards Success Activity:** Activity 25, pp. 49-50
	7.RP.2.c	Represent proportional relationships by equations.	**INSTRUCTION:** **New Concept:** Lesson 28, pp. 194-197; Lesson 39, pp. 280-282; Lesson 46, pp. 329-333; Lesson 55, pp. 386-389; Lesson 72, pp. 507-509 **MAINTENANCE:** **Problem Solving:** Lesson 102, p. 710 **Written Practice:** Lesson 39, p. 284 (#15, #16, #17); Lesson 40, p. 292 (#16, #17, #18); Lesson 41, p. 301 (#17, #18); Lesson 42, p. 307 (#15, #17); Lesson 43, p. 315 (#22); Lesson 44, p. 322 (#20, #21); Lesson 45, p. 328 (#17, #18); Lesson 46, p. 333 (#4); Lesson 48, p. 344 (#1, #5, #6); Lesson 51, p. 366 (#2, #4); Lesson 52, p. 372 (#4, #5); Lesson 55, p. 390 (#3); Lesson 57, p. 404 (#3, #11); Lesson 61, p. 437 (#1, #4); Lesson 62, p. 444 (#1, #3); Lesson 65, p. 462 (#1); Lesson 68, p. 482 (#4, #5); Lesson 70, p. 493 (#4); Lesson 74, p. 520 (#1, #2)

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7. RP Ratios and Proportional Relationships	**7.RP.2.d**	Explain what a point *(x, y)* on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, *r)* where *r* is the unit rate.	**INSTRUCTION:** **New Concept:** Lesson 98, pp. 677-682 **Investigation:** Investigation 9, pp. 624-630 **MAINTENANCE:** **Written Practice:** Lesson 104, p. 729 (#22) **Standards Success Activity:** Activity 26, pp. 51-52
	7.RP.3	Use proportional relationships to solve multistep ratio and percent problems.	**INSTRUCTION:** **New Concept:** Lesson 60, pp. 420-423; Lesson 92, pp. 636-639; Lesson 110, pp. 765-770 **MAINTENANCE:** **Problem Solving:** Lesson 101, p. 704 **Written Practice:** Lesson 60, p. 424 (#9, #10); Lesson 74, p. 520 (#10, #11); Lesson 76, p. 532 (#7, #12, #13); Lesson 78, p. 543 (#21); Lesson 79, p. 548 (#15); Lesson 80, p. 557 (#15); Lesson 81, p. 567 (#13); Lesson 84, p. 584 (#15); Lesson 85, p. 590 (#14); Lesson 91, p. 633 (#6); Lesson 92, p. 639 (#6, #7); Lesson 93, p. 646 (#5, #15); Lesson 94, p. 650 (#7, #8); Lesson 95, p. 657 (#7, #8); Lesson 97, pp. 674-675 (#1, #7, #12); Lesson 98, p. 683 (#2, #4, #12); Lesson 99, p. 690 (#7, #10, #11); Lesson 104, p. 727 (#1)

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.NS The Number System		Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Operations with fractions are revisited early in *Course 2*, and are then able to be utilized daily throughout the course. Operations with rational numbers for 7th grade is expanded upon in *Course* 2 at the following points: Lesson 2 Properties of Operations Lesson 42 Repeating Decimals Lesson 43 Converting Fractions to Decimals Lesson 52 Order of Operation Lesson 59 Adding Integers on a Number Line Lesson 63 Symbols of Inclusion (including Absolute Value) Lesson 64 Adding Positive and Negative Numbers Lesson 68 Algebraic Addition Lesson 73 Multiplying and Dividing Positive and Negative Rational Numbers (whole, decimal, fraction) Lesson 76 Complex Fractions Lesson 86 Number Families (Classifying Rational Numbers) Lesson 118 Division by Zero
	7.NS.1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	
	7.NS.1.a	Describe situations in which opposite quantities combine to make 0.	**INSTRUCTION:** **New Concept**: Lesson 59, pp. 413-416; Lesson 68, pp. 480-482 **MAINTENANCE:** **Written Practice:** Lesson 59, pp. 417-418 (#4, #7, #12); Lesson 60, pp. 424-425 (#8, #11, #13); Lesson 61, p. 439 (#19); Lesson 62, pp. 445-446 (#11, #29); Lesson 63, p. 450 (#5, #11); Lesson 68, p. 483 (#14); Lesson 71, p. 506 (#29); Lesson 73, p. 517 (#29); Lesson 74, p. 522 (#27) **Standards Success Activity:** Activity 6, pp. 11-12

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.NS The Number System	**7.NS.1.b**	Understand $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.	**INSTRUCTION:** **New Concept:** Lesson 59, pp. 413-416; Lesson 68, pp. 480-482 **MAINTENANCE:** **Written Practice:** Lesson 59, pp. 417-418 (#4, #7, #12); Lesson 60, pp. 424-425 (#8, #11, #13); Lesson 61, p. 439 (#19); Lesson 62, pp. 445-446 (#11, #29); Lesson 63, p. 450 (#5, #11); Lesson 68, p. 483 (#14); Lesson 71, p. 506 (#29); Lesson 73, p. 517 (#29); Lesson 74, p. 522 (#27) **Standards Success Activity:** Activity 7, pp. 13-14
	7.NS.1.c	Understand subtraction of rational numbers as adding the additive inverse, $p – q = p + (–q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.	**INSTRUCTION:** **New Concept:** Lesson 59, pp. 413-416; Lesson 64, pp. 453-456; Lesson 68, pp. 480-482 **MAINTENANCE:** **Written Practice:** Lesson 64, p. 457 (#11, #12); Lesson 65, p. 463 (#13); Lesson 66, p. 469 (#14); Lesson 68, p. 483 (#14); Lesson 71, p. 506 (#29); Lesson 73, p. 517 (#29); Lesson 74, p. 522 (#27) **Standards Success Activity:** Activity 9, pp. 17-18
	7.NS.1.d	Apply properties of operations as strategies to add and subtract rational numbers.	**INSTRUCTION:** **New Concept:** Lesson 59, pp. 413-416; Lesson 64, pp. 453-456; Lesson 68, pp. 480-482 **MAINTENANCE:** **Written Practice:** Lesson 59, p. 417 (#4, #7); Lesson 60, p. 424 (#8, #11); Lesson 64, p. 457 (#11, #12); Lesson 67, p. 478 (#13, #16); Lesson 68, p. 483 (#14); Lesson 71, p. 506 (#29); Lesson 73, p. 517 (#29); Lesson 74, p. 522 (#27); Lesson 76, p. 533 (#29); Lesson 78, p. 544 (#26, #30)

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.NS The Number System	7.NS.2	**Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.**	
	7.NS.2.a	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.	**INSTRUCTION:** **New Concept:** Lesson 73, pp. 513-515 **MAINTENANCE:** **Power Up:** Lesson 81, p. 562; Lesson 85, p. 586; Lesson 88, p. 604; Lesson 93, p. 642; Lesson 97, p. 668; Lesson 101, p. 704; Lesson 106, p. 739; Lesson 107, p. 745; Lesson 109, p. 759 **Written Practice:** Lesson 73, pp. 515-516 (#9, #12); Lesson 74, p. 522 (#28); Lesson 75, p. 527 (#13); Lesson 76, p. 532 (#9); Lesson 77, p. 538 (#12); Lesson 78, p. 543 (#14); Lesson 79, p. 548 (#13); Lesson 80, p. 556 (#14); Lesson 81, p. 568 (#29); Lesson 82, p. 574 (#29); Lesson 83, p. 579 (#27); Lesson 84, p. 585 (#29) **Standards Success Activity:** Activity 10, pp. 19-20
	7.NS.2.b	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $–(p/q) = (–p)/q = p/(–q)$. Interpret quotients of rational numbers by describing real-world contexts.	**INSTRUCTION:** **New Concept**: Lesson 1, pp. 6-10; Lesson 73, pp. 513-515; Lesson 86, pp. 592-595; Lesson 118, pp. 825-828 **MAINTENANCE:** **Written Practice:** Lesson 2, p. 19 (#8, #9, #10); Lesson 3, p. 25 (#24, #25, #26); Lesson 4, p. 33 (#18, #19, #20); Lesson 5, p. 39 (#17, #18, #19); Lesson 6, p. 44 (#17, #18, #19); Lesson 8, p. 59 (#18, #19, #20); Lesson 9, p. 65 (#20, #21, #22); Lesson 11, p. 80 (#19, #20, #21); Lesson 13, p. 92 (#20, #24, #25); Lesson 14, p. 99 (#20, #23, #24); Lesson 16, p. 112 (#22, #25); Lesson 18, p. 126 (#20, #21, #22); Lesson 28, p. 198 (#25); Lesson 73, p. 515 (#9); Lesson 74, p. 522 (#28); Lesson 75, p. 527 (#13); Lesson 76, p. 532 (#9); Lesson 77, p. 538 (#12); Lesson 79, p. 548 (#13); Lesson 80, p. 556 (#14); Lesson 82, p. 574 (#29); Lesson 84, p. 585 (#29) **Standards Success Activity:** Activity 11, pp. 21-22

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.NS The Number System	**7.NS.2.c**	Apply properties of operations as strategies to multiply and divide rational numbers.	**INSTRUCTION:** **New Concept:** Lesson 9, pp. 60-64; Lesson 22, pp. 157-159; Lesson 24, pp. 169-172; Lesson 25, pp. 175-179; Lesson 26, pp. 182-185; Lesson 35, pp. 247-251; Lesson 45, pp. 323-326; Lesson 73, pp. 513-515; Lesson 86, pp. 592-595 **MAINTENANCE:** **Power Up:** Lesson 2, p. 13; Lesson 5, p. 34; Lesson 11, p. 75; Lesson 15, p. 100; Lesson 18, p. 120; Lesson 24, p. 169; Lesson 28, p. 194; Lesson 41, p. 296; Lesson 46, p. 329; Lesson 51, p. 363; Lesson 55, p. 386; Lesson 58, p. 406; Lesson 65, p. 459; Lesson 76, p. 529; Lesson 99, p. 686 **Problem Solving:** Lesson 21, p. 149; Lesson 25, p. 175; Lesson 29, p. 200; Lesson 35, p. 247; Lesson 36, p. 255; Lesson 41, p. 296; Lesson 46, p. 329; Lesson 55, p. 386; Lesson 62, p. 440; Lesson 75, p. 523; Lesson 79, p. 545; Lesson 92, p. 636 **Written Practice:** Lesson 13, p. 90; Lesson 15, p. 105; Lesson 17, p. 118; Lesson 19, p. 132 (#14, #25); Lesson 21, p. 154; Lesson 26, p. 185 (#6); Lesson 28, p. 198 (#9, #19, #22); Lesson 32, p. 233 (#22, #25, #26); Lesson 33, p. 240 (#21, #22, #25); Lesson 37, p. 272 (#19, #20, #21); Lesson 38, p. 279 (#18, #23, #25); Lesson 45, p. 328 (#18, #22, #23); Lesson 46, p. 334 (#20, #24); Lesson 49, p. 351 (#19, #23); Lesson 55, p. 392 (#25, #27); Lesson 57, p. 405 (#24, #28); Lesson 61, p. 439 (#25, #26); Lesson 62, p. 446 (#18, #27); Lesson 63, p. 450 (#10); Lesson 66, p. 468 (#3); Lesson 69, p. 489 (#29, #33); Lesson 70, p. 495 (#28, #29); Lesson 73, p. 515 (#3, #9); Lesson 74, p. 522 (#28); Lesson 75, p. 527 (#8, #13); Lesson 83, p. 579 (#27); Lesson 84, p. 585 (#29); Lesson 109, p. 762 (#1)
	7.NS.2.d	Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	**INSTRUCTION:** **New Concept**: Lesson 43, pp. 310-316; Lesson 86, pp. 592-595 **MAINTENANCE:** **Written Practice:** Lesson 43, p. 314 (#9, #10); Lesson 44, p. 321 (#8, #9); Lesson 45, p. 327 (#9); Lesson 46, p. 333 (#8, #10); Lesson 51, p. 367 (#8); Lesson 80, p. 557 (#25); Lesson 100, p. 698 (#27, #28)

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.NS The Number System	**7.NS.3**	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]	**INSTRUCTION:** **New Concept:** Lesson 13, pp. 88-90; Lesson 22, pp. 157-159; Lesson 25, pp. 175-179; Lesson 26, pp. 182-185; Lesson 28, pp. 194-197; Lesson 44, pp. 317-320; Lesson 45, pp. 323-326 **MAINTENANCE:** **Power Up:** Lesson 2, p. 13; Lesson 6, p. 40; Lesson 9, p. 60; Lesson 16, p. 107; Lesson 19, p. 128; Lesson 27, p. 188; Lesson 41, p. 296; Lesson 46, p. 329; Lesson 49, p. 347; Lesson 55, p. 386; Lesson 68, p. 480; Lesson 74, p. 518; Lesson 79, p. 545; Lesson 87, p. 598; Lesson 103, p. 717; Lesson 111, p. 778; Lesson 119, p. 832 **Problem Solving:** Lesson 11, p. 75; Lesson 22, p. 157; Lesson 23, p. 163; Lesson 27, p. 188; Lesson 32, p. 228; Lesson 36, p. 255; Lesson 41, p. 296; Lesson 45, p. 323; Lesson 51, p. 363; Lesson 55, p. 386; Lesson 62, p. 440; Lesson 72, p. 507; Lesson 86, p. 592; Lesson 95, p. 653 **Written Practice:** Lesson , pp. 90-91 (#4, #5); Lesson 15, p. 105 (#4); Lesson 16, p. 111 (#2); Lesson 17, p. 118 (#3); Lesson 18, p. 124 (#1); Lesson 19, p. 131 (#3); Lesson 20, p. 140 (#1); Lesson 21, p. 154 (#2); Lesson 24, p. 172 (#2); Lesson 26, p. 185 (#2, #5); Lesson 63, p. 450 (#7, #10); Lesson 64, p. 456 (#3, #6); Lesson 66, p. 468 (#2) **Standards Success Activity:** Activity 12, pp. 23-24

[1] Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.EE Expressions and Equations		**Use properties of operations to generate equivalent expressions.**	Beginning at Lesson 3 in *Course* 2, and addressed daily throughout, is the expectation that students will apply to their own experiences their understanding and interpretation of variables. Daily work with contextual and mathematical problems involving unknown values for 7^{th} graders is expanded upon in *Course 2* at the following points: Lesson 3 Unknowns in Addition, Subtraction, Multiplication, Division Lesson 9 Addition, Subtraction, Multiplication of Fractions Lesson 11 Problems About Combining and Separating Lesson 12 Problems About Comparing and Elapsed Time Lesson 13 Problems About Equal Groups Lesson 14 Problems About Parts of a Group Lesson 22 Problems About Fractions of a Group Lesson 28 Two-step Word Problems Lesson 46 Rates Lesson 50 Unit Multipliers Lesson 53 Ratio Word Problems Lesson 54 Rate Word Problems Lesson 55 Average and Rate Problems with Multiple Steps Lesson 64 Algebraic Addition Lesson 66 Ratio Problems with Totals Lesson 68 Algebraic Addition Lesson 78 Graphing Inequalities Lesson 84 Algebraic Terms Lesson 93 Two-step Equations and Inequalities Lesson 96 Distributive Property with Algebraic Terms Lesson 101 Translate Expressions to Equations Lesson 115 Factoring Algebraic Expressions

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.EE Expressions and Equations	7.EE.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	**INSTRUCTION:** **New Concept:** Lesson 84, pp. 580-583; Lesson 96, pp. 660-664; Lesson 115, pp. 804-806 **MAINTENANCE:** **Written Practice:** Lesson 84, p. 583 (#2); Lesson 85, p. 591 (#29); Lesson 86, p. 597 (#29); Lesson 87, p. 603 (#30); Lesson 88, p. 608 (#13, #14); Lesson 89, p. 617 (#25); Lesson 90, p. 621 (#5); Lesson 93, p. 647 (#19); Lesson 96, p. 667 (#27); Lesson 97, p. 676 (#26, #27); Lesson 99, p. 692 (#30); Lesson 100, p. 697 (#11); Lesson 101, pp. 707-709 (#7, #28); Lesson 109, p. 764 (#27); Lesson 116, p. 816 (#27); Lesson 117, pp. 823-824 (#19, #26); Lesson 118, p. 831 (#19, #29); Lesson 119, pp. 835-836 (#8, #22); Lesson 120, p. 841 (#7) **Standards Success Activity:** Activity 22, pp. 43-44
	7.EE.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.	**INSTRUCTION:** **New Concept**: Lesson 101, pp. 704-706 **MAINTENANCE:** **Problem Solving:** Lesson 56, p. 393; Lesson 81, p. 562 **Written Practice:** Lesson 101, pp. 708-709 (#13, #20); Lesson 102, p. 714 (#2, #8); Lesson 103, p. 722 (#17); Lesson 105, p. 736 (#13); Lesson 106, p. 744 (#26); Lesson 107, p. 751 (#11); Lesson 108, p. 756 (#11, #14); Lesson 109, p. 762 (#3); Lesson 111, p. 781 (#9, #10); Lesson 116, p. 814 (#10, #11); Lesson 117, p. 822 (#10); Lesson 118, p. 829 (#14) **Standards Success Activity:** Activity 27, pp. 53-54

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.EE Expressions and Equations		**Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**	
	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.	**INSTRUCTION:** **New Concept:** Lesson 11, pp. 75-79 **MAINTENANCE:** **Problem Solving:** Lesson 47, p. 336; Lesson 87, p. 598 **Written Practice:** Lesson 11, p. 79 (#1, #2); Lesson 12, pp. 85-86 (#1, #2); Lesson 13, p. 92 (#27); Lesson 14, p. 98 (#1); Lesson 17, p. 118 (#1); Lesson 19, p. 131 (#2); Lesson 20, p. 140 (#2); Lesson 22, p. 160 (#1, #3); Lesson 26, p. 185 (#1, #4); Lesson 27, p. 191 (#1); Lesson 33, p. 239 (#3); Lesson 34, p. 244 (#2, #3) **Standards Success Activity:** Activity 24, pp. 47-48

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.EE Expressions and Equations	7.EE.4	**Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.**	
	7.EE.4.a	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.	**INSTRUCTION:** **New Concept:** Lesson 3, pp. 20-23; Lesson 11, pp. 75-78; Lesson 12, pp. 82-85; Lesson 13, pp. 88-90; Lesson 14, pp. 93-94; Lesson 92, pp. 636-639; Lesson 101, pp. 704-707 **MAINTENANCE:** **Problem Solving:** Lesson 59, p. 413 **Written Practice:** Lesson 3, p. 24 (#2, #4); Lesson 4, p. 32 (#2, #7); Lesson 5, p. 39 (#10, #11); Lesson 6, p. 43 (#10, #11); Lesson 7, p. 51 (#1, #12); Lesson 8, p. 59 (#11, #12); Lesson 9, pp. 64-65 (#11, #13); Lesson 11, p. 79 (#1, #2); Lesson 12, p. 86 (#1, #13); Lesson 13, pp. 90-91 (#1, #13); Lesson 14, p. 98 (#1, #2); Lesson 16, p. 111 (#1, #2); Lesson 101, pp. 708-709 (#13, #20); Lesson 102, p. 714 (#2, #8); Lesson 103, p. 722 (#17); Lesson 105, p. 736 (#8, #13); Lesson 106, p. 744 (#26); Lesson 107, p. 751 (#1, #11); Lesson 108, p. 756 (#7, #11); Lesson 109, p. 762 (#3, #5); Lesson 111, p. 781 (#9, #10); Lesson 116, p. 814 (#10, #11); Lesson 117, p. 822 (#10); Lesson 118, p. 829 (#14); Lesson 120, p. 841 (#2) **Standards Success Activity:** Activity 20, pp. 39-40
	7.EE.4.b	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	**INSTRUCTION:** **New Concept:** Lesson 78, pp. 540-544; Lesson 93, pp. 642-645 **MAINTENANCE:** **Written Practice:** Lesson 78, p. 542 (#6); Lesson 79, p. 547 (#6); Lesson 80, p. 556 (#7); Lesson 81, p. 566 (#7); Lesson 82, p. 572 (#5); Lesson 83, p. 577 (#6); Lesson 85, p. 589 (#6); Lesson 90, p. 622 (#22); Lesson 93, p. 647 (#22, #25); Lesson 95, p. 658 (#22, #24); Lesson 98, p. 684 (#16); Lesson 102, p. 716 (#23); Lesson 119, p. 834 (#3) **Standards Success Activity:** Activity 21, pp. 41-42

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.G Geometry		**Draw, construct, and describe geometrical figures and describe the relationships between them.**	Students begin working with two-dimensional figures in Lesson 7 in *Course 2* so as to allow for opportunities to practice on a daily basis throughout the course. Geometric concepts for 7th grade are built upon at the following points within *Course 2*: Lesson 7 Lines, Angles and Planes Lesson 17 Measuring Angles with a Protractor Lesson 18 Polygons Investigation 2 Use Compass and Straightedge (Part 1) Lesson 37 Area of Triangles Lesson 40 Pairs of Angles Lesson 58 Symmetry Investigation 6 Classify Quadrilaterals Lesson 61 Area / Angles of a Parallelogram Lesson 62 Classify Triangles Lesson 65 Circumference and Pi Lesson 80 Transformations Lesson 89 Diagonals; Interior and Exterior Angles Lesson 97 Similar Triangles Lesson 98 Scale Factor Investigation 10 Using a Compass and Straightedge (Part 2) Lesson 102 Transversals Lesson 117 Copying Geometric Figures
	7.G.1	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	**INSTRUCTION:** **New Concept:** Lesson 97, pp. 668-673; Lesson 98, pp. 677-682 **MAINTENANCE:** **Written Practice:** Lesson 97, p. 676 (#21, #22); Lesson 98, p. 684 (#21, #22); Lesson 99, p. 692 (#21, #25); Lesson 103, p. 722 (#19); Lesson 104, p. 729 (#22); Lesson 105, p. 738 (#25, #27); Lesson 108, pp. 756-757 (#13, #22); Lesson 110, p. 771 (#13, #20); Lesson , p. 798 (#, #); Lesson , p. 808 (#, #); Lesson , p. 829 **Standards Success Activity:** Activity 23, pp. 45-46

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.G Geometry	7.G.2	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	**INSTRUCTION:** **New Concept:** Lesson 37, pp. 264-270; Lesson 62, pp. 441-444; Lesson 117, pp. 817-820 **Investigation:** Investigation 6, p. 427-431 **MAINTENANCE:** **Written Practice:** Lesson 19, p. 133; Lesson 37, p. 271 (#15); Lesson 62, p. 446 (#28); Lesson 63, p. 452 (#28); Lesson 65, p. 463 (#9); Lesson 66, p. 471 (#30); Lesson 68, p. 483 (#11); Lesson 69, p. 487 (#8); Lesson 71, p. 506 (#23); Lesson 119, p. 836 (#22) **Standards Success Activity:** Activity 28, pp. 55-56
	7.G.3	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	**INSTRUCTION:** **New Concept:** Lesson 67, pp. 472-476 **MAINTENANCE:** **Problem Solving:** Lesson 90, p. 618; Lesson 100, p. 693 **Standards Success Activity:** Activity 8, pp. 15-16

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.G Geometry		**Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.**	Students revisit and begin utilizing geometric concepts in context in Lesson 7 of *Course 2*. Applications of angles, area, surface area, and volume for 7th graders are expanded upon in *Course 2* at the following points: Lesson 7 Lines, Angles and Planes Lesson 17 Measuring Angles with a Protractor Lesson 18 Polygons Lesson 20 Area of a Rectangle Investigation 2 Use Compass and Straightedge Lesson 37 Area of Triangles Lesson 40 Pairs of Angles Lesson 58 Symmetry Investigation 6 Classify Quadrilaterals Lesson 61 Area of Parallelogram Lesson 62 Classify Triangles Lesson 65 Circumference and Pi Lesson 75 Area of Complex Shapes Lesson 80 Transformations Lesson 82 Area of Circles Lesson 89 Diagonals; Interior and Exterior Angles Lesson 95 Volume of Solids Lesson 97 Similar Triangles Lesson 98 Scale Factor Lesson 102 Transversals Lesson 105 Surface Area Investigation 11 Scale Factor in Surface Area and Volume Lesson 113 Volume of Pyramids, Cones and Spheres Lesson 114 Volume, Capacity and Mass in the Metric System

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.G Geometry	7.G.4	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	**INSTRUCTION:** **New Concept:** Lesson 65, pp. 459-462; Lesson 82, pp. 569-571 **MAINTENANCE:** **Power Up:** Lesson 65, p. 459; Lesson 66, p. 466; Lesson 68, p. 480 **Problem Solving:** Lesson 89, p. 610 **Written Practice:** Lesson 65, p. 462 (#3); Lesson 66, p. 469 (#8); Lesson 67, p. 478 (#19); Lesson 69, p. 487 (#6, #10); Lesson 70, p. 493 (#9); Lesson 71, p. 505 (#10); Lesson 72, pp. 510-511 (#8, #19); Lesson 73, p. 516 (#14); Lesson 74, p. 521 (#13); Lesson 75, p. 527 (#15); Lesson 76, p. 532 (#10); Lesson 77, p. 539 (#19); Lesson 78, p. 542 (#5, #8); Lesson 79, p. 549 (#19); Lesson 82, p. 572 (#11); Lesson 83, p. 578 (#11); Lesson 84, p. 584 (#11); Lesson 87, p. 601 (#10); Lesson 89, p. 615 (#9); Lesson 90, p. 622 (#18); Lesson 91, p. 634 (#18); Lesson 94, p. 651 (#19); Lesson 96, p. 666 (#20); Lesson 100, p. 698 (#19); Lesson 102, p. 715 (#20); Lesson 104, p. 728 (#9)
	7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	**INSTRUCTION:** **New Concept:** Lesson 40, pp. 285-290; Lesson 101, pp. 704-707 **MAINTENANCE:** **Written Practice:** Lesson 42, p. 308 (#30); Lesson 44, p. 322 (#30); Lesson 47, p. 341 (#30); Lesson 49, p. 351 (#30); Lesson 101, p. 709 (#20); Lesson 102, p. 714 (#2, #8); Lesson 108, p. 756 (#11, #14); Lesson 116, p. 814 (#10, #23); Lesson 118, p. 829 (#14)

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.G Geometry	**7.G.6**	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	**INSTRUCTION:** **New Concept:** Lesson 20, pp. 136-140; Lesson 37, pp. 264-270; Lesson 61, pp. 432-437; Lesson 70, pp. 490-493; Lesson 75, pp. 523-526; Lesson 95, pp. 653-656; Lesson 105, pp. 731-735; Lesson 113, pp. 791-795; Lesson 114, pp. 799-801 **Investigation:** Investigation 3, p. 218; Investigation 11, pp. 773-777 **MAINTENANCE:** **Problem Solving:** Lesson 49, p. 347; Lesson 50, p. 352; Lesson 69, p. 485; Lesson 79, p. 545; Lesson 82, p. 569; Lesson 99, p. 686 **Written Practice:** Lesson , p. 161 (#11, #20); Lesson 26, p. 186 (#19, #22); Lesson 27, p. 191 (#4, #6); Lesson 28, p. 197 (#6); Lesson 37, p. 270 (#7); Lesson 60, p. 425 (#17, #21); Lesson 62, p. 445 (#16, #17); Lesson 63, p. 452 (#29); Lesson 85, p. 590 (#11, #19); Lesson 87, p. 601 (#8, #11); Lesson 90, p. 622 (#17); Lesson 94, p. 651 (#18); Lesson 95, p. 658 (#15); Lesson 102, p. 715 (#19); Lesson 114, p. 803 (#20, #21); Lesson 115, p. 808 (#19, #20); Lesson 117, p. 821 (#8)

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.SP Statistics and Probability		**Use random sampling to draw inferences about a population.**	Concepts regarding sampling for 7th grade are built upon at the following points within *Course 2*: Lesson 36 Sample Space Investigation 4 Stem and Leaf Plots; Box and Whisker Plots Investigation 5 Create Graphs
	7.SP.1	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences	**INSTRUCTION:** **Investigation:** Investigation 4, pp. 293-295; Investigation 5, pp. 359-362 **MAINTENANCE:** **Written Practice:** Lesson 41, p. 300 (#7, #8); Lesson 43, p. 314 (#6, #7); Lesson 50, p. 358 (#24); Lesson 54, p. 384 (#12, #18); Lesson 57, p. 404 (#12); Lesson 61, p. 438 (#13); Lesson 65, p. 464 (#21); Lesson 68, p. 483 (#7); Lesson 69, p. 486 (#1); Lesson 71, p. 506 (#18); Lesson 84, p. 583 (#3, #4); Lesson 86, p. 595 (#3); Lesson 90, p. 621 (#2); Lesson 95, p. 656 (#2); Lesson 97, p. 674 (#3); Lesson 101, p. 707 (#1); Lesson 103, p. 720 (#1, #2); Lesson 114, p. 801 (#6) This standard is further addressed in Course 3; opportunities to review can be found on pages 606-609 **Standards Success Activity:** Activity 1, pp. 1-2
	7.SP.2	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.	**INSTRUCTION:** **Investigation:** Investigation 5, pp. 359-362 This standard is further addressed in Course 3; opportunities to review can be found on pages 606-609 **Standards Success Activity:** Activity 2, pp. 2-3, Activity 3, pp. 5-6

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.SP Statistics and Probability		**Draw informal comparative inferences about two populations.**	Saxon Math *Course 2* builds a foundation for advanced analytical statistics by practicing concepts of central tendency and having students create graphs to draw conclusions about a given population. These skills are introduced and reinforced at the following points: Investigation 4 Stem-and-Leaf Plots, Box-and-Whisker Plots Investigation 5 Creating Graphs Early Finishers Lesson 36
	7.SP.3	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.	**INSTRUCTION:** **Investigation:** Investigation 5, pp. 359-362 **MAINTENANCE:** **Written Practice:** Lesson 57, p. 404 (#12, #); Lesson 114, p. 801 (#6) **Standards Success Activity:** Activity 5, pp. 9-10
	7.SP.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.	**INSTRUCTION:** **Investigation:** Investigation 4, pp. 293-295 **MAINTENANCE:** **Written Practice:** Lesson 41, p. 300 (#7, #8); Lesson 43, p. 314 (#6, #7); Lesson 50, p. 358 (#24); Lesson 54, p. 384 (#18); Lesson 61, p. 438 (#13); Lesson 68, p. 483 (#7); Lesson 69, p. 486 (#1); Lesson 71, p. 506 (#18); Lesson 81, p. 566 (#3, #4); Lesson 84, p. 583 (#3, #4); Lesson 86, p. 595 (#3); Lesson 95, p. 656 (#2); Lesson 97, p. 674 (#3); Lesson 101, p. 707 (#1); Lesson 103, p. 720 (#1, #2); Lesson 112, p. 788 (#3) **Standards Success Activity:** Activity 4, pp. 7-8

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.SP Statistics and Probability		**Investigate chance processes and develop, use, and evaluate probability models.**	Saxon Math *Course 2* introduces a variety of concepts related to both theoretical and experimental probability, including multiple opportunities for students to explore chance processes and draw conclusions based on these investigations. Students learn and practice the basics of probability models before diving into deeper applications and critical-thinking activities. The lessons focusing on probability include: Lesson 14 Simple Probability Lesson 36 Sample Spaces Investigation 8 Probability and Odds / Compound Events / Experimental Probability Lesson 94 Probability of Dependent Events
	7.SP.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	**INSTRUCTION:** **New Concept:** Lesson 14, pp. 95-98; Lesson 36, pp. 257-258; Lesson 94, pp. 648-650 **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Written Practice:** Lesson 38, p. 278 (#11); Lesson 39, p. 284 (#29); Lesson 42, p. 306 (#11); Lesson 44, p. 321 (#9); Lesson 60, p. 426 (#23); Lesson 83, p. 577 (#10); Lesson 85, p. 590 (#10); Lesson 100, p. 697 (#15); Lesson 114, p. 801 (#3)
	7.SP.6	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	**INSTRUCTION:** **New Concept:** Lesson 14, pp. 95-98; Lesson 36, pp. 257-258 **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Written Practice:** Lesson 38, p. 278 (#11); Lesson 39, p. 284 (#29); Lesson 42, p. 306 (#11); Lesson 44, p. 321 (#9); Lesson 60, p. 426 (#23); Lesson 83, p. 577 (#10); Lesson 85, p. 590 (#10); Lesson 100, p. 697 (#15); Lesson 114, p. 801 (#3) **Standards Success Activity:** Activity 14, pp. 27-28

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.SP Statistics and Probability	7.SP.7	**Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.**	Saxon students have numerous opportunities to build an understanding of basic probability and then expand that knowledge to real-world situations, including comparing theoretical probability to experimental results. Concepts regarding probability models for 7th grade are built upon at the following points within *Course 2*: Lesson 14 Simple Probability Lesson 36 Sample Spaces Investigation 8 Probability and Odds; Compound Events; Experimental Probability Lesson 94 Probability of Dependent Events
	7.SP.7.a	Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.	**INSTRUCTION:** **New Concept:** Lesson 36, pp. 255-260 **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Written Practice:** Lesson 38, p. 278 (#11); Lesson 39, p. 284; Lesson 42, p. 306 (#11); Lesson 44, p. 321; Lesson 60, p. 426 (#23); Lesson 83, p. 577 (#10); Lesson 85, p. 590 (#10); Lesson 100, p. 697 (#15); Lesson 114, p. 801 (#3) **Standards Success Activity:** Activity 15, pp. 29-30
	7.SP.7.b	Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	**INSTRUCTION:** **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Written Practice:** Lesson 83, p. 577 (#10); Lesson 85, p. 590 (#10); Lesson 100, p. 697; Lesson 101, p. 709; Lesson 106, p. 742 (#2); Lesson 109, p. 763 (#12); Lesson 114, p. 801 (#3); Lesson 116, p. 813 (#1); Lesson 117, p. 822 (#13); Lesson , p. 829

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Domain	Standard	Text of Objective	*Saxon Math Course 2* Citations/Examples *References in italics indicate foundational.*
7.SP Statistics and Probability	7.SP.8	**Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.**	
	7.SP.8.a	Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	**INSTRUCTION:** **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Written Practice:** Lesson 83, p. 577 (#10); Lesson 85, p. 590 (#10); Lesson 100, p. 697; Lesson 101, p. 709; Lesson 106, p. 742 (#2); Lesson 109, p. 763 (#12); Lesson 114, p. 801 (#3); Lesson 116, p. 813 (#1); Lesson 117, p. 822 (#13); Lesson , p. 829 **Standards Success Activity:** Activity 17, pp. 33-34
	7.SP.8.b	Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	**INSTRUCTION:** **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Written Practice:** Lesson 83, p. 577 (#10); Lesson 85, p. 590 (#10); Lesson 100, p. 697; Lesson 101, p. 709 ; Lesson 106, p. 742 (#2); Lesson 109, p. 763 (#12); Lesson 114, p. 801 (#3); Lesson 116, p. 813 (#1); Lesson 117, p. 822 (#13); Lesson , p. 829 **Standards Success Activity:** Activity 16, pp. 31-32
	7.SP.8.c	Design and use a simulation to generate frequencies for compound events.	**INSTRUCTION:** **Investigation:** Investigation 8, pp. 558-561 **MAINTENANCE:** **Written Practice:** Lesson 83, p. 577 (#10); Lesson 85, p. 590 (#10); Lesson 100, p. 697; Lesson 101, p. 709; Lesson 106, p. 742 (#2); Lesson 109, p. 763 (#12); Lesson 114, p. 801 (#3); Lesson 116, p. 813 (#1); Lesson 117, p. 822 (#13); Lesson , p. 829 **Standards Success Activity:** Activity 18, pp. 35-36

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