A Correlation of

enVision® Mathematics

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To the

Georgia Standards of Excellence 2015-2016
Mathematics
Grade 3

SAVVAS

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to the Georgia Standards of Excellence 2015-2016 – Mathematics

Table of Contents

A Correlation of enVision Mathematics, ©2020
to the Georgia Standards of Excellence 2015-2016 – Mathematics

Georgia Standards of Excellence 2015-2016 Grade 3	enVision Mathematics, ©2020 Grade 3
Standards for Mathematical Practice	
Students are expected to:	
1. Make sense of problems and persevere in solving them. In third grade, students know that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Third graders may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They listen to the strategies of others and will try different approaches. They often will use another method to check their answers.	**enVision** Mathematics provides numerous instructional opportunities to help students develop proficiency in the math practices. To get students off to a good start on all eight practices, use the Math Practices and Problem Solving Handbook pages at SavvasRealize.com, along with the Math Practices Posters, and supporting Math Practices Animation. Each lesson begins with Problem-Based Learning, an activity in which students inter4act with their peers and teachers to make sense of and decide on a workable solution for a situation. Another feature of each lesson is the set of problem-solving exercises in which students persevere by applying different skills and strategies to solve problems. Each Problem-Solving Lesson provides instruction and practice focused on a specific math practice. **SE/TE:** 5-8, 9-12, 17-20, 25-28, 41-44, 49-52, 61-64, 81-84, 89-92, 93-96, 97-100, 101-104, 117-120, 121-124, 124-148
2. Reason abstractly and quantitatively. Third graders should recognize that a number represents a specific quantity. They connect the quantity to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities.	**enVision** Mathematics provides scaffolded instruction to help students develop both quantitative and abstract reasoning. In the Visual Learning Bridge, students can see how to represent a given situation n8umberically or algebraically. They will have opportunities later in the lesson to reason abstractly as they endeavor to represent situations symbolically. Reasonableness exercises remind students to compare their work to the original situation. Reasoning problems throughout the exercise sets focus students' attention on the structure or meaning of an operation, for example, rather than merely the solution. **SE/TE:** 9-12, 21-24, 45-48, 53-56, 61-64, 93-96, 97-100, 117-120, 121-124, 125-128, 129-132, 133-136, 141-144, 145-148, 149-152

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3. Construct viable arguments and critique the reasoning of others. In third grade, students may construct arguments using concrete referents, such as objects, pictures, and drawings. They refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?" They explain their thinking to others and respond to others' thinking.	Consistent with a focus on reasoning and sense-making is a focus on critical reasoning – argumentation and critique of arguments. In **enVision** Mathematics, the Problem-Based Learning affords students opportunities to share with classmates their thinking about problems, their solution methods, and their reasoning about the solutions. Many exercises found throughout the program specifically call for students to justify or explain their solutions. The ability to articulate a clear explanation for a process is a stepping stone to critical analysis and reasoning of both the student's own processes and those of others. **SE/TE:** 13-16, 25-28, 41-44, 45-48, 57-60, 61-64, 77-80, 101-104, 133-136, 141-144, 149-152, 173-176, 177-180, 189-192, 209-212
4. Model with mathematics. Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Third graders should evaluate their results in the context of the situation and reflect on whether the results make sense.	Students using **enVision** Mathematics are introduced to mathematical modeling in the early grades. They first use manipulatives and drawings and then equations to model addition and subtraction situations. The Visual Learning Bridge and Visual Learning Animation Plus often present real-world situations, and students are shown how these can be modeled mathematically. In later grades, students expand their modeling skills to include representations such as tables and graphs, as well as equations. **SE/TE:** 5-8, 9-12, 17-20, 21-24, 25-28, 61-64, 85-88, 93-96, 125-128, 137-140, 141-144, 181-184, 189-192, 221-224, 225-228

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5. Use appropriate tools strategically. Third graders consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use graph paper to find all the possible rectangles that have a given perimeter. They compile the possibilities into an organized list or a table, and determine whether they have all the possible rectangles	Students become fluent in the use of a wide assortment of tools ranging from physical objects, including manipulatives, rulers, protractors, and even pencil and paper, to digital tools, such as Online Math Tools and computers. As students become more familiar with the tools available to them, they are able to begin making decisions about which tools are most helpful in a particular situation. **SE/TE:** 13-16, 25-28, 49-52, 57-60, 81-84, 117-120, 181-184, 209-212, 233-236, 257-260, 317-320, 341-344, 353-356, 357-360, 381-384
6. Attend to precision. As third graders develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the area of a rectangle they record their answers in square units.	Students are expected to use mathematical terms and symbols with precision. Key terms and concepts are highlighted in each lesson. The Problem-Based Learning activity provides repeated opportunities for students to use precise language to explain their solution paths while solving problems. In the Convince Me! Feature, students revisit these key terms or concepts and provide explicit definitions or explanations. **SE/TE:** 17-20, 49-52, 57-60, 77-80, 37-140, 145-148, 149-152, 169-172, 217-220, 233-236, 253-256, 261-264, 269-272, 305-308, 309-312
7. Look for and make use of structure. In third grade, students look closely to discover a pattern or structure. For instance, students use properties of operations as strategies to multiply and divide (commutative and distributive properties).	Students are encouraged to look for structure as they develop solution plans. As students mature in their mathematical thinking, they look for structure in numerical operations by focusing on place value and properties of operations. This focus on looking for and recognizing structure enables students to draw from patterns as they formalize their thinking about the structure of operations. **SE/TE:** 13-16, 25-28, 41-44, 45-48, 53-56, 77-80, 81-84, 85-88, 89-92, 101-104, 121-124, 129-132, 137-140, 169-172, 177-180

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8. Look for and express regularity in repeated reasoning. Students in third grade should notice repetitive actions in computation and look for more shortcut methods. For example, students may use the distributive property as a strategy for using products they know to solve products that they don't know. For example, if students are asked to find the product of 7 x 8, they might decompose 7 into 5 and 2 and then multiply 5 x 8 and 2 x 8 to arrive at 40 + 16 or 56. In addition, third graders continually evaluate their work by asking themselves, "Does this make sense?"	Students are prompted to look for repetition in computations to help them develop shortcuts and become more efficient problem solvers. Students are reminded to think about problems they have encountered previously that may share features or processes. They are encouraged to draw on the solution plan developed for such problems, and, as their mathematical thinking matures, to look for and apply generalizations to similar situations. The Problem-Based Learning activities offer students opportunities to look for regularity in the way operations behave. **SE/TE:** 21-24, 53-56, 97-100, 101-104, 133-136, 145-148, 181-184, 185-188, 221-224, 225-228, 269-272, 293-296, 345-348, 353-356, 389-392
Operations and Algebraic Thinking 3.OA	
Represent and solve problems involving multiplication and division.	
MGSE3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*	**SE:** 3, 4, 5–8, 9–12, 13–16, 25–28, Reteaching 31–32, Sets A–C, E, 41–44, 45–48, 49–52, 53–56, 57–60, Reteaching 67–68, Sets A–E, 185–188, Reteaching 197–198, Set E **TE:** 3–3A, 4–4C, 5A–8B, 9A–12B, 13A–16B, 25A–28B, Reteaching 31–32, Sets A–C, E, 41A–44B, 45A–48B, 49A–52B, 53A–56B, 57A–60B, Reteaching 67–68, Sets A–E, 185A–188B, Reteaching 197–198, Set E
MGSE3.OA.2 Interpret whole number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares (How many in each group?), or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each (How many groups can you make?). *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*	**SE:** 4, 17–20, 21–24, 25–28, Reteaching 32, Sets D, E, 185–188, Reteaching 197–198, Set E **TE:** 4–4C, 17A–20B, 21A–24B, 25A–28B, Reteaching 32, Sets D, E, 185A–188B, Reteaching 197–198, Set E

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MGSE3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	**SE:** 3, 4, 5–8, 9–12, 13–16, 17–20, 21–24, 25–28, Reteaching 31–32, Sets A–E, 39–40, 41–44, 45–48, 49–52, 53–56, 57–60, 61–64, Reteaching 67–68, Sets A–F, 76, 81–84, 85–88, 89–92, 93–96, 97–100, Reteaching 107–108, Sets B–E, 117–120, 121–124, 125–128, 129–132, 133–136, 137–140, 141–144, 145–148, 149–152, Reteaching 155–158, Sets A–I, 167, 168, 177–180, 181–184, 185–188, 189–192, Reteaching 196–198, Sets C–F, 252, 253–256, 257–260, 261–264, 265–268, 269–272, Reteaching 275–278, Sets A–D, 385–388, Reteaching 399, Set B, 408, 561–564, Reteaching 574, Set H, 617–620, Reteaching 639, Set A **TE:** 3–3A, 4–4C, 5A–8B, 9A–12B, 13A–16B, 17A–20B, 21A–24B, 25A–28B, Reteaching 31–32, Sets A–E, 39–40A, 41A–44B, 45A–48B, 49A–52B, 53A–56B, 57A–60B, 61A–64B, Reteaching 67–68, Sets A–F, 76–76C, 81A–84B, 85A–88B, 89A–92B, 93A–96B, 97A–100B, Reteaching 107–108, Sets B–E, 117A–120B, 121A–124B, 125A–128B, 129A–132B, 133A–136B, 137A–140B, 141A–144B, 145A–148B, 149A–152B, Reteaching 155–158, Sets A–I, 167–167A, 168–168C, 177A–180B, 181A–184B, 185A–188B, 189A–192B, Reteaching 195–198, Sets C–F, 252–252C, 253A–256B, 257A–260B, 261A–264B, 265A–268B, 269A–272B, Reteaching 275–278, Sets A–D, 385A–388B, Reteaching 399, Set B, 408–408C, 561A–564B, Reteaching 573–574, Set H, 617A–620B, Reteaching 639, Set A
MGSE3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers using the inverse relationship of multiplication and division. *For example, determine the unknown number that makes the equation true in each of the equations, 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.*	**SE:** 141–144, 145–148, Reteaching 157–158, Sets G, H, 168, 221–224, Reteaching 240, Set D **TE:** 141A–144B, 145A–148B, Reteaching 157–158, Sets G, H, 168–168C, 221A–224B, Reteaching 239–240, Set D

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Understand properties of multiplication and the relationship between multiplication and division.	
MGSE3.OA.5 Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*	**SE:** 4, 13–16, Reteaching 31–32, Set C, 49–52, Reteaching 67, Set C, 75, 76, 77–80, 81–84, 85–88, 89–92, 93–96, 97–100, 101–104, Reteaching 107–108, Sets A–F, 137–140, Reteaching 157, Set F, 389–392, Reteaching 400, Set C **TE:** 4–4C, 13A–16B, Reteaching 31–32, Set C, 49A–52B, Reteaching 67, Set C, 75–75A, 76–76C, 77A–80B, 81A–84B, 85A–88B, 89A–92B, 93A–96B, 97A–100B, 101A–104B, Reteaching 107–108, Sets A–F, 137A–140B, Reteaching 157–158, Set F, 389A–392B, Reteaching 400, Set C
MGSE3.OA.6 Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*	**SE:** 117–120, 121–124, 125–128, 129–132, 137–140, 141–144, Reteaching 155–157, Sets A–D, F, G **TE:** 117A–120B, 121A–124B, 125A–128B, 129A–132B, 137A–140B, 141A–144B, Reteaching 155–158, Sets A–D, F, G

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Multiply and divide within 100	
MGSE3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	**SE:** 49–52, Reteaching 67, Set C, 76, 77–80, 81–84, 85–88, 89–92, 93–96, 97–100, Reteaching 107–108, Sets A–E, 117–120, 121–124, 125–128, 129–132, 133–136, 137–140, 141–144, 145–148, Reteaching 155–158, Sets A–H, 167, 168, 169–172, 173–176, 177–180, 181–184, 185–188, 189–192, Reteaching 195–198, Sets A–F, 221–224, 225–228, 229–232, 233–236, Reteaching 240–242, Sets D–G, 297–300, 313–316, Reteaching 324–325, Sets C, G, 345–348, 349–352, Reteaching 368–369, Sets C, D, 413–416, 417–420, 421–424, Reteaching 427–428, Sets B–D, 561–564, Reteaching 574, Set H, 617–620, 625–628, 629–632, Reteaching 639–640, Sets A, C **TE:** 49A–52B, Reteaching 67, Set C, 76–76C, 77A–80B, 81A–84B, 85A–88B, 89A–92B, 93A–96B, 97A–100B, Reteaching 107–108, Sets A–E, 117A–120B, 121A–124B, 125A–128B, 129A–132B, 133A–136B, 137A–140B, 141A–144B, 145A–148B, Reteaching 155–158, Sets A–H, 167–167A, 168–168C, 169A–172B, 173A–176B, 177A–180B, 181A–184B, 185A–188B, 189A–192B, Reteaching 195–198, Sets A–F, 221A–224B, 225A–228B, 229A–232B, 233A–236B, Reteaching 239–242, Sets D–G, 297A–300B, 313A–316B, Reteaching 323–326, Sets C, G, 345A–348B, 349A–352B, Reteaching 367–370, Sets C, D, 413A–416B, 417A–420B, 421A–424B, Reteaching 427–428, Sets B–D, 561A–564B, Reteaching 573–574, Set H, 617A–620B, 625A–628B, 629A–632B, Reteaching 639–640, Sets A, C

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Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
MGSE3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**SE:** 149–152, Reteaching 158, Set I, 168, 253–256, 265–268, Reteaching 275–277, Sets A, C, 287–288, 289–292, 297–300, 301–304, 305–308, 313–316, 317–320, Reteaching 323–326, Sets A, C–E, G, H, 336, 337–340, 341–344, 345–348, 349–352, 353–356, 357–360, 361–364, Reteaching 367–370, Sets A–G, 381–384, Reteaching 399, Set A, 407, 408, 409–412, 413–416, 417–420, 421–424, Reteaching 427–428, Sets A–D, 621–624, Reteaching 639, Set B **TE:** 149A–152B, Reteaching 157-158, Set I, 168–168C, 253A–256B, 265A–268B, Reteaching 275–278, Sets A, C, 287–288A, 289A–292B, 297A–300B, 301A–304B, 305A–308B, 313A–316B, 317A–320B, Reteaching 323–326, Sets A, C–E, G, H, 336–336C, 337A–340B, 341A–344B, 345A–348B, 349A–352B, 353A–356B, 357A–360B, 361A–364B, Reteaching 367–370, Sets A–G, 381A–384B, Reteaching 399, Set A, 407–407A, 408–408C, 409A–412B, 413A–416B, 417A–420B, 421A–424B, Reteaching 427–428, Sets A–D, 621A–624B, Reteaching 639, Set B
MGSE3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*	**SE:** 41–44, 45–48, 53–56, 57–60, Reteaching 67–68, Sets A–E, 81–84, 85–88, 89–92, Reteaching 107–108, Sets B–D, 133–136, Reteaching 157, Set E, 169–172, 189–192, Reteaching 195–198, Sets A, F, 293–296, Reteaching 323, Set B, 393–396, Reteaching 400, Set D **TE:** 41A–44B, 45A–48B, 53A–56B, 57A–60B, Reteaching 67–68, Sets A–E, 81A–84B, 85A–88B, 89A–92B, Reteaching 107–108, Sets B–D, 133A–136B, Reteaching 157–158, Set E, 169A–172B, 189A–192B, Reteaching 195–198, Sets A, F, 293A–296B, Reteaching 323–324, Set B, 393A–396B, Reteaching 400, Set D

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Number and Operations in Base Ten 3.NBT	
Use place value understanding and properties of operations to perform multi-digit arithmetic.	
MGSE3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	**SE:** 287–288, 305–308, 309–312, Reteaching 324–325, Sets E, F, 336 **TE:** 287–288A, 305A–308B, 309A–312B, Reteaching 323–326, Sets E, F, 336–336C
MGSE3.NBT.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**SE:** 287–288, 289–292, 297–300, 301–304, 309–312, 313–316, 317–320, Reteaching 323–326, Sets A, C, D, F–H, 335, 336, 337–340, 341–344, 345–348, 349–352, 353–356, 357–360, 361–364, Reteaching 367–370, Sets A–G, 408, 409–412, 417–420, 421–424, Reteaching 427–428, Sets A, C, D, 541–544, Reteaching 572, Set C, 621–624, Reteaching 639 Set B **TE:** 287–288A, 289A–292B, 297A–300B, 301A–304B, 309A–312B, 313A–316B, 317A–320B, Reteaching 323–326, Sets A, C, D, F–H, 335–335A, 336–336C, 337A–340B, 341A–344B, 345A–348B, 349A–352B, 353A–356B, 357A–360B, 361A–364B, Reteaching 367–370, Sets A–G, 408–408C, 409A–412B, 417A–420B, 421A–424B, Reteaching 427–428, Sets A, C, D, 541A–544B, Reteaching 571–572, Set C, 621A–624B, Reteaching 639 Set B
MGSE3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	**SE:** 379–380, 381–384, 385–388, 389–392, 393–396, Reteaching 399–400, Sets A–D **TE:** 379–380A, 381A–384B, 385A–388B, 389A–392B, 393A–396B, Reteaching 399–400, Sets A–D

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Number and Operations – Fractions 3.NF	
Develop understanding of fractions as numbers.	
MGSE3.NF.1 Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts (unit fraction); understand a fraction a/b as the quantity formed by a parts of size $1/b$. For example, 3/4 means there are three 1 /4 parts, so 3/4 = 1/4 + 1/4 + 1/4 .	**SE:** 435–436, 437–440, 441–444, 445–448, 465–468, Reteaching 471–474, Sets A–C, H, 484, 585–588, 589–592, Reteaching 603, Sets A, B **TE:** 435–436A, 437A–440B, 441A–444B, 445A–448B, 465A–468B, Reteaching 471–474, Sets A–C, H, 484–484C, 585A–588B, 589A–592B, Reteaching 603, Sets A, B
MGSE3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.	**SE:** 435–436, 449–452, 453–456, 457–460, 461–464, Reteaching 472–474, Sets D–G **TE:** 435–436A, 449A–452B, 453A–456B, 457A–460B, 461A–464B, Reteaching 471–474, Sets D–G
a. Represent a fraction $\mathbf{1}/\boldsymbol{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\mathbf{1}/\boldsymbol{b}$. Recognize that a unit fraction $\mathbf{1}/\boldsymbol{b}$ is located $\mathbf{1}/\boldsymbol{b}$ whole unit from 0 on the number line.	**SE:** 435–436, 449–452, 453–456, 457–460, 461–464, Reteaching 472–474, Sets D–G **TE:** 435–436A, 449A–452B, 453A–456B, 457A–460B, 461A–464B, Reteaching 471–474, Sets D–G
b. Represent a non-unit fraction a/b on a number line diagram by marking off a lengths of 1/b (unit fractions) from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the non-unit fraction a/b on the number line.	**SE:** 449–452, 453–456, 457–460, 461–464, Reteaching 472–474, Sets D–G **TE:** 449A–452B, 453A–456B, 457A–460B, 461A–464B, Reteaching 471–474, Sets D–G
MGSE3.NF.3 Explain equivalence of fractions through reasoning with visual fraction models. Compare fractions by reasoning about their size.	**SE:** 445–448, Reteaching 472, Set C, 483, 484, 485–488, 489–492, 493–496, 497–500, 501–504, 505–508, 509–512, 513–516, Reteaching 519–522, Sets A-H **TE:** 445A–448B, Reteaching 471–472, Set C, 483–483A, 484–484C, 485A–488B, 489A–492B, 493A–496B, 497A–500B, 501A–504B, 505A–508B, 509A–512B, 513A–516B, Reteaching 519–522, Sets A-H

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a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	**SE:** 483, 484, 485–488, 489–492, 505–508, 509–512, Reteaching 519–522, Sets A, B, F, G TE: 483–483A, 484–484C, 485A–488B, 489A–492B, 505A–508B, 509A–512B, Reteaching 519–522, Sets A, B, F, G
b. Recognize and generate simple equivalent fractions with denominators of 2, 3, 4, 6, and 8, e.g., 1/2 = 2/4, 4/ 6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.	**SE:** 483, 485–488, 489–492, 513–516, Reteaching 519–522, Sets A, B, H **TE:** 483–483A, 485A–488B, 489A–492B, 513A–516B, Reteaching 519–522, Sets A, B, H
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3* = 6/2 (3 wholes is equal to six halves); recognize that 3/1 = 3; locate 4/4 and 1 at the same point of a number line diagram.	**SE:** 445–448, Reteaching 472, Set C, 484, 509–512, Reteaching 522, Set G **TE:** 445A–448B, Reteaching 471–472, Set C, 484–484C, 509A–512B, Reteaching 521–522, Set G
d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**SE:** 483, 493–496, 497–500, 501–504, 513–516, Reteaching 520–522, Sets C–E, H **TE:** 483–483A, 493A–496B, 497A–500B, 501A–504B, 513A–516B, Reteaching 520–522, Sets C–E, H
Measurement and Data 3.MD	
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	
MGSE3.MD.1 Tell and write time to the nearest minute and measure elapsed time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram, drawing a pictorial representation on a clock face, etc.	**SE:** 531–532, 533–536, 537–540, 541–544, 565–568, Reteaching 571–574, Sets A–C, I **TE:** 531–532A, 533A–536B, 537A–540B, 541A–544B, 565A–568B, Reteaching 571–574, Sets A–C, I

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MGSE3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	**SE:** 309–312, Reteaching 325, Set F, 531–532, 545–548, 549–552, 553–556, 557–560, 561–564, Reteaching 572–574, Sets D–H **TE:** 309A–312B, Reteaching 325–326, Set F, 531–532A, 545A–548B, 549A–552B, 553A–556B, 557A–560B, 561A–564B, Reteaching 571–574, Sets D–H
Represent and interpret data.	
MGSE3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	**SE:** 251, 252, 253–256, 257–260, 261–264, 265–268, 269–272, Reteaching 275–278, Sets A–D, 417–420, Reteaching 428, Set C **TE:** 251–251A, 252–252C, 253A–256B, 257A–260B, 261A–264B, 265A–268B, 269A–272B, Reteaching 275–278, Sets A–D, 417A–420B, Reteaching 428, Set C
MGSE3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.	**SE:** 435–436, 457–460, 461–464, Reteaching 473–474, Sets F, G **TE:** 435–436A, 457A–460B, 461A–464B, Reteaching 473–474, Sets F, G
Geometric Measurement: understand concepts of area and relate area to multiplication and to addition.	
MGSE3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.	**SE:** 252 **TE:** 252–252C
a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.	**SE:** 207–208, 209–212, 213–216, 217–220, Reteaching 239–240, Sets A–C **TE:** 207–208A, 209A–212B, 213A–216B, 217A–220B, Reteaching 239–240, Sets A–C

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b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of *n* square units.	**SE:** 209–212, 213–216, 217–220, Reteaching 239–240, Sets A–C, 593–596, Reteaching 604, Set C **TE:** 209A–212B, 213A–216B, 217A–220B, Reteaching 239–240, Sets A–C, 593A–596B, Reteaching 604, Set C
MGSE3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	**SE:** 207–208, 209–212, 213–216, 217–220, Reteaching 239–240, Sets A–C **TE:** 207–208A, 209A–212B, 213A–216B, 217A–220B, Reteaching 239–240, Sets A–C
MGSE3.MD.7 Relate area to the operations of multiplication and addition.	**SE:** 101–104, Reteaching 108, Set F, 252 **TE:**101A–104B, Reteaching 108, Set F, 252–252C
a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.	**SE:** 221–224, 233–236, Reteaching 242, Set G **TE:** 221A–224B, 233A–236B, Reteaching 241–242, Set G
b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	**SE:** 221–224, 233–236, Reteaching 242, Set G, 597–600, Reteaching 604, Set D, 625–628, 629–632, Reteaching 640, Set C **TE:** 221A–224B, 233A–236B, Reteaching 241–242, Set G, 597A–600B, Reteaching 604, Set D, 625A–628B, 629A–632B, Reteaching 640, Set C
c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	**SE:** 225–228, Reteaching 241, Set E **TE:** 225A–228B, Reteaching 241–242, Set E
d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	**SE:** 229–232, 233–236, Reteaching 242, Sets F–G **TE:** 229A–232B, 233A–236B, Reteaching 241–242, Sets F–G

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Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	
MGSE3.MD.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**SE:** 611–612, 613–616, 617–620, 621–624, 625–628, 629–632, 633–636, Reteaching 639–640, Sets A–D **TE:** 611–612A, 613A–616B, 617A–620B, 621A–624B, 625A–628B, 629A–632B, 633A–636B, Reteaching 639–640, Sets A–D
Geometry 3.G	
Reason with shapes and their attributes.	
MGSE3.G.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	**SE:** 583, 584, 585–588, 589–592, 593–596, 597–600, Reteaching 603–604, Sets A–D **TE:** 583–583A, 584–584C, 585A–588B, 589A–592B, 593A–596B, 597A–600B, Reteaching 603–604, Sets A–D
MGSE3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	**SE:** 435–436, 437–440, 441–444, Reteaching 471, Sets A, B, 584, 585–588, 589–592, Reteaching 603, Sets A, B **TE:** 435–436A, 437A–440B, 441A–444B, Reteaching 471–472, Sets A, B, 584–584C, 585A–588B, 589A–592B, Reteaching 603, Sets A, B