SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Represent and solve problems involving multiplication and division	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.OA.4: Work with equal groups of objects to gain foundations for multiplication. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	3.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.	4.OA.1: Use the four operations with whole numbers to solve problems Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations

Student Friendly Language:

I can arrange objects (blocks, arrays, pictures, number lines, chips, cubes, and so on) into equal groups and understand the product.

I can write an equation about the equal groups I made.

I can make a model showing the equation I made.

I can describe a context for a number expression.

Know (Factual)	**Understand (Conceptual) The students will understand that:**	**Do (Procedural, Application, Extended Thinking)**
• equal group • factors • products • expression	Objects of equal groups can be arranged to find the product. An expression can be put into context.	Demonstrate and explain how equal groups can represent the product. Create a context for an expression or equation.

Key Vocabulary:

equal groups factors product expression

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

You buy or distribute things in groups or equal numbers.
Example: 8 buns per package - how many packages would you need to buy for 16 people?
Example: An egg carton has 12 eggs - so if you buy 2 egg cartons, how many eggs do you have?
Example: Recipe; if you double or triple a recipe - 2 cups doubles would 4 cups.
Example: Hourly wage - 5 hours at $8.00 an hour equals $40.00.
Example: Perimeter and area - construction or painting.

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Represent and solve problems involving multiplication and division	**Grade level:**	**3**

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
no correlated standard	3.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, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.	4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Student Friendly Language:
I can start with a set of objects and divide into equal shares. I can write an equation about the equal groups I made. I can make a model showing the equation I made.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• equal shares • quotient • division symbols	Division is partitioning a whole number into groups when the number in each group is known. Division is partitioning a whole number into the amount in each group when the number of groups is known. An expression can be put into context.	Divide groups of objects into equal shares. Create an equation connected to the visual model of division. Construct a division equation using models to show equal groups. Create a context for an expression or equation.

Key Vocabulary:			
quotient	expression	equal shares	equation

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

Candy Bar with family and friends

Birthday Parties – cake, candy

Pay employees

Dividing allowance into savings, spending, and charity

Splitting into teams for a game

Dividing feed for animals

Desserts

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Domain:	Operations and Algebraic Thinking	**Cluster:**	Represent and solve problems involving multiplication and division	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.OA.1 Use addition and subtraction within 100 to solve one-and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, e.g. by using drawings and equations with a symbol for the unknown number to represent the problem. 2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	3.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.	4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. 4.OA.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

Student Friendly Language:

I can solve multiplication and division word problems using different strategies like models, arrays, drawings, or equations.
I can use a symbol for an unknown amount when I write an equation.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• equal groups • arrays • equations • symbols • measurement quantities	There is a relationship between real world problems (that deal with equal groups, arrays, and measurement quantities) and multiplication and division. Word problems can be represented by a mathematical equation. Pictures and symbols can represent unknown numbers. Mathematical situations can be represented with a model.	Create models (arrays, equal groups, and measurement quantities) to represent and solve multiplication and division word problems. Create equations with an unknown number that is represented by a symbol to solve word problems. Explain when and why you would use multiplication and division to solve a word problem.

Key Vocabulary:

equations symbols measurement quantities arrays
equal groups multiplication division

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

to bake for your family
to find out the better price
to budget for a vacation
to communicate math thinking in an efficient way
to build something

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Represent and solve problems involving multiplication and division	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions 2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = __÷ 3, 6 × 6 = ?.	4.OA.1 Interpret a multiplication equation as a comparison 4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison

Student Friendly Language:
I can find a missing number in a multiplication or division problem to make the number sentence true.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• equations • division • multiplication • unknown	An equation represents the relationship between three numbers. Multiplication and division are related operations. An equation is true when the numbers are related mathematically correct. To find the unknown you need to determine the mathematical relationship between the numbers.	Solve multiplication and division equations with an unknown number in all locations.

Key Vocabulary:				
equation	multiplication	division	unknown	factors
products	dividend	divisor	quotient	

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?
To plan out the amount of candy per child if every child will get the same amount of candy. To figure the gas mileage on your vehicle To figure out how many pieces to cut a pan of brownies in for a certain amount of people. To figure out how many slices of pizza to order to feed a group of people

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Understand properties of multiplication and the relationship between multiplication and division	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	3.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.) (Students need not use formal terms for these properties.)	4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret 35= 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

Student Friendly Language:
I can use the distributive property for multiplication and division. I can use the associative property for multiplication. I can use the commutative property for multiplication.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• commutative property of multiplication • associative property of multiplication • distributive property of multiplication	There is a relationship between addition and multiplication. There is a relationship between subtraction and division. There are multiple strategies to solve multiplication and division problems.	Show or explain how multiplication and division problems are related using manipulatives. Apply properties of operations to solve mental math problems. Use a variety of strategies to solve multiplication problems. (skip counting, doubling, finger tricks, and arrays)

Key Vocabulary:		
commutative property strategies	associative property arrays	distributive property parenthesis

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
You need to make a seating chart. How many different charts can you come up with? I need to make cookies for the class, and I want to make sure I have enough for everyone to have 5 cookies. You may need to have other strategies to solve more difficult math problems.

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Understand properties of multiplication and the relationship between multiplication and division	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.OA.4: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	3.OA.6 Understand division as an unknown-factor problem. For example, divide 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.	4.OA.1: Interpret a multiplication equation as a comparison, interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as a multiplication equation.

Student Friendly Language:
I can understand division in ways that makes sense to me. I can understand the relationship between multiplication and division in ways that makes sense to me. I can find the unknown factor of division using different strategies that makes sense to me.

Know (Factual)	**Understand (Conceptual) The students will understand that:**	**Do (Procedural, Application, Extended Thinking)**
• Factors of whole numbers • Properties of multiplication • Product and quotient	Division is an unknown factor problem. There is a relationship between multiplication and division.	Calculate a multiplication and or division problem with an unknown. Apply properties of division and multiplication in order to solve the quotients and products. Identify the factors.

Key Vocabulary:			
Factors product	unknown factor properties	division dividends	quotient, divisor

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?
How many objects you can buy with $12 when each item is $4? How many times can you feed your pet before you have to buy a new bag of food? How many party favors will each friend get if there are 25 party favors in a bag and 5 friends attending?

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Multiply and divide within 100	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2NBT5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction	3.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	

Student Friendly Language:

I can solve multiplication and division problems using fact families (For example: I can solve 45 ÷ 5 = 9 because I know that 9 x 5 = 45.).
I can solve multiplication and division quickly because I know my facts from 1-9.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Quotient is the result of division • Divisor is the number of sets • Dividend is the number being broken down into sets • Factors are multiplied to get a product • = is equals or same as • ÷ or / is division • x is multiplied (times)	Multiplication is repeated addition. DMultiplication and division are related. ivision is grouping into equal sets.	Use various strategies to solve multiplication and division problems. Apply knowledge of fact families to solve multiplication and division problems. Describe the process used to solve multiplication or division problem. Apply knowledge of multiplication and division to solve story problems. Interpret mathematical symbols to solve multiplication and division. Estimate products and quotients to see if answers are reasonable. Recall from memory all products of two one-digit numbers.

Key Vocabulary:

Grouping dividend quotient divisor product factor multiply
divide fluently properties fact families equal(s)

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

To understand economics
- Saving allowance for a specific purchase (Wii)
- Doing chores for allowance
- How many toy cars can I get with my gift money

To do conversions
- My recipe is for 4 people; how much do I need to increase ingredients for 8 people?

To problem-solve in everyday life
- How long will it take to save weekly allowance to purchase what I want?

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Solve problems involving the four operations, and identify and explain patterns in arithmetic	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.OA.1 Use addition and subtraction within 100 to solve one-and two-step word problems involving situations of adding to taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	3.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. (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).)	4.OA.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computations and estimation strategies including rounding.

Student Friendly Language:

I can solve word problems with two-steps using addition, subtraction, multiplication, and division.
I can use a letter to stand for a number I don't know.
I can check if my answer is reasonable by using mental math.
I can check if my answer is reasonable by estimating.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Addition of whole numbers • Subtraction of whole numbers • Multiplication of whole numbers • Division of whole number • Unknown quantity (variable) • Order of operations • Rounding • Estimating	An equation is a balance of numbers on both sides of the equal sign. The correct order of operations is multiplication and division first followed by addition and subtraction in order from left to right. Letters and symbols can represent an unknown quantity in an equation. Estimating and rounding are efficient strategies to check answers.	Formulate the equation(s) that matches the word problem. Insert a variable to represent an unknown number . Solve the equation(s). Use mental math to check the reasonableness of answers.

Key Vocabulary:

Equations Mental computation Estimation Strategy
Variable (unknown quantity) Order of Operations Reasonable/reasonableness

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

To be able to figure change after buying something with your allowance.
To be able to figure out how much money I have and how much money I need to buy a toy.
I can determine/estimate if I'll have enough money to buy two items.

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Solve problems involving the four operations, and identify and explain patterns in arithmetic	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	3.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.	4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Student Friendly Language:
I can see patterns in a group of numbers. I can explain patterns using properties of operations (addition, subtraction, multiplication, division).

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Patterns • Properties of operation • Number sense • Multiplication and addition table	Patterns are created and extended. There is a relationship between properties of operations. (example: multiplication is repeated addition) There is a relationship between properties of operations and patterns.	Identify arithmetic patterns. Analyze the pattern. Explain the pattern. Extend the pattern. Apply the pattern to new problems. Compare a pattern to multiple orders of operations.

Key Vocabulary:				
arithmetic pattern		properties of operations	multiplication	division
addition	subtraction	even and odd	compose and decompose numbers	

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?
To determine the amount of supplies for a specific number of people. To determine the amount of treats to bring for your birthday. To use patterns to quickly recall basic math facts. To use patterns to solve problems in life. Example: Counting a collection of coins and bills. To be comfortable working with numbers in a flexible manner. Example: Knowing that 4 + 4 + 4 + 4 = 4 x 4.

SD Common Core State Standards Disaggregated Math Template

Domain:	Number and Operations in Base Ten	**Cluster:**	Use place value understanding and properties of operations to perform multi-digit arithmetic	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and one; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:	3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.

Student Friendly Language:
I can round any number to the nearest 10. I can round any number to the nearest 100.

Know **(Factual)**	**Understand** **(Conceptual)** **The students will understand that:**	**Do** **(Procedural, Application, Extended Thinking)**
• Place value for 100s, 10s, and 1s • Rounding	Rounding is a form of estimation. Place value understanding is used to round whole numbers.	Use place value understanding to round any number to the nearest 10s digit. Use place value understanding to round any number to the nearest 100s digit.

Key Vocabulary:			
rounding	place value	digits	ones digit
tens digit	whole numbers	estimate	hundreds digit

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
This will be relevant to students at a grocery store to make sure that they have enough money for their purchase. This will be relevant to students for telling time to make sure that they will have enough time to get from point A to B. The will be relevant to students in measuring distance for traveling so they can be aware of whether or not they will have enough gas or not.

SD Common Core State Standards Disaggregated Math Template

Domain:	Number and Operations in Base Ten	**Cluster:**	Use place value understanding and properties of operations to perform multi-digit arithmetic	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.NBT.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	3.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. (A range of algorithms may be used.)	4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm. (Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000. A range of algorithms may be used.)

Student Friendly Language:
I can add numbers to 999 in many ways using a strategy that makes sense to me. I can subtract numbers from 999 in many ways using a strategy that make sense to me.

Know (Factual)	**Understand (Conceptual) The students will understand that:**	**Do (Procedural, Application, Extended Thinking)**
• Decompose and compose numbers • Commutative Property • Associative Property • Place Value	There are many strategies for solving addition and subtraction problems. Numbers can be added or subtracted according to place value. There is a relationship between addition and subtraction and use it to solve problems. Different properties of operations can be used to solve addition and subtraction problems.	Add and subtract with sums and differences from 0-999. Add and subtract using a variety of strategies. Use what I know about addition to solve subtraction problems. Use what I know about subtraction to solve addition problems. Explain the strategy they used for solving the problem.

Key Vocabulary:					
place value	digit	addition	subtraction	Commutative Property	Associative Property
sum	difference	algorithm	decompose	compose	regrouping

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
Do I have enough money for groceries and gas? When I get paid how much money will I have? Careers: Banker, Business owner.

SD Common Core State Standards Disaggregated Math Template

Domain:	Number and Operations in Base Ten	**Cluster:**	Use place value understanding and properties of operations to perform multi-digit arithmetic	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.NBT.2 Count within 1000, skip count by 5s, 10s, 100s.	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.	

Student Friendly Language:
I can multiply one-digit numbers (0-9) by multiples of 10 (10, 20, 30, 40, 50, 60, 70, 80, and 90) using a strategy based on place value or properties of operations that make sense to me.

Know (Factual)	**Understand (Conceptual) The students will understand that:**	**Do (Procedural, Application, Extended Thinking)**
• Multiples of 10 • One Digit Numbers • Place Value • Properties of Operations • One digit numbers are 0-9	The multiples of 10 are the same as skip counting by 10. The value of a digit in our number system is determined by its place value position. Properties of operations may be used to solve multiplication problems. Numbers can be decomposed by place value to solve multiplication problems.	Multiply a one digit number by a multiple of 10. Use manipulatives (base 10 blocks, money) to show multiplication of a one digit number by a multiple of 10. Explain how to multiply a one digit number by a multiple of 10.

Key Vocabulary:						
multiples of ten	place value	digit	product	multiple	factor	properties of operations

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
To be able to quickly multiply multiples of 10 when using money. Group things such as candy into groups of 10 to quickly reach a total.

SD Common Core State Standards Disaggregated Math Template

Domain:	Number and Operations Fractions	**Cluster:**	Develop understanding of fractions as numbers	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.G.3 Partition circles and rectangles into two, three, or equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	3.NF.1 Understanding the fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts, understand a fraction a/b as the quantity formed by a parts of size 1/b.	4.NF.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples:3/8=1/8+1/8+1/8; 3/8= 1/8+2/8; 2 1/8= 1+1+1/8=8/8+8/8+1/8

Student Friendly Language:
I can show equal parts of a whole with a fraction in many different ways.

Know (Factual)	**Understand (Conceptual) The students will understand that:**	**Do (Procedural, Application, Extended Thinking)**
• parts of a fraction • quantity • equal	A fraction represents equal parts of a whole.	Represent equal parts of a whole as a fraction in many ways.

Key Vocabulary:					
numerator	denominator	whole	fraction	fraction bar	equal

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

You need to know how to describe something that is less than a whole group or object.
Bringing treats to school and dividing them up equally among the class.

Mom tells you to be home at a quarter to eight.

Cutting a pizza into pieces to share.

Sharing a candy bar with friends.

SD Common Core State Standards Disaggregated Math Template

Domain:	Number and Operations Fractions	**Cluster:**	Develop Understanding of Fractions as Numbers	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.G.3 Partition circles and rectangles into equal shares.	3.NF.2 Understanding a fraction as a number on the number line diagram.	4.NF.2 Compare two fractions with different numerators and denominators. 4.NF.3 Understand a fraction a/b with a>1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8. c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

Student Friendly Language:
I can name the equal parts on a number line. I can show where to put a fraction on a number line.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• number line • equal parts • parts of a fraction	The denominator of the fraction determines how many equal parts to split a whole number into on a number line. The numerator determines how many spaces to move forward on the number line. The number of spaces from zero to the point on the number line is the size of the fraction.	Place a fraction on a number line. Determine the relative size of fractions from the number line.

Key Vocabulary:			
numerator	denominator	number line diagram	fraction
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?			
Looking at a gas gauge to determine how much gas you have left in the tank. Measuring using a ruler or measuring tape.			

SD Common Core State Standards Disaggregated Math Template

Domain:	Numbers and Operations-Fractions	**Cluster:**	Develop understanding of fractions as numbers	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.G.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, ect., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	3.NF.3 Explain equivalent fractions in special cases, and compare fractions by reasoning about their size. 1 Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. 2 Recognize and generate simple equivalent fractions, e.g., ½=2/4, 4/6=2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. 3 Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3=3/1; recognize that 6=6/1; locate 4/4 and 1 at the same point of a number line diagram. 4 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 >, <, =, and justify the conclusions, e.g., by using the visual fraction model.	.4NF.1 Explain why a fraction a/b is equivalent to a fraction by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. 4.NF.2 Compare 2 fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols <,>, =, and justify the conclusion by using a visual fraction model.

Student Friendly Language:

I can show that a whole can be divided, or cut up, into equal pieces.
I can recognize a fraction through pictures of objects.
I can compare the size of 2 fractions with the same numerator or denominator and show which fraction is greater than, less than, or equal to another fraction by illustrating a picture.
I can recognize, understand, and explain whole numbers as equal (equivalent) fractions by illustrating pictures or creating a number line showing the equal fractional pieces.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• parts of a fraction • comparing fractions • number line is a representation of a ruler or a clock.	Fractional parts can be represented using pictures and as a fractional (n/d) number. Whole numbers can be written as fractions (6/6=1) The denominator is the total number of pieces a number or shape is broken up into. The numerator is the indicated parts of the whole. Number lines can also be broken up into fractional parts to show parts of a whole. Equivalent fractions can have different numerators and denominators. The symbols <, >, = are used to compare fractions.	Create and choose pictures that represent a given fraction. Create and choose a fraction from a given picture. Apply their knowledge to explain a fraction of a given situation. Compare fractions with like denominators. Compare fractions with like numerators. Compare fractions using greater than, less than, equal to. Compare fractions using a number line or a ruler. Express fractions in terms of a whole. Explain the difference between a numerator and a denominator. Construct a visual representation of an equivalent fraction. Identify equivalent fractions in the real world. Explain how fractions are equivalent.

Key Vocabulary:

Whole number Number line Ruler Mixed Fractions Improper Fractions Compare and Contrast Greater than, Less than, Equal to
Fraction Numerator/Denominator Equivalent fraction Reducing/simplify Fractions Adding or Subtracting Fractions Parts of a whole

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

Share things equally with people-apples, soda.
Shopping-1/2 off--finding the best deal.
Eating Pizza-do you have enough for everyone, what's left.
Sales tax on your total bill.
Leaving a tip at a restaurant
Graded papers-number correct out of total problems.
% are actually fractions.

Saving account-and the % you accrued.
Recipe/baking.
SS—land and water on Earth.
Stats—Volleyball/basketball.
Video games: time played, fraction of time on it during the week vs how much time you spent on something else.
Construction projects—tape measures.

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.MD.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	3.MD.1 Tell and write time to the nearest minute and measure 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.	4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Student Friendly Language:

I can tell and write time to the nearest minute.

I can solve word problems involving addition and subtraction of time in minutes.

I can represent time problems using addition and subtraction strategies.

I can measure time intervals in minutes.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• nearest minute • time intervals • analog • digital	Time can be measured in minutes. Addition and subtraction strategies may be used to solve problems involving time.	Tell and write time to the nearest minute. Solve time interval problems using addition and subtraction strategies.

Key Vocabulary:

hour hand	minute hand	hours	minutes	<u>time intervals</u>
half hour	quarter hour	half past	quarter past	quarter til

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

Time is used in everyday life. For example, Matthew has karate class at 3:25. If school dismisses at 2:30, how much time does he have between school and karate?

People depend on punctuality for meetings and events.

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
no correlated standard	3.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. Excludes compound units such as cm3 and finding the geometric volume of a container. Excludes multiplicative comparison problems (problems involving notions of “times as much”; see Glossary, Table 2).	4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...

Student Friendly Language:
I can measure and estimate liquid volumes using standard units. I can measure and estimate masses of objects using standard units. I can use addition, subtraction, multiplication, and division strategies to solve word problems involving liquid volumes and masses.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Mass • Volume • Standard units of volume and mass- grams (g), kilograms (kg), liters (l) • Estimation • Measurement	Mass and volume can be estimated. Mass and volume can be measured using standard units. Estimates can be compared with actual measurements. Addition, subtraction, multiplication, and division can be used to solve problems involving mass and volume.	Estimate mass and volume using standard units. Measure mass and volume using standard units. Solve word problems involving liquid volumes and masses. Compare and contrast estimates with actual measurements.

Key Vocabulary:		
mass measurement	volume estimation	standard units- grams (g), kilograms (kg), liters (l) scale
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?		
Nutrition- food labels Science experiments		

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Represent and interpret data	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.MD.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems 4 using information presented in a bar graph.	3.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.	4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.

Student Friendly Language:
I can draw a scaled picture graph to represent data. I can draw a scaled bar graph to represent data. I can solve problems using the graph data.

Know (Factual)	**Understand (Conceptual) The students will understand that:**	**Do (Procedural, Application, Extended Thinking)**
• Types of graphs • Compare fractions • Data	Data can be represented on a bar graph. Data can be represented on a picture graph. Data can be used to solve problems.	Draw a scaled bar graph. Draw a scaled picture graph. Solve one-step and two-step "how many more" and "how many less" problems.

Key Vocabulary:
Data Bar Graph Picture Graph Scale
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?
Comparisons- sports statistics, Find and analyze graphs in the media, Reading graphs in informational text

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Represent and interpret data	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	3.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.	4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.

Student Friendly Language:
I can use a ruler to measure lengths in halves and fourths of an inch. I can show measurement data by creating a line plot.

Know **(Factual)**	**Understand** **(Conceptual)** **The students will understand that:**	**Do** **(Procedural, Application, Extended Thinking)**
• show measurement • whole numbers • length • line plot • horizontal scale	Length can be measured in inches- whole numbers, halves, and fourths/quarters. Measurement data can be represented on a line plot. A horizontal scale is marked off with appropriate units (halves, quarters, etc).	Use a ruler to measure length in halves and fourths of an inch. Create a line plot with measurement data.

Key Vocabulary:
measurement inches halves fourths quarters length line plot horizontal scale
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
How tall a person is, shoe size, sports, and playing games. Making a gift for a friend.

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Geometric measurement: understand concepts of area and relate area to multiplication and to addition	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement. 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. 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.	4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Student Friendly Language:
I can measure the area of a plane figure in square units. I can use square units to cover the space inside a plane figure without leaving gaps or overlapping.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• plane figure • area • unit square • square unit • variable • unknown	All plane figures have a measurable area. A unit square is a square with a side length of 1. Area of a plane figure is measured when the figure is covered without gaps or overlaps with unit squares. The number of unit squares used to cover a plane figure without gaps or overlaps is called area.	Recognize area as an attribute of a plane figure. Measure the area of a plane figure by covering and counting the number of unit squares it takes to cover the figure without gaps or overlaps. Label the area of a plane figure in square units Show the area of a plane figure using square tiles..

Key Vocabulary:
plane figure area square unit
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
Lay new carpet tiles in your bedroom. Build a dog pen with the most area for your dog to run around. Plan a school carnival game, such as bumper cars, by figuring out how much area is needed on the floor.

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Geometric measurement: understand concepts of area and relate area to multiplication and to addition	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft., and improvised units).	4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Student Friendly Language:
I can measure the area of a figure by counting the unit squares.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• area • unit squares • square cm • square m • square in • square ft • figure	Unit squares are used to measure area. Area is measured by covering and counting the amount of unit squares it takes to cover a space.	Measure area by counting the number of square units covering the figure. Label area in square units. Show that the area of a figure is a certain number of units.

Key Vocabulary:
area square unit square centimeter square meter square inch square foot figure
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
Measure the area of your bedroom to add new carpet tiles. Design a library area in the classroom by figuring out how much floor space we have and how much room each student needs to sit and read. Design a kennel for your pet that has the most area so they can run around.

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Geometric measurement: understand concepts of area and relate area to multiplication and to addition	**Grade level:**	3

Correlating Standard in Previous Year	**Number Sequence & Standard**	**Correlating Standard in Following Year**
2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	3.MD.7 Relate area to the operations of multiplication and addition. 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. 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. 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 × b and a × c. Use area models to represent the distributive property in mathematical reasoning. 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.	4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Student Friendly Language:
I can find the area of a rectangle by covering and counting with tiles. I can find the area of a rectangle by multiplying the side lengths. I can use the area model to represent multiplication problems. I can use the area model to show the distributive property. I can break apart a rectangle into smaller rectangles and add their areas to find the area of the entire rectangle. I can solve real world problems concerning area.

Know (Factual)	**Understand (Conceptual) The students will understand that:**	**Do (Procedural, Application, Extended Thinking)**
• multiplication • product • area • side length • tiling • rectangular area • distributive property • repeated addition • non-overlapping	Multiplication and addition are related operations. The area model is a representation of multiplication and multiplication problems. Area can be found by covering and counting with tiles or by multiplying side lengths. Tiles and the area model of a rectangle can be used to represent the distributive property of multiplication. A rectangle can be decomposed into smaller rectangles. The areas of the smaller rectangles can be added together to find the area of the larger rectangle.	Find the area of a rectangle by covering and counting with tiles. Find the area of a rectangle by multiplying side lengths. Interpret and solve real world math problems using the area model for multiplication. Represent products using the area model of rectangles. Use tiles and the area of a rectangle to demonstrate the distributive property of multiplication. Model with tiles how a rectangle with side lengths a and b+c has the area of a•b + a•c. Decompose a larger rectangle into smaller rectangles. Calculate the area of a large rectangle by adding the areas of smaller rectangles within the larger rectangle. Solve real world problems involving the distributive property of multiplication by using the area model for rectangles.

Key Vocabulary:					
multiplication	product	area	rectangle	side length	area model
tiling	distributive property of multiplication			decompose	non-overlapping

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
Finding the area of rectangular spaces in gardening, flooring, landscaping, quilting. Finding the area of a pasture

SD Common Core State Standards Disaggregated Math Template

Domain:	MEASUREMENT AND DATA	**Cluster:**	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.MD.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	3.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.	4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Student Friendly Language:

I can solve real world problems using perimeters of polygons.
I can find unknown side lengths and the perimeter of polygons.
I can show rectangles that have the same area but different perimeters.
I can show rectangles that have the same perimeter but different areas.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• polygon • rectangle • side length • perimeter • area • unknown • variables	Perimeter can be found by adding the side lengths together. I can find an unknown side length if I know the perimeter and some of the other side lengths. When given a perimeter, I can find rectangles with different areas. When given an area, I can find rectangles with different perimeters.	Solve real world problems using perimeters of polygons. Calculate the perimeter given the side lengths of a polygon. Determine an unknown side length of a polygon using information about the perimeter. Create polygons with the same perimeter but different areas. Create polygons with the same area but different perimeter.

Key Vocabulary:

polygon rectangle area perimeter side length

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

When building a fence, the perimeter determines the cost of materials and the area determines how much room will be inside the fence. Make an informed decision about what kind of fence to build.

Which chocolate bar gives you the most chocolate, the one with the most area or the biggest perimeter?

I have directions to draw a polygon, but I am missing one side length. If I know the perimeter, I can figure out the missing length.

I have 16 carpet squares to make a rectangular play area. How many different ways can I install the carpet squares?

SD Common Core State Standards Disaggregated Math Template

Domain:	Geometry	**Cluster:**	Reason with shapes and their attributes.	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.G.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	3.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.	4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

Student Friendly Language:

I can identify common attributes between shapes.
I can use common attributes among shapes to define a larger group.
I can identify rhombuses, rectangles, and squares as quadrilaterals.
I can draw a quadrilateral that is NOT a rhombus, rectangle, or a square.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• rhombus • rectangle • quadrilateral • square • attributes • category • subcategory	Shapes get their names based on their common attributes. Shapes share some attributes. A shape's attributes determine which category they belong to. All closed shapes with four straight sides and four vertices are part of a large category called quadrilaterals. Even though shapes have different names, they may have attributes that are the same.	Recognize shapes by name including rhombus, rectangle, square. Name attributes found in quadrilateral shapes. Categorize shapes based on names and/or attributes. Compare and contrast quadrilaterals based on attributes. Draw quadrilaterals, including rhombuses, rectangles, squares. Draw a quadrilateral that is not a rhombus, rectangle or a square.

Key Vocabulary:

quadrilateral rectangle rhombus square category subcategory <u>attribute</u>

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

Find a shape with attributes that make it strong enough to build a bridge.

Design a better student desk using attributes of quadrilaterals.

Mathematicians and scientists sort and classify things based on attributes.

SD Common Core State Standards Disaggregated Math Template

Domain:	Geometry	**Cluster:**	Reason with shapes and their attributes	**Grade level:**	3

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	3.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.	4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols, >,<,= and justify the conclusions, e.g., by using a visual fraction model.

Student Friendly Language:
I can partition shapes into parts with equal areas. I can express the area of each part as a fraction.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Area • Partition • Unit Fraction	Shapes can be partitioned into equal areas. A unit fraction is the area of one of the equal areas.	Partition a shape into parts with equal areas. Determine the area of each part using a fraction. Determine the unit fraction of a given area.

Key Vocabulary:		
partitionunit	fraction	area

Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
Sharing food among friends. Designing a bedroom space or classroom space.