SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Represent and solve problems involving addition and subtraction	**Grade level:**	2

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g. by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	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 objects, drawings, and equations with a symbol for the unknown number to represent the problem.	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. 3.OA.4 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.

Student Friendly Language:

I can find an unknown in an equation.
I can represent the unknown with a symbol.
I can solve two-step word problems.
I can describe the strategies I use to solve a word problem.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
Problem types Addition strategies Subtraction strategies Symbols for unknowns	Some problems require multiple steps when solving. Vocabulary words can be helpful in determining the operation necessary to solve addition and subtraction problems. Symbols can be used to represent something unknown. Multiple strategies can be used to arrive at a common solution. Number sentences, models, and drawings can be used to represent word problems. Word problems represent real-life situations where math skills are applied.	Distinguish word problem types. [See table 1 (p. 88) in the glossary.] Determine relevant information in a word problem. Use a variety of strategies to solve one- and two-step addition and subtraction word problems. Represent understanding with objects, drawings, equations, and words. Describe more than one way to solve a problem.

Key Vocabulary:

strategies	mathematical models	unknowns	symbols	solution	equations
comparing	number sentences	relevant information	one-step word problem	two-step word problem	

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”?

Solving real-life problems involving math (e.g. grocery store, book orders, concession stand, field trips, cooking, paying bills, and/or sports).
To develop flexible math thinking.

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Domain:	Operations and Algebraic Thinking	**Cluster:**	Add and subtract within 20	**Grade level:**	2

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
1.OA.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8+6=8+2+4=10+4=14); decomposing a number leading to a ten (e.g., 13-4=13-3-1=10-1=9); using the relationship between addition and subtraction (e.g., knowing that 8+4=12, one knows 12-8=4); and creating equivalent but easier or known sums (e.g., adding 6+7 by creating the known equivalent 6+6+1=12+1=13).	2.OA.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	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.

Student Friendly Language:

I can add numbers to 20 in my head.

I can subtract numbers under 20 in my head.

I know the sums of one-digit addition problems.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Numbers from 0 to 20 • Place value • Mental strategies for adding and subtracting	Adding/combining two (positive) numbers will result in a greater number. Subtracting/taking away (positive whole numbers will result in a smaller number. Multiple strategies can be used to solve the same problem mentally.	Find the sum of adding two numbers between 0-9. Memorize the sums for two one-digit numbers. Apply different strategies to add and subtract with 20.

Key Vocabulary:

Addends	sum	add	more	greater	difference	minus
subtract	take away	less	fewer	equal	total	digit
ones	tens	doubles	near doubles	math facts		

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 out problems that relate to them. (How many items they can purchase at the store; how many more students are eating hot lunch than cold lunch; driving to a new place; figure out how many cows are in the herd; etc.)

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Work with equal groups of objects to gain foundations for multiplication	**Grade level:**	2

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	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.

Student Friendly Language:

I can tell if a number is odd or even by counting by two's.
I can tell if a number is odd or even by pairing objects.
I can use doubles facts to find an even number.
I can write an equation to show an even sum of two equal addends.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Odd number rule • Even number rule • Equation components	Partnering objects can help us see if a number is even or odd. All whole numbers are either even or odd. An even number can be described as having none left over when all objects are partnered. An odd number can be described as having one left over when all objects are partnered.	Count by two's. Pair objects. Write an equation with two equal addends. Explain why the sum of two equal addends will always be even. Prove that numbers are even or odd.

Key Vocabulary:

odd even equal addend sum 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"?

Students will relate odd and even numbers to their houses. They will understand that all even numbered houses are on the same side of the street as are the odd numbered houses.
It will be important to know when locating addresses.
Even numbers are important for creating and dividing teams.
Sharing treats and other items fairly is also relevant to second graders.
Even and odd numbers are used aesthetically in decorating, landscaping, table setting, and flower arranging.

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	**Cluster:**	Work with equal groups of objects to gain foundations for multiplication	**Grade level:**	2

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8+?=11, 6+6=_	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. 3.OA.1- Interpret products of whole numbers, e.g., interpret 5 x 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 x 7.

Student Friendly Language:

I can create an array.
I can use an array to write an equation.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
• Equal rows • Equal columns • Addition facts • Components of equations (addends & sums) • Array	Objects can be arranged in rows and columns to form an array. An array can be represented by an equation as the sum of equal addends. Repeated addition is the foundation of multiplication.	Show (using manipulatives or pictures) or explain how an array can be used to show repeated addition. Show (using manipulatives or pictures) or explain a reverse process to form an array from the equation. Write a repeated addition equation to represent an array.

Key Vocabulary:

array	rows	columns	equation	equal
addends	total	sum	repeated addition	

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 group items to quickly find the total/sum.
To sort and count money.
Dividing cake/bars for snack.
Classroom seating charts.

X	X	X	X
X	X	X	X
X	X	X	X

Student 1: I see 3 cookies in each column and there are 4 columns. So I added 3+3+3+3. That means 4 groups of 3 is 12.
Student 2: I see 4 cookies in each row and there are 3 rows. So I added 4+4+4. That means 3 groups of 4 equals 12.