

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	Cluster:	Write and interpret numerical expressions	Grade level:	5
----------------	-----------------------------------	-----------------	---	---------------------	---

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
	5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	6.EE.2 Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.</i>

Student Friendly Language:
I can evaluate/simplify (solve) <u>numerical expressions</u> by following the <u>order of operations</u> .

Know (Factual)	Understand (Conceptual)	Do (Procedural, Application, Extended Thinking)
	The students will understand that:	
<ul style="list-style-type: none"> • Order of operations • Parentheses () • Brackets [] • Braces { } 	<p>Conventional order must be followed in order to reach the correct answer. (order of operations)</p> <p>You must have parentheses in a problem in order to have brackets and you must have brackets in order to have braces.</p>	Solve expressions with parentheses, brackets, and braces.

Key Vocabulary:
parentheses, brackets, braces, sequential, analyze, numerical expressions, order of operations, evaluate, simplify
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”?
<p>To solve multi-step problems that apply to real life</p> <p>Example: Getting paid for multiple jobs at different rates or amounts of time Purchasing multiple items at different prices Example: You want to buy two video games that cost \$150.00. Each week you mow three lawns and are paid \$10.00 for each. You babysit your sister and are paid \$15.00. You also receive \$25.00 for a birthday present. At the end of three weeks, do you have enough money to buy the video game? $\{3 \times [(3 \times \\$10) + \\$15.00] + \\$25.00$</p>

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	Cluster:	Write and interpret numerical expressions	Grade level:	5
----------------	-----------------------------------	-----------------	---	---------------------	---

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ 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.	5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.	6.EE.1 Write and evaluate numerical expressions involving whole-number exponents. 6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.

Student Friendly Language:

I can write simple expressions using numbers and symbols ($=, -, \times, /$) without evaluating (solving).
 I can interpret simple expressions using numbers and symbols ($=, -, \times, /$) without evaluating (solving).
 I can verbally describe what an expression represents using numbers and symbols ($=, -, \times, /$).

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> • Difference between an equation and an expression • Basic math symbols • Order of operations <p>Note: $4(5+3)$ expression $4(5+3) = 32$ equations</p>	<p>Simple expressions can be written and interpreted but not evaluated.</p> <p>Applying the four operations as well as place value will aid in describing the relationship between numbers.</p> <p>Teaching Note: Writing numerical expressions will help them in the future when evaluating word problems.</p>	<p>Construct an expression using numbers and symbols.</p> <p>Interpret numerical expressions.</p> <p>Distinguish the relationship between numbers and place value. Example: a. Describe how the expression $5(10 \times 10)$ relates to 10×10. b. Double 5 and then add 15.</p>

Key Vocabulary:

expressions interpret order 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 record expressions that will lead to solving real life problems.

Purchasing of goods

Time Management(lawn mowing, babysitting)

Temperature conversions

Exchange rates

Rate plan for cell phone

Travel - distance and mileage

SD Common Core State Standards Disaggregated Math Template

Domain:	Operations and Algebraic Thinking	Cluster:	Analyze patterns and relationships	Grade level:	5
----------------	-----------------------------------	-----------------	------------------------------------	---------------------	---

Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
--	---------------------------------------	---

<p>CC.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. <i>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.</i></p>	<p>CC.5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i></p>	
--	---	--

Student Friendly Language:
<p>I can complete number patterns with given rules. I can form ordered pairs using given rules and graph them on a coordinate plane. I can explain the relationship between the numbers(terms) in a pattern. I can name points as ordered pairs on a coordinate plane.</p>

Know (Factual)	Understand (Conceptual) I want students to understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> ● Ordered pairs ● Function tables(number patterns) ● Coordinate plane(graph) ● Quadrants ● x and y axes 	<p>Ordered pairs correspond to specific points on a coordinate plane.</p> <p>Patterns can be used to form ordered pairs.</p> <p>One value affects another in a pattern.</p>	<p>Generate number patterns using a given rule</p> <p>Form ordered pairs from number patterns.</p> <p>Graph ordered pairs.on a coordinate plane</p> <p>Explain and identify the relationship between the numbers (terms) in a pattern.</p>

Key Vocabulary:						
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Ordered pairs</td> <td style="width: 33%;">Function tables</td> <td style="width: 34%;">Coordinate plane</td> </tr> <tr> <td>Quadrants</td> <td>x and y axes</td> <td>Corresponding terms</td> </tr> </table>	Ordered pairs	Function tables	Coordinate plane	Quadrants	x and y axes	Corresponding terms
Ordered pairs	Function tables	Coordinate plane				
Quadrants	x and y axes	Corresponding terms				
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”?						
<p>Establish a savings goal, graph the total amount saved if the monthly savings is \$30 or the monthly amount is \$60. When do you reach your goal with each?</p> <p>Create a chicken farm. If the number of chickens doubles each year, how long will it take to reach a goal of 100 chickens?</p>						