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.

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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?