

Math Standards - District 65

Last edited Feb 7, 2022

K-5 Standards listed in this document are same as report card.
They have been reviewed, updated, and may be updated slightly each year.

6-8 Standards listed in this document are NOT currently used explicitly by D65 educators. They are in DRAFT form for public understanding of the general topics and as an invitation for input from the community. Have input? Email wartowskid@district65.net

Math Practices Overview

This document references Math Practices in every grade level. Under consideration is the idea of having students self-assess and teachers to review that self assessment when monitoring Math Practices. A checklist such as the following might be leveraged.

Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)

- ☐ Uses mathematical vocabulary to describe thinking
- ☐ Uses vocabulary accurately
- ☐ Is able to find and describe the error, if one exists, in another's thinking
- ☐ Is able to describe the thinking of another person when the person provides an alternative approach
- ☐ Is able to express thinking in writing clearly
- ☐ Is able to express thinking orally and be understood by others

Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)

- ☐ Continues to work on problems when the answer is not immediately obvious
- ☐ Seemingly shows joy when a problem is difficult, showing an attitude of "I got this" before they do
- ☐ When stuck, is able to try a different approach to solve a problem and move forward
- ☐ When stuck, is able to articulate what they do know that is related to the problem
- ☐ When stuck, is able to articulate the precise question that they are still trying to solve
- ☐ Is never content with memorizing something / always seeks to understand "why"

Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)

- ☐ Is able to describe thinking using multiple presentations, including physical representations, verbal, numeric, pictures, and graphical representations.
- ☐ Can use age-appropriate tools to show how they know something to be true (could be pennies, a rule, or a graph in Desmos, for example)

Scores on the report card might be:

- 3- student exhibits most of the practices (bullets) independently (may occasionally need prompting)
- 2 - student exhibits a few of the practices or exhibits practices when prompted
- 1 - student does not exhibit these practices
- 4 - student exhibits all of the practices independently and consistently, without exception

8th Grade Math / Algebra – DRAFT

Reporting Standards (DRAFT - Middle school not following SBG in the 21-22 SY)

	T1	T2	T3
Expressions and Equations			
Understand the properties of exponents			
Understand and explain slope			
Interpret the meaning of a linear graph, table or equation.			
Solve systems of equations using multiple methods.			
Functions			
Represent, interpret and construct functions			
Geometry			
Use transformations to determine congruence and determine angle relationships.			
Use dilation and transformations to identify similar figures and their properties.			
Derive and apply the Pythagorean Theorem			
Statistics & Probability			
Represent and analyze numerical and categorical data			
High School Algebra			
Work with expressions, equations, inequalities and functions at a high school level			
Work with and solve quadratic equations			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

7th Grade Math - DRAFT

Reporting Standards (DRAFT - Middle school not following SBG in the 21-22 SY)	T1	T2	T3
Ratios and Proportional Relationships			
Analyze proportional relationships and use them to solve problems (7.RP.1-3)			
The Number System			
Use both negative and positive numbers in situations involving all four operations (7.NS.1-3)			
Expressions & Equations			
Use properties of operations to generate equivalent expressions (7.EE.1-2)			
Solve problems involving algebraic equations and inequalities (7.EE.3-4)			
Geometry			
Use scales and scale drawings (7.G.1)			
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume (7.G.4-6)			
Statistics & Probability			
Generate reasonable conclusions using statistical principles (7.SP.1-4)			
Investigate chance processes and develop, use, and evaluate probability models (7.SP.5-8)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

6th Grade Math - DRAFT

Reporting Standards (DRAFT - Middle school not following SBG in the 21-22 SY)	T1	T2	T3
Ratios and Proportional Relationships			
Analyze ratio concepts and use them to solve problems (6.RP.1-3)			
The Number System			
Divide fractions by fractions (6.NS.1)			
Compute fluently with multi-digit numbers (6.NS.2-4)			
Understand the system of rational numbers (6.NS.5-8)			
Expressions & Equations			
Use properties of operations to generate equivalent expressions (6.EE.1-4)			
Solve problems involving algebraic equations and inequalities (6.EE.5-8)			
Represent and analyze quantitative relationships between dependent and independent variables. (6.EE.9)			
Geometry			
Solve real-world and mathematical problems involving area, surface area, and volume (7.G.1-4)			
Statistics & Probability			
Summarize and describe distributions (6.SP.1-5)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

5th Grade Math

Reporting Standards	T1	T2	T3
Operations & Algebraic Thinking			
Write and interpret numerical expressions (5.OA.A.1-2)			
Number and Operations in Base Ten			
Understand how place value works, including decimals up to the thousandths place. (5.NBT.1-4)			
Use addition, subtraction, multiplication and division with whole numbers and decimals. (5.NBT.5-7)			
Number & Operations - Fractions			
Add and subtract fractions. (5.NF.A.1-2)			
Multiply and divide fractions (5.NF.B.3-7)			
Measurement & Data			
Understand the concept of volume and can find the volume of objects. (5.MD.3-5)			
Geometry			
Work with geometric concepts. (5.G.1-4)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

4th Grade Math

Reporting Standards	T1	T2	T3
Operations & Algebraic Thinking			
Solve problems using addition, subtraction, multiplication and division. (4.OA.1-5)			
Number and Operations in Base Ten			
Understand how to use the concept of place value to compare and to round multi-digit whole numbers. (4.NBT.1-3)			
Add, subtract, multiply and divide multi-digit whole numbers; and explain the process in multiple ways. (4.NBT.4-6)			
Number & Operations - Fractions			
Recognize and create equivalent fractions. (4.NF.1)			
Compare two fractions with different numerators and different denominators. (4.NF.2)			
Add, subtract, multiply and decompose fractions (4.NF.3-4)			
Create and compare decimals (4.NF.5-7)			
Measurement & Data			
Solve problems involving measurement, conversions, and line plots (4.MD.1-4)			
Geometry			
Understand the concept of angles and rays (4.MD.5-7)			
Accurately draw shapes and parts of shapes (4.G.1-2)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

3rd Grade Math

Reporting Standards

	T1	T2	T3
Operations & Algebraic Thinking			
Represent and solve problems using multiplication and division. (3.OA.1-7)			
Represent and solve problems using a combination of addition, subtraction, multiplication and division. (3.OA.8-9)			
Number and Operations in Base Ten			
Use understanding of place value to round whole numbers, to multiply by multiples of 10, and to fluently add and subtract numbers within 1000. (3.NBT.1-3)			
Number & Operations - Fractions			
Represent and compare fractions using multiple methods (3.NF.1-3)			
Measurement & Data			
Solve problems that involve mass, volume, and/or telling time to the nearest minute (3.MD.1-2)			
Understand and apply the concept of area (3.MD.5-7)			
Geometry			
Categorize objects as rhombuses, rectangles, squares and/or quadrilaterals (3.G.1)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

2nd Grade Math

Reporting Standards	T1	T2	T3
Operations & Algebraic Thinking			
Represent and solve problems involving addition and subtraction (2.OA.1)			
Add and subtract within 20 (2.OA.2)			
Number and Operations in Base Ten			
Use understanding of place value to create hundreds, to count, to skip count, to read and write numbers to 1000, and to compare three-digit numbers (2.NBT.1-4)			
Use understanding of place value, using decomposition and composition, to add and subtract (2.NBT.5-9)			
Measurement & Data			
Measure and estimate lengths in standard units. (2.MD.1-4)			
Use addition and subtraction within 100 to solve word problems involving length and number lines. (2.MD.5-6)			
Tell time to the nearest five minutes using an analog clock. (2.MD.7)			
Geometry			
Partition shapes into equal parts (2.G.2-3)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

1st Grade Math

Reporting Standards

	T1	T2	T3
Operations & Algebraic Thinking			
Represent and solve problems involving addition and subtraction within 20 (1.OA.1-8) (Up to 10 in T1)			
Number and Operations in Base Ten			
Count up to 120, starting at any number; and write any number up to 120. (1.NBT.1)			
Understand and apply the concept of place value, including the ability to decompose and compose numbers (1.NBT.2-6)			
Measurement & Data			
Measure the length of objects (1.MD.1-2)			
Tell time to the nearest hour or half hour using an analog clock. (1.MD.3)			
Geometry			
Partition circles and rectangles into equal parts (1.G.3)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

Kindergarten Math

Reporting Standards

	T1	T2	T3
Counting & Cardinality			
Count up to 100, starting at any number, including by ones by tens. (K.CC.1, K.CC.2) (Up to 32 in T1)			
Write all the numbers from 0 to 20. (K.CC.3) (Up to 10 for T1)			
Count the number of objects up to 20. (K.CC.4, K.CC.5) (Up to 10 for T1)			
Compare numbers within 10 (K.CC.6-7)			
Operations & Algebraic Thinking			
Represent and solve addition and subtraction problems within 10. (K.OA.1-2)			
Decompose numbers less than or equal to 10 into pairs in many ways. (K.OA.3) (Up to 5 for T1)			
Make ten from any number 1-9 by adding to that number. (K.OA.4)			
Fluently add and subtract within 5 (K.OA.5)			
Number and Operations in Base Ten			
Make a group of 10 and some ones using the numbers 11-19. (K.NBT.1)			
Geometry, Measurement & Data			
Describe, compare and classify objects (K.MD.1-3)			
Describe, compare and create shapes (K.G.1-6)			
Math Practices / Problem Solving			
Communication: Expresses mathematical thinking with clarity and precision and builds upon others' thinking (MP 2,3,6)			
Meaning Making: Uses patterns, tools, logic or prior learning to construct mathematical meaning, and persevere to solve problems rather than simply being fast and/or memorizing without understanding (MP 1,7,8)			
Modeling: Uses models and appropriate tools to describe mathematical meaning (MP 4,5)			

Spanish Translations

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5th Grade Math - Spanish

Reporting Standards	T1	T2	T3
Operaciones y Pensamiento Algebraico			
Escribir e interpretar expresiones numéricas (5.OA.A.1-2)			
Número y Operaciones en Base Diez			
Comprende cómo funciona el valor posicional, incluidos los decimales hasta las milésimas. (5.NBT.1-4)			
Usa suma, resta, multiplicación y división con números enteros y decimales.(5.NBT.5-7)			
Número y Operaciones - Fracciones			
Suma y resta fracciones. (5.NF.A.1-2)			
Multiplica y divide fracciones (5.NF.B.3-7)			
Medición y Datos			
Comprende el concepto de volumen y puede encontrar el volumen de objetos. (5.MD.3-5)			
Geometría			
Trabaja con conceptos geométricos. (5.G.1-4)			
Prácticas Matemáticas / Resolución de Problemas			
Comunicación: expresa el pensamiento matemático con claridad y precisión y se basa en el pensamiento de los demás. (MP 2,3,6)			
Creación de significado: utiliza patrones, herramientas, lógica o aprendizaje previo para construir significado matemático y perseverar para resolver problemas en lugar de simplemente ser rápido y / o memorizar sin comprender. (MP 1,7,8)			
Modelado: utiliza modelos y herramientas apropiadas para describir el significado matemático. (MP 4,5)			

4th Grade Math - Spanish

Reporting Standards	T1	T2	T3
Operaciones y Pensamiento Algebraico			
Resolver problemas usando suma, resta, multiplicación y división. (4.OA.1-5, 4.MD.1-3)			
Número y Operaciones en Base Diez			
Comprender cómo usar el concepto de valor posicional para comparar y redondear números enteros de varios dígitos. (4.NBT.1-3)			
Sumar, restar, multiplicar y dividir números enteros de varios dígitos; y explicar el proceso de múltiples formas. (4.NBT.4)			
Número y Operaciones - Fracciones			
Reconocer y crear fracciones equivalentes. (4.NF.1)			
Comparar dos fracciones con diferentes numeradores y diferentes denominadores.. (4.NF.2)			
Sumar, restar, multiplicar y descomponer fracciones (4.NF.3-4)			
Crea y compara decimales (4.NF.5-7)			
Medición y Datos			
Resuelve problemas que involucran mediciones, conversaciones y diagramas de líneas. (4.MD.1-4)			
Geometría			
Comprender el concepto de ángulos y rayos. (4.MD.5-7)			
Dibuja con precisión formas y partes de formas (4.G.1-2)			
Prácticas Matemáticas / Resolución de Problemas			
Comunicación: expresa el pensamiento matemático con claridad y precisión y se basa en el pensamiento de los demás. (MP 2,3,6)			
Creación de significado: utiliza patrones, herramientas, lógica o aprendizaje previo para construir significado matemático y perseverar para resolver problemas en lugar de simplemente ser rápido y / o memorizar sin comprender. (MP 1,7,8)			
Modelado: utiliza modelos y herramientas apropiadas para describir el significado matemático. (MP 4,5)			

3rd Grade Math - Spanish

Reporting Standards	T1	T2	T3
Operaciones y Pensamiento Algebraico			
Representar y resolver problemas usando multiplicación y división. (3.OA.1-7)			
Representar y resolver problemas usando una combinación de suma, resta, multiplicación y división. (3.OA.8-9)			
Número y Operaciones en Base Diez			
Usar la comprensión del valor posicional para redondear números enteros, multiplicar por múltiplos de 10 y sumar y restar números con fluidez hasta 1000. (3.NBT.1-3)			
Número y Operaciones - Fracciones			
Representar y comparar fracciones usando varios métodos. (3.NF.1-3)			
Medición y Datos			
Resolver problemas que involucran masa, volumen y / o decir la hora al minuto más cercano. (3.MD.1-2)			
Comprender y aplicar el concepto de área. (3.MD.5-7)			
Geometría			
Categorizar objetos como rombos, rectángulos, cuadrados y / o cuadriláteros (3.G.1)			
Prácticas Matemáticas / Resolución de Problemas			
Comunicación: expresa el pensamiento matemático con claridad y precisión y se basa en el pensamiento de los demás (MP 2,3,6)			
Creación de significado: utiliza patrones, herramientas, lógica o aprendizaje previo para construir significado matemático y perseverar para resolver problemas en lugar de simplemente ser rápido y / o memorizar sin comprender (MP 1,7,8)			
Modelado: utiliza modelos y herramientas apropiadas para describir el significado matemático. (MP 4,5)			

2nd Grade Math - Spanish

Reporting Standards	T1	T2	T3
Operaciones y Pensamiento Algebraico			
Representar y resolver problemas de suma y resta. (2.OA.1)			
Sumar y restar hasta 20 (2.OA.2)			
Número y Operaciones en Base Diez			
Usar la comprensión del valor posicional para crear cientos, contar, contar salteados, leer y escribir números hasta 1000 y comparar números de tres dígitos. (2.NBT.1-4)			
Usar la comprensión del valor posicional, usando la descomposición y la composición, para sumar y restar (2.NBT.5-9)			
Medición y Datos			
Mida y calcule longitudes en unidades estándar. (2.MD.1-4)			
Usar sumas y restas hasta 100 para resolver problemas de palabras que involucran rectas numéricas y de longitud. (2.MD.5-6)			
Dígale la hora a los cinco minutos más cercanos usando un reloj analógico. (2.MD.7)			
Geometría			
Partición de formas en partes iguales (2.G.2-3)			
Prácticas Matemáticas / Resolución de Problemas			
Comunicación: expresa el pensamiento matemático con claridad y precisión y se basa en el pensamiento de los demás. (MP 2,3,6)			
Creación de significado: utiliza patrones, herramientas, lógica o aprendizaje previo para construir significado matemático y perseverar para resolver problemas en lugar de simplemente ser rápido y / o memorizar sin comprender.(MP 1,7,8)			
Modelado: utiliza modelos y herramientas apropiadas para describir el significado matemático.(MP 4,5)			

1st Grade Math - Spanish

Reporting Standards	T1	T2	T3
Operaciones y Pensamiento Algebraico			
Representar y resolver problemas de suma y resta hasta 20 (1.OA.1-6)			
Número y Operaciones en Base Diez			
Cuenta hasta 120, comenzando por cualquier número; y escriba cualquier número hasta 120. (1.NBT.1)			
Comprender y aplicar el concepto de valor posicional, incluida la capacidad de descomponer y componer números. (1.NBT.2-6)			
Medición y Datos			
Mide la longitud de los objetos (1.MD.1-2)			
Decir la hora a la hora o media hora más cercana utilizando un reloj analógico. (1.MD.3)			
Geometría			
Divide círculos y rectángulos en partes iguales (1.G.3)			
Prácticas Matemáticas / Resolución de Problemas			
Comunicación: expresa el pensamiento matemático con claridad y precisión y se basa en el pensamiento de los demás. (MP 2,3,6)			
Creación de significado: utiliza patrones, herramientas, lógica o aprendizaje previo para construir significado matemático y perseverar para resolver problemas en lugar de simplemente ser rápido y / o memorizar sin comprender. (MP 1,7,8)			
Modelado: utiliza modelos y herramientas apropiadas para describir el significado matemático. (MP 4,5)			

Kindergarten Math - Spanish

Reporting Standards

	T1	T2	T3
Contar y Cardinalidad			
Cuenta hasta 100, comenzando en cualquier número, incluso de uno en diez. (K.CC.1, K.CC.2)			
Escribe todos los números del 0 al 20. (K.CC.3) (Up to 10 for T1)			
Cuenta el número de objetos hasta 20. (K.CC.4, K.CC.5) (Up to 10 for T1)			
Comparar números dentro de 10. (K.CC.6-7)			
Operaciones y Pensamiento Algebraico			
Representar y resolver problemas de suma y resta hasta 10. (K.OA.1-2)			
Descompone los números menores o iguales a 10 en pares de muchas formas. (K.OA.3) (Up to 5 for T1)			
Haga diez de cualquier número del 1 al 9 sumando a ese número. (K.OA.4)			
Sumar y restar con fluidez hasta 5. (K.OA.5)			
Número y Operaciones en Base Diez			
Haz un grupo de 10 y algunos usando los números del 11 al 19. (K.NBT.1)			
Geometría, Medición y Datos			
Describir, comparar y clasificar objetos. (K.MD.1-3)			
Describe, compara y crea formas. (K.G.1-6)			
Prácticas Matemáticas / Resolución de Problemas			
Comunicación: expresa el pensamiento matemático con claridad y precisión y se basa en el pensamiento de los demás. (MP 2,3,6)			
Creación de significado: utiliza patrones, herramientas, lógica o aprendizaje previo para construir significado matemático y perseverar para resolver problemas en lugar de simplemente ser rápido y / o memorizar sin comprender. (MP 1,7,8)			
Modelado: utiliza modelos y herramientas apropiadas para describir el significado matemático. (MP 4,5)			