Module 5: Fraction Equivalence, Ordering, and Operations
(Trimester 3: 45 Days)

Topic A	Decomposition and Fraction Equivalence		**4.NF.3 4.NF.4**
ASSESSMENT	4.NF.3b	Reporting Strand: Orders fractions and performs operations with fractions	Report Card: 0-4
Topic B	Fraction Equivalence Using Multiplication and Division		**4.NF.1** 4.NF.3
ASSESSMENT	4.NF.1	Reporting Strand: Orders fractions and performs operations with fractions	Report Card: 0-4
Topic C	Fraction Comparison		**4.NF.2**
ASSESSMENT	4.NF.2	Reporting Strand: Orders fractions and performs operations with fractions	Report Card: 0-4
Topic D	Fraction Addition and Subtraction		**4.NF.3** 4.NF.1 4.MD.2
Topic E	Extending Fraction Equivalence to Fractions Greater than 1		4.NF.1 **4.NF.2 4.NF.3 4.MD.4** 4.NBT.6 4.NF.4
Topic F	Addition and Subtraction of Fractions by Decomposition		**4.NF.3** 4.MD.4
ASSESSMENT	4.NF.3acd	Reporting Strand: Orders fractions and performs operations with fractions	Report Card: 0-4
Topic G	Repeated Addition of Fractions as Multiplication		**4.NF.4** 4.MD.4 4.MD.2 4.OA.2
ASSESSMENT	4.MD.4 4.NF.4	Reporting Strand: Orders fractions and performs operations with fractions	Report Card: 0-4
Topic H	Exploring a Fraction Pattern		**4.OA.5**
ASSESSMENT	4.OA.5	Reporting Strand: Uses algebraic thinking to solve multi-step word problems	Report Card: 0-4

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.

4.NF.1 Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) 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 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 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

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*

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.

4.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

a. Understand a fraction *a/b* as a multiple of *1/b. For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*

b. Understand a multiple of *a/b* as a multiple of *1/b*, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*

c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

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.

Reporting Strand: Orders fractions and performs operations with fractions

CCSS	4 – Mastery	3- Proficient	2 – Basic	1 – Below Basic	0 – No Evidence
4.NF.1	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Create equivalent fractions **and explain by using a visual fraction model**	**Create** equivalent fractions	**Recognize** equivalent fractions	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
4.NF.2		Compare two fractions with a **different** numerator and denominator using the symbols >, =, or < and justify the comparison	Compare two fractions with the **same numerator** using the symbols >, =, or < and justify the comparison	Compare two fractions with **same denominator** using the symbols >, =, or < and justify the comparison	
4.NF.3A, C, D		Add and subtract fractions and mixed numbers with like denominators using models and equations in **real world problems.**	Add and subtract fractions **and mixed numbers** with like denominators using models and equations in mathematical problems.	Add **and** subtract fractions with like denominators using models and equations in mathematical problems.	
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 by using a visual fraction model.**	Decompose a fraction into a sum of fractions with the same denominator in **more than one way**, recording each decomposition by an equation.	Decompose a fraction into a sum of fractions with the same denominator in **one way**, recording each decomposition by an equation.	
4.NF.4		Multiply a fraction by a whole number, **in a real world problem**, using models and equations to justify the solution	Multiply a whole number by a fraction using **models and equations to justify the solution**	Multiply a whole number by a fraction by **rewriting the fraction as a product of a unit fraction and a multiple**.	
4.MD.4		Make a line plot to display a set of data in fractional units (including 1/2, 1/4, and 1/8) Solve problems involving addition **and** subtraction of fractions using information from a line plot.	Make a line plot to display a set of data in fractional units (including 1/2, 1/4, and 1/8) **Solve problems** involving addition **or** subtraction of fractions using information from a line plot.	Make a line plot to display a set of data in fractional units (including 1/2, 1/4, 1/8)	

Reporting Strand: Uses algebraic thinking to solve multi-step word problems

CCSS	4 – Mastery	3- Proficient	2 – Basic	1 – Below Basic	0 – No Evidence
4.OA.5	Can extend thinking beyond the standard, including tasks that may involve: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating	Create a number or shape pattern that follows a given rule, identify features in the pattern that are not part of the rule, **and explain why that feature will continue**	Create a number or shape pattern that follows a given rule **and identify features in the pattern that are not part of the rule**	Create a number or shape pattern that follows a given rule.	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1

Usa el pensamiento algebraico para resolver problemas de palabras de varios pasos

CCSS	4 – Dominio	3- Apto	2 – Básico	1 – Por debajo de lo Básico	0 – No hay Evidencia
4.OA.5	Puede pensar más allá del estándar, incluyendo tareas que puedan involucrar uno de los siguientes aspectos: • Diseñar • Conectar • Sintetizar • Aplicar • Justificar • Criticar • Analizar • Crear • Demostrar	Genera un patrón de números o figuras que sigue una regla dada, identifica las características aparentes del patrón que no eran explícitas a la regla, **y explica por qué el patrón continua**.	Genera un patrón de números o figuras que sigue una regla dada e **identifica las características aparentes del patrón que no eran explícitas a la regla**	Genera un patrón de números o figuras que sigue una regla dada	Hay poca evidencia de razonamiento o aplicación para resolver el problema No reúne los criterios del nivel 1

Ordena fracciones y realiza operaciones con fracciones

CCSS	4 – Dominio	3- Apto	2 – Básico	1 – Por debajo de lo Básico	0 – No hay Evidencia
4.NF.1	Puede pensar más allá del estándar, incluyendo tareas que puedan involucrar uno de los siguientes aspectos: • Diseñar • Conectar • Sintetizar • Aplicar • Justificar • Criticar • Analizar • Crear • Demostrar	Crea fracciones equivalentes **y las explica usando un modelo visual de fracción**	**Crea** fracciones equivalentes	**Reconoce** fracciones equivalentes	Hay poca evidencia de razonamiento o aplicación para resolver el problema No reúne los criterios del nivel 1
4.NF.2		Compara dos fracciones con el mismo numerador o el mismo denominador usando los símbolos >, =, o < y justifica la comparación haciendo **todo lo siguiente**: • Explicando el tamaño • Refiriendose al mismo entero • Usando un modelo visual Comparándolo a una fracción de referencia, así como ½	Compara dos fracciones con el mismo numerador o el mismo denominador usando los símbolos >, =, o < y justifica la comparación haciendo **dos de lo siguiente**: • Explicando el tamaño • Refiriendose al mismo entero • Usando un modelo visual Comparándolo a una fracción de referencia, así como ½	Compara dos fracciones con el mismo numerador o el mismo denominador usando los símbolos >, =, o < y justifica la comparación haciendo **uno de lo siguiente**: • Explicando el tamaño • Refiriendose al mismo entero • Usando un modelo visual Comparándolo a una fracción de referencia, así como ½	
4.NF.3A, C, D		Sumar y restar fracciones y números mixtos con denominadores similares usando modelos y ecuaciones en problemas **del mundo real**.	Sumar y restar fracciones **y números mixtos** con denominadores similares usando modelos y ecuaciones en problemas matemáticos.	Sumar **y** restar fracciones con denominadores similares usando modelos y ecuaciones en problemas matemáticos.	
4.NF.3B		Descompone una fracción en una suma de fracciones con el mismo denominador de más de una forma, anotando cada descomposición con una ecuación. **Justifica las descomposiciones usando un modelo visual de fracción.**	Descompone una fracción en una suma de fracciones con el mismo denominador de **más de una forma,** anotando cada descomposición con una ecuación.	Descompone una fracción en una suma de fracciones con el mismo denominador de **una forma**, anotando cada descomposición con una ecuación.	
4.NF.4		Multiplica una fracción por un número entero, en un **problema del mundo real**, usando modelos y ecuaciones para justificar la solución.	Multiplica una fracción por un número entero **usando modelos y ecuaciones para justificar la solución.**	Multiplica una fracción por un número entero, **reescribiendo la fracción como un producto de una fracción unitaria y un múltiplo.**	
4.MD.4		**Hace** un diagrama de puntos para representar un conjunto de datos de medidas en fracciones de una unidad (incluyendo 1/2, 1/4, 1/8) Resuelve problemas de suma **y** resta de fracciones usando la información en el diagrama de puntos.	**Hace** un diagrama de puntos para representar un conjunto de datos de medidas en fracciones de una unidad (incluyendo 1/2, 1/4, 1/8) Resuelve problemas de suma o resta de fracciones usando la información en el diagrama de puntos.	**Hace** un diagrama de puntos para representar un conjunto de datos de medidas en fracciones de una unidad (incluyendo 1/2, 1/4, 1/8)	