4th Grade, Unit 4: Equivalent Fractions/ Decimals Instructional days: End Date: Feb. 30 Days

Main Concepts:

4.NF.A.1

*By using visual fraction models, explain why a fraction a/b is equivalent to a fraction (n x a)(n x b) 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.

For example: $\frac{1}{5}$ is equivalent to $(2 \times 1)/(2 \times 5)$

4.NF.C.6

- * Use decimal notation for fractions with denominators 10 or 100.
- * Use visual models with base ten blocks and hundreds grid (one column is 1/10 or 10/100

Essential Standard(s):

4.NF.A.1

4.NF.C.6

Aspect of Rigor(s):

- Conceptual
- Procedural Skill & Fluency

Teams common texts/resources:

- Go Math Textbook Chapter 6
- Eureka Math Online
- Match Fishtank Math Online
- Teacher Pay Teacher activities

Exposure Standard(s): if any

- 4.NF.A.2:
- Compare two fractions with different numerators and different denominators.
- Recognize that comparisons are valid only when the two fractions refer to the same whole.
- 4.NF.C.5
- Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100 For example: Express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.
- 4.NF.C.7
- Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, by using a visual model

Student Learning Targets from Essential

Enrichment Standard(s): if any

Standard(s): 4.NF.A.1 I can recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts. (DOK2) I can explain why two fractions are equivalent. (DOK3) I can generate equivalent fractions with models. (DOK2) I can generate equivalent fractions by reasoning about their size and number of parts. (DOK2) ANF.C6 I can use decimal notation for fractions with denominators 10 or 100. (DOK 1) I can write decimals as fractions. (DOK 2) I can locate decimals on a number line. (DOK	
3) Ways We Provide Intervention/Enrichment G/T Program Small Group Intervention Daily Istation Math Prodigy Zearn Math	Other Important Details: •

Vocabulary	Skill Progression	Activities/ Resources	Assessment(s)
Equivalent fractions	* Recognize equivalent	* Fraction Name Activity	* Target #1
Denominator Numerator	fractions through visual fraction models and by	*	* Target #2
Simplest form	reasoning about their size		
Common factor Common denominator	and number of parts. * Explain why two fractions		* <u>Target #3</u>
Common multiple	are equivalent		* Target #4
Benchmark fractions	* Generate equivalent fractions with models		* Extra Target #1
	* Generate equivalent		
	fractions by reasoning about their size and number of		* Extra: Problem of the Day
	parts.		Limit 4
			Unit 4 Assessment
	l		l

Team Reflections-Future Units & Next Year-First Instruction & Intervention/Enrichment

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Counting tape, Fraction strips, Number Lines, Polygon shapes,

Calendar:

Include day number, date, type (key below)

Key I=Instruction, A=Assessment, S=Score, I/E-Intervention/Enrichment, B=Buffer, R=Review, ?=Other

Day 1	Day 2	Day 3	Day 4	Day 5
I - Recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts.	I - recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts	I - recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts	I - recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts	Assessment * Target #1
Day 6	Day 7	Day 8	Day 9	Day 10
l - Generate equivalent fractions with models	I - Generate equivalent fractions with models	l - Generate equivalent fractions with models	I - Generate equivalent fractions with models	Assessment * Target #3
Day 11	Day 12	Day 13	Day 14	Day 15
I - Generate equivalent fractions by reasoning about their size and number of parts.	I - Generate equivalent fractions by reasoning about their size and number of parts.	I - Generate equivalent fractions by reasoning about their size and number of parts.	I - Generate equivalent fractions by reasoning about their size and number of parts.	Assessment * Target #4
Day 16	Day 17	Day 18	Day 19	Day 20
I - Explain why two fractions are equivalent.	I - Explain why two fractions are equivalent.	I - Explain why two fractions are equivalent.	I - Explain why two fractions are equivalent.	Assessment * Target #2
Day 21	Day 22	Day 23	Day 24	Day 25
I Review for Unit Test	Assessment Unit 4 Assessment	I I can use decimal notation for fractions with denominators 10 or 100	I can use decimal notation for fractions with denominators 10 or 100	I can use decimal notation for fractions with denominators 10 or 100

Day 26	Day 27	Day 28	Day 29	Day 30
I I can use decimal notation for fractions with denominators 10 or 100	I I can use decimal notation for fractions with denominators 10 or 100	I can use decimal notation for fractions with denominators 10 or 100	I can use decimal notation for fractions with denominators 10 or 100	Assessment Decimal Notation

Day 1 Topic: Equivalent fractions with visual models

Learning Target: 4.NF.A.1

• Target #1: I can recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts.

Tasks:

- Creating Equivalent Fractions
- Go Math Lesson 6-1: Equivalent Fractions

Instructional Strategies:

- Use fraction strips and models to explain equivalent fractions
- Recognize how equivalent fractions are the same, even though they are divided into different parts of the whole.

Lesson:

- Create Equivalent Fractions
 - Use unit fractions (½, ½, ¼, ½) to find all the different ways to make equivalent fractions using fraction strips or circles.
 - Discuss any patterns that you notice in your data.
- Lesson 6-1: Equivalent Fractions
 - GoMath textbook pages 227-230
 - Model and write equivalent fractions
 - Explain how the whole must be equal in size

Homework:

• Howard county Exit slip: 4.NF.1

Day 2 Topic: Equivalent fractions with visual models

Learning Target: 4.NF.A.1

• Target #1: I can recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts.

Tasks:

- Activity: Pattern Block Fractions
- My Name in Fractions
- Lesson 1: Problem Set Equivalent Fractions

Instructional Strategies:

- Use pattern blocks to represent fractions with different models
- Use fraction strips or picture models to represent equivalent fractions
- What do you notice about the relationship between their number of units and the size of those units?
- Use the words "times as many" to describe the relationship you notice.

Lesson:

- Pattern Block Fractions
 - Use pattern blocks to represent equivalent fractions.
- My Name in Fractions
 - Students write their name.

- Find the fraction of the letters that are vowels
- Find the fraction of the letters that are consonants
- Can you find an equivalent fraction for each?
- Lesson 1 Problem Set: Match Fishtank
 - Would you Rather: Would you rather have ¼ of a candy bar or, 2/8 of a candy bar? Explain why?
 - Model equivalent fractions with fraction strips
 - Recognize equivalent fractions
 - Explain how the number and the size of the parts differ even though the two fractions themselves are the same size?

Homework:

- Lesson 1: Homework: Equivalent Fractions
- HC Exit Slip: 4.NF.1 Name 3 equivalent fractions w/ model

Day 3 Topic: Equivalent fractions with visual models

Learning Target: 4.NF.A.1

• Target #1: I can recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts.

Tasks:

- 4.NF.1 Word Problem
- Lesson 6-2: Generate Equivalent Fractions
- Target #1 Assessment 1st Attempt

Instructional Strategies:

- Use multiplication/division to generate equivalent fraction models
- Use visual models to allow students to understand how different fractions can name the same part of a whole.
- Have students think about multiples and common factors of the fraction.

Lesson:

- 4.Nf.1 Word Problem (Introduction)
- Lesson 6-2: Generate Equivalent Fractions
 - GoMath Textbook, pages 231-234
 - Explain how the number of parts in the whole affect the number of parts that are shaded
 - How can you use multiplication/ division to write a fraction that is equivalent?

Homework:

• Target #1 Assessment 1st Attempt

Day 4 Topic: Equivalent fractions with visual models Learning Target: 4.NF.A.1

• Target #1: I can recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts.

Tasks:

- 4.NF.1 Equivalent Fractions on a Number line (Introduction)
- <u>Lesson 3 Problem Set</u>

Instructional Strategies:

- Understand that equivalent fractions that refer to the same whole and are the same size.
- Students will draw models for simplified fractions, then partition the model into smaller units.
- Explain why the models demonstrate their equivalence

Lesson:

• Lesson 3: Problem Set: Match Fishtank

Generate equivalent fractions with smaller units using area models Decompose models to show equivalent fractions with larger units. Use a number line as a models to show fractions that are equivalent Use real world examples for equivalent fractions Homework: • Lesson 3 Homework Day 5 Topic: Generate Equivalent fractions with visual models Learning Target: 4.NF.A.1 Target #1: I can recognize equivalent fractions through visual fraction models and by reasoning about their size and number of parts. Tasks: **Problem of the Day: Fractured Numbers CFA Target #1 Assessment** Day 6 Topic: Generate Equivalent fractions with visual models Learning Target: 4.NF.A.1 • Target #3: I can generate equivalent fractions with models. (DOK2) Tasks: • Lesson 4 Problem Set **Instructional Strategies:** • Understand how the numbers and sizes of parts differ even though the two fractions are the same size, and connect this idea to the general method of using multiplication to find an equivalent fraction. How are the total number of fractional pieces and the total number of shaded fractional pieces related to the equation? Lesson: **Lesson 4 Problem Set** What happens to the total number of units in the whole when decomposing a • How can we represent this relationship with an equation? How can you determine if they are equivalent using multiplication or division? Homework: • Lesson 4 Homework Day 7 Topic: Generate Equivalent fractions with visual models Learning Target: 4.NF.A.1 Target #3: I can generate equivalent fractions with models. (DOK2) Tasks: Go Math Lesson 6-3: Simplest Form **Instructional Strategies:** Compare models of fractions and explain how the sizes of the parts are related Simplest form represents a fraction in as few equal parts of a whole as possible. If you can't describe the part you have using fewer parts, then you cannot simplify the fraction. Lesson: Lesson 6-3: Simplest Form Go Math Textbook pages 235-238 • Use models to write an equivalent fraction in simplest form Use common factors to write fractions in simplest form Show a number sentence to explain calculations Day 8 **Topic: Generate Equivalent fractions with visual models**

Learning Target: 4.NF.A.1

• Target #3: I can generate equivalent fractions with models. (DOK2)

Tasks:

• Lesson 5 Problem Set Match Fishtank

Instructional Strategies:

- Generate equivalent fractions with larger units using visual models.
- Use number lines and tape diagrams to show equivalent fractions
- Find missing values that make the equivalent fractions true.
- Shade tape diagram models with equivalent fractions
- Explain how you know the fractions are equivalent

Lesson:

- Lesson 5: Problem Set
- Recognize and generate equivalent fractions with larger units using visual models
- Use multiplication and division to generate equivalent fractions
- Explore various fraction models to recognize and generate larger equivalent fractions.

Homework:

• Lesson 5 Homework Match Fishtank

Day 9 Topic: Generate equivalent fractions

Learning Target: 4.NF.A.1

• Target 3: I can generate equivalent fractions with models. (DOK2)

Tasks:

• Lesson 6-4: Common Denominator

Instructional Strategies:

- Write a pair of fractions as fractions with a common denominator
- Discuss common multiples of the denominators to represent the whole is cut into the same number of pieces
- This helps with ordering fractions on a number line or when comparing equivalent fractions
- Explain how using a model or listing multiples helps you find a common denominator

Lesson:

- Lesson 6-4: Common Denominator
- Go Math Textbook Pages 239-242
- Find common denominators by dividing each whole into the same number of equal parts
- Look for common multiples between fractions
- Remember that when you multiply the denominator by a factor, you must multiply the numerator by the same factor to write an equivalent fraction

Homework:

Day 10 | Topic: Generate equivalent fractions

Learning Target: 4.NF.A.1

• Target 3: I can generate equivalent fractions with models. (DOK2)

Tasks:

<u>Target #3 Assessment</u>

Day 11 Topic: Generate equivalent fractions

Learning Target: 4.NF.A.1

• Target #4: I can generate equivalent fractions by reasoning about their size and number of parts. (DOK2)

Tasks:

- Birthday Fractions: Activity
- Lesson 6-6: Compare Fractions Using Benchmarks

Instructional Strategies:

- Use benchmark fractions (½, ½, ¼, ¾) to compare fractions
- Discuss how to recognize the relationship on a number line
- A known size or amount can help you understand a different size or amount.

Lesson

Birthday Fractions Activity

- Which cake had more left?
- Justify your answer using a fraction model or a computational method
- Discuss differences in models and number sentences.
- Lesson 6-6: Compare Fractions Using Benchmarks:
- Use benchmarks to compare fractions
- Discuss parts to whole to explain reasoning
- Use number lines to compare fraction with benchmarks
- Use less than <, and greater than >, symbols to compare

Homework:

Day 12

Topic: Generate equivalent fractions

Learning Target: 4.NF.A.1

• Target #4: I can generate equivalent fractions by reasoning about their size and number of parts. (DOK2)

Tasks:

- 4.NF.1 HC Exit Slip
- 4.NF.1 Pizza Activity

Instructional Strategies:

- Remind students to think about multiples of the denominators
- Use area models, circle fractions, or fraction strips to explain their size and number of parts
- Discuss key words in word problem to solve

Lesson:

- 4.NF.1 Pizza Activity
- Discuss how students solved the word problem
- Can generate equivalent fractions to explain different parts of a whole.
- Use area models or circle fractions to explain equivalence.

Homework:

• 4.NF.1. HC Exit Slip

Day 13

Topic: Generate equivalent fractions

Learning Target: 4.NF.A.1

• Target #4: I can generate equivalent fractions by reasoning about their size and number of parts. (DOK2)

Tasks:

- 4.NF.1 Pizza Party Activity #2
- Are They Equivalent?
- Equivalent Fractions Homework

Instructional Strategies:

- Generate equivalent fractions using multiplication and division
- How are the numerators related and denominators related in the two fractions?

Lesson:

- Equivalent Fractions Activity
- Generate equivalent fractions using models or a number sentence

Compare the models Explain how the number of parts related to the sizes of the parts Homework: • Are They Equivalent? Worksheet Day 14 **Topic: Generate equivalent fractions** Learning Target: 4.NF.A.1 Target #4: I can generate equivalent fractions by reasoning about their size and number of parts. (DOK2) Tasks: **Lesson 6 Problem Set Match Fishtank Instructional Strategies:** Recognize and generate equivalent fractions with larger units using division Understand that equivalent fractions may be needed in smaller units or larger units, depending on the situation or problem. Lesson: • Lesson 6 Problem Set Practice finding factors and multiples of two numbers • Show how multiplication and division number sentences are related • What happens to the size of units in the whole as a larger fraction? What happens to the size of units in the whole as a smaller fraction? Use a model to explain why a number sentence is equivalent or not Homework: **Lesson 6 Homework Match Fishtank Day 15 Topic: Generate Equivalent Fractions** Learning Target: 4.NF.A.1 Target #4: I can generate equivalent fractions by reasoning about their size and number of parts. (DOK2) Tasks: **Target #4 Assessment Day 16 Topic: Explain Why Equivalent** Learning Target: 4.NF.A.1 • Target #2: I can explain why two fractions are equivalent. (DOK3) Tasks: Who Ate More? **Lesson 7 Problem Set Match Fishtank Instructional Strategies:** • Compare fractions with the same numerators or denominators using visual models • Understand when fractions have a common denominator, they will have the same Understand that comparisons are valid only when the two fractions refer to the same whole Lesson: Lesson 7 Problem Set: • Gain familiarity with factors and multiples to compare fractions with related numerators or denominators Record comparisons with the correct symbols (<,>, =) Homework:

• Lesson 7 Homework Match Fishtank

Dav 17 Topic: Explain Why Equivalent Learning Target: 4.NF.A.1 • Target #2: I can explain why two fractions are equivalent. (DOK3) Tasks: • Lesson 6-7 Compare Fractions **Instructional Strategies:** • Use a common denominator to compare fractions • Use a common numerator to compare fractions • Create an area model for each fraction to compare fractions Lesson: • Lesson 6-7: Compare Fractions: • Use a common denominator to compare fractions • Use a common numerator to compare fractions • Create an area model for each fraction to compare fractions • Help students recognize that using benchmarks to compare fractions is not always Homework: **Day 18 Topic: Explain Why Equivalent Learning Target: 4.NF.A.1** • Target #2: I can explain why two fractions are equivalent. (DOK3) Tasks: Snack Time Activity • Lesson 6-8: Compare and Order Fractions Instructional Strategies: • Use a number line to order fractions with different denominators Use ½ benchmark to help identify fractions on a number line Use reasoning and estimation about the relative size of fractions, as well as precise steps to find the relationships Lesson: • Lesson 6-8: compare & Order Fractions • Benchmarks can help you find an approximate location • Explain how you know you located the fraction on the number line Homework: **Day 19 Topic: Explain Why Equivalent Learning Target: 4.NF.A.1** • Target #2: I can explain why two fractions are equivalent. (DOK3) Tasks: • Which is Larger? Activity • Fraction Compare Activity **Instructional Strategies:** • Justify your conclusion using a visual fraction model Show the correct compare symbols (<, >, =) Lesson: Fraction Compare Activity Justify your conclusion using a visual fraction model Show the correct comparison symbols (<, >, =)Homework: • 4.NF.2 Compare and order fractions HC Exit Slip

Day 20

Topic: Explain Why Equivalent Learning Target: 4.NF.A.1

	• Target #2: I can explain why two fractions are equivalent. (DOK3)
	Tasks: • Target #2 Assessment
	■ Taiget #2 Assessment
Day 21	Topic: Recognize equivalent fractions with visual models Learning Target: 4.NF.A.1
	Target #1: I can recognize equivalent fractions through visual fraction models and by
	reasoning about their size and number of parts. (DOK2)
	 Target #2: I can explain why two fractions are equivalent. (DOK3) Target #3: I can generate equivalent fractions with models. (DOK2)
	Target #4: I can generate equivalent fractions by reasoning about their size and number of
	parts. (D0K2)
	Tasks:
	Go Math Chapter 6 Review/ Test Instructional Strategies:
	Review all Target Assessments
	Lesson:
	Review for Unit 4 Assessment
Day 22	Topic: Recognize equivalent fractions with visual models
	Learning Target: 4.NF.A.1
	Target #1: I can recognize equivalent fractions through visual fraction models and by Target #1: I can recognize equivalent fractions through visual fraction models and by Target #1: I can recognize equivalent fractions through visual fraction models and by Target #1: I can recognize equivalent fractions through visual fraction models and by
	reasoning about their size and number of parts. (DOK2) • Target #2: I can explain why two fractions are equivalent. (DOK3)
	Target #3: I can generate equivalent fractions with models. (DOK2)
	Target #4: I can generate equivalent fractions by reasoning about their size and number of
	parts. (D0K2)
	Tasks:
	Unit 4: Equivalent Fractions Summative Assessment 4.NF.1
Day 23	Topic: Relate Fractions to Decimals
	Learning Target: 4.NF.C.6
	I can use decimal notation for fractions with denominators 10 or 100
	Tasks: • Go Math Lesson 9-1: Relate Tenths and Decimals
	Lesson 1 Problem Set: Decimals
	Lesson 1 Homework: Decimals
Day 24	Topic: Relate Fractions to Decimals
Day 24	Learning Target: 4.NF.C.6
	I can use decimal notation for fractions with denominators 10 or 100
	Tasks:
	Go Math Lesson 9-2: Relate Hundredths and Decimals A Problem Cott Problem Cott
	 Lesson 4: Problem Set: Decimals Lesson 4: Homework: Decimals
Day 25	Topic: Relate Fractions to Decimals
	Learning Target: 4.NF.C.6 ■ I can use decimal notation for fractions with denominators 10 or 100
	Tasks:
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	Go Math Lesson 9-3: Equivalent Fractions and Decimals
Day 26	Topic: Relate Fractions to Decimals Learning Target: 4.NF.C.6 I can use decimal notation for fractions with denominators 10 or 100 Tasks: Go Math Lesson 9-4: Relate Fractions, Decimals, and Money
Day 27	Topic: Relate Fractions to Decimals Learning Target: 4.NF.C.6 I can use decimal notation for fractions with denominators 10 or 100 Tasks: Go Math Lesson 9-6: Add Fractional Parts of 10 and 100 Lesson 10: Problem Set: Decimals Lesson 10: Homework: Decimals
Day 28	Topic: Relate Fractions to Decimals Learning Target: 4.NF.C.6 I can use decimal notation for fractions with denominators 10 or 100 Tasks: Go Math Lesson 9-7: Compare Decimals Lesson 7: Problem Set: Decimals Lesson 7: Homework: Decimals
Day 29	Topic: Relate Fractions to Decimals Learning Target: 4.NF.C.6 I can use decimal notation for fractions with denominators 10 or 100 Tasks: Go Math Chapter 9 Review/Test
Day 30	Topic: Relate Fractions to Decimals Learning Target: 4.NF.C.6 I can use decimal notation for fractions with denominators 10 or 100 Tasks: Unit 4: Decimal Assessment

Resource: Matt Devan 2019