Unit 8 Reveal Grade 3

Content Area: Math

Course(s):

Time Period: February
Length: 3 weeks
Status: Published

Unit Overview

UNIT 8 PLANNER Fraction Equivalence and Comparison

LESS	ON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULA
Unit	Opener Indited Folding Frac	tions Through paper folding, students of	discover that different fractions can nam	ne the same part of a whole.		
8-1	Understand Equivalent Fractions	Students determine whether two fractions are equivalent.	Students compare two fractions using various synonyms for expressing equivalence such as some, equal, equivalent, etc.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	8-1	Math Terms equivalent
8-2	Represent Equivalent Fractions	Students generate equivalent fractions. Students explain why fractions are equivalent.	Students justify a conclusion by using the conjunction so.	Students explore taking different perspectives on approaches to problem solving.	8-2	equivalent
8-3	Represent Equivalent Fractions on a Number Line	Students use number lines to determine and generate equivalent fractions. Students use number lines to explain why fractions are equivalent.	Students explain the reasoning for a mathematical concept by using because.	Students identify and discuss the emotions experienced during math learning.	8-3	equivalent
8-4	Understand Fractions of Different Wholes	Students explain why fraction comparisons are valid only when the wholes are the same size.	Students explain something that's mathematically impossible by using connot.	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	8-4	denominator equivalent numerator
8-5	Compare Fractions with the Same Denominator	Students compare fractions with the same denominator and different numerators.	Students articulate the word form of the mathematical symbols $>_{\rm s} <_{\rm s}$ and $=$.	Students develop and execute a plan, including selecting tools for mathematical problem solving.	8-5	denominator numerator
8-6	Compare Fractions with the Same Numerator	Students compare fractions with the same numerator and different denominators.	Students explain a comparison of two fractions by using a conditional clause with When	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	8-6	denominator numerator
8-7	Compare Fractions	Students compare two fractions and justify their comparison using fraction models or number lines.	Students offer justifications by using sentences that start with So	Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.	8-7	denominator numerator
Unit	Probe Equivalent Fractions Review ncy Practice	Card Sort Students sort fraction repre	esentations into equivolent and not equi	ivolent.		
Perf	ormance Task Assessment					

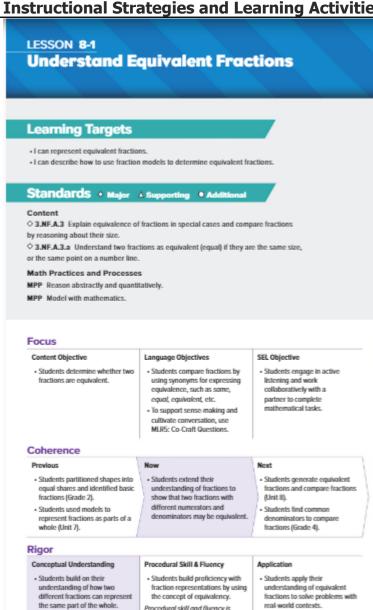
35A Unit 8 - Fraction Equivalence and Comparison

See Above

Essential Questions

See Above

Instructional Strategies and Learning Activities



Procedural skill and fluency is not a targeted element of rigor for this standard.

Represent Equivalent Fractions

Learning Targets

- . I can use fraction models to generate equivalent fractions.
- . I can explain why two fractions are equivalent.

Standards • Major A Supporting • Additional

- ♦ 3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.
- ♦ 3.NF.A.3.b Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

Math Practices and Processes

MPP Model with mathematics.

MPP Look for and make use of structure.

Focus

Content Objectives

- Students generate equivalent fractions.
- Students explain why fractions are equivalent.

Language Objectives

- Students justify a conclusion by using the conjunction so.
- To maximize linguistic and MLR2: Collect and Display.

SEL Objective

· Students explore taking different perspectives on approaches to problem solving.

Coherence

- · Students partitioned shapes into equal shares and identified basic fractions (Grade 2).
- . Students used models to represent fractions (Unit 7).

· Students extend their understanding of fractions to show that two fractions with different numerators and denominators may be equivalent.

- · Students generate equivalent fractions and compare fractions (Unit 8).
- Students find common denominators (Grade 4).

Rigor

Conceptual Understanding

 Students build on their understanding of fractions to investigate how different fractions can represent the same | Procedural skill and fluency is part of the whole.

Procedural Skill & Fluency

· Students build proficiency with fraction representations by using the concept of equivalency. not a targeted element of rigor for this standard.

Application

· Students apply their understanding of equivalent fractions to solve problems with real-world contexts.

Represent Equivalent Fractions on a Numbe

Learning Targets

- · I can use number lines to represent equivalent fractions.
- . I can explain how to use number lines to represent equivalent fractions.

Standards • Major A Supporting • Additional

- ♦ 3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.
- 3.NF.A.3.a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
- ♦ 3.NF.A.3.b Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}, \frac{4}{6} = \frac{2}{3}$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Model with mathematics.

Focus

Content Objectives

- · Students use number lines to determine and generate equivalent fractions.
- Students use number lines to explain why fractions are equivalent.

Language Objectives

- . Students explain the reasoning for a mathematical concept by using because.
- To cultivate conversation. use MLR4: Information Gap.

SEL Objective

· Students identify and discuss the emotions experienced during math learning.

Coherence

- · Students partitioned shapes into equal shares and identified basic fractions (Grade 2).
- · Students represented fractions on a number line (Unit 7).

- Students extend their understanding of fractions by determining equivalent fractions by using locations on a number line.

Next

- · Students compare fractions with the same numerator or the same denominator (Unit 8).
- · Students use the concept of equivalent fractions to add and subtract fractions (Grade 4).

Rigor

Conceptual Understanding

- Students develop an understanding that fractions with different numerators and denominators may represent the Procedural skill and fluency is same point on a number line.

Procedural Skill & Fluency

· Students build proficiency locating and comparing fractions on number lines.

not a targeted element of rigor for this standard.

Application

· Students apply an understanding of equivalent fractions to complete missing parts of equations with fractions.

LESSON 8-4 Understand Fractions of Different Wholes

Learning Targets

- . I can compare fractions when they refer to the same whole.
- I can explain why you can compare fractions only when they refer to the same whole.

Standards • Major A Supporting • Additional

Content

- 3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.
- 3.NF.A.3.d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Math Practices and Processes

MPP Model with mathematics.

MPP Attend to precision.

Focus

Content Objective

 Students explain why fraction comparisons are valid only when the wholes are the same size.

Language Objectives

- Students explain something that is mathematically impossible by using connot.
- To support sense-making, use MLR3: Critique, Correct, and Clarify.

SEL Objective

 Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.

Coherence

Previous

- Students partitioned rectangles and circles into equal parts (Grade 2).
- Students used models to represent fractions as parts of a whole (Unit 7).

Now

 Students extend their understanding of fractions as parts of a whole to compare fractions with the same size whole.

Next

- Students compare fractions (Unit 8).
- Students recognize that comparisons are valid only when the two fractions refer to the same whole (Grade 4).

Rigor

Conceptual Understanding

 Students develop an understanding as to why fraction comparisons are valid only when the wholes are the same size.

Procedural Skill & Fluency

 Students build proficiency with fraction models and the concept of equivalency.

Procedural skill and fluency is not a targeted element of rigor for this standard.

Application

 Students use equivalent fractions to solve real-world problems.

Compare Fractions with the Same Denomin

Learning Targets

- . I can compare fractions with the same denominators and different numerators.
- . I can explain how to compare fractions with the same denominators and different numerators.

Standards • Major A Supporting • Additional

- ♦ 3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about
- O 3.NF.A.3.d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Math Practices and Processes

MPP Use appropriate tools strategically.

MPP Look for and make use of structure.

Focus

Content Objective

· Students compare fractions with the same denominator and different numerators.

Language Objectives

- · Students articulate the word form of the mathematical symbols >, <, and =.
- . To optimize output, use MLR1: Stronger and Clearer Each Time.

SEL Objective

· Students develop and execute a plan, including selecting tools for mathematical problem solving.

Coherence

- · Students compared numbers using <, >, and = (Grade 2).
- · Students represented fractions on a number line (Unit 7).

- Students use the size of the numerator to compare fractions with the same denominator.
- Students represent fractions with
 Students compare fractions fraction tiles and number lines.

- · Students compare fractions with the same numerator (Unit 8).
- with unlike denominators (Grade 4).

Rigor

Conceptual Understanding

· Students build on their understanding of fractions to compare fractions with the same

Procedural Skill & Fluency

- Students build proficiency comparing fractions with the same denominator.

Application

Students compare fractions in real-world contexts.

Compare Fractions with the Same Numerato

Learning Targets

- · I can compare fractions with the same numerators and different denominators.
- . I can explain how to compare fractions with the same numerators and different denominators.

Standards • Major A Supporting • Additional

♦ 3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.

3.NF.A.3.d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Construct viable arguments and critique the reasoning of others.

Focus

Content Objective

. Students compare fractions with the same numerator and different denominators.

Language Objectives

- Students explain a comparison of two fractions by using a conditional clause with When...
- To support sense-making, use MLRG: Three Reads

SEL Objective

 Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.

Coherence

- · Students compared numbers using <, >, and = (Grade 2).
- · Students learned what the numerator and the denominator of a fraction represent (Unit 7).

- · Students use the size of the denominator to compare fractions with the same numerator.
- Students represent fractions with fraction circles, fraction tiles, and number lines.

- · Students compare fractions that have any numerator and denominator (Unit 8).
- · Students add and subtract fractions (Grade 4).

Rigor

Conceptual Understanding

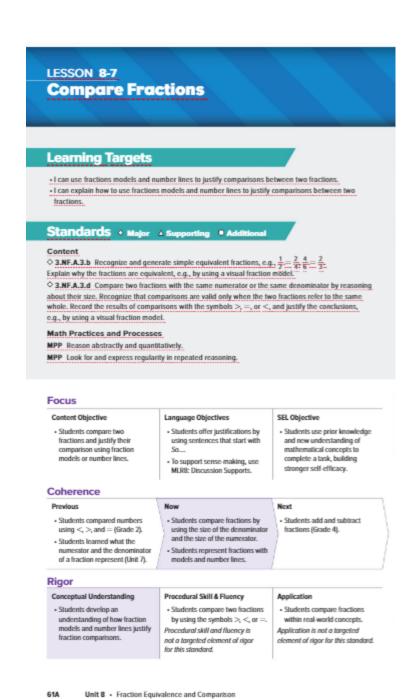
 Students develop an understanding of how the size of of a fraction.

Procedural Skill & Fluency

· Students compare two fractions with the same numerator. the denominator affects the size Procedural skill and fluency is not a targeted element of rigor

Application

· Students apply their understanding by comparing fractions in real-world contexts.



Integration of Career Readiness, Life Literacies and Key Skills

PFL.9.1.2. FI.1	Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).
PFL.9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
PFL.9.1.2.CR.2	List ways to give back, including making donations, volunteering, and starting a business.
PFL.9.1.2.FP.1	Explain how emotions influence whether a person spends or saves.
PFL.9.1.2.FP.3	Identify the factors that influence people to spend or save (e.g., commercials, family, culture, society).

PFL.9.1.2.PB.1	Determine various ways to save and places in the local community that help people save and accumulate money over time.
PFL.9.1.2.PB.2	Explain why an individual would choose to save money.
TECH.9.4.2.Cl.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
TECH.9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
TECH.9.4.2.CT.2	Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
TECH.9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
TECH.9.4.2.DC.3	Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4).
TECH.9.4.2.DC.6	Identify respectful and responsible ways to communicate in digital environments.
TECH.9.4.2.DC.7	Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
TECH.9.4.2.TL.2	Create a document using a word processing application.
TECH.9.4.2.TL.5	Describe the difference between real and virtual experiences.
TECH.9.4.2.TL.6	Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
TECH.9.4.2.TL.7	Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).

Technology and Design Integration

CS.K-2.8.1.2.AP.4	Break down a task into a sequence of steps.
CS.K-2.8.1.2.AP.5	Describe a program's sequence of events, goals, and expected outcomes.
CS.K-2.8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
CS.K-2.8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
CS.K-2.8.1.2.DA.3	Identify and describe patterns in data visualizations.
CS.K-2.8.1.2.DA.4	Make predictions based on data using charts or graphs.
CS.K-2.8.2.2.ITH.4	Identify how various tools reduce work and improve daily tasks.

Interdisciplinary Connections

LA.L.3.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LA.RI.3.1	Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
LA.RI.3.2	Determine the main idea of a text; recount the key details and explain how they support the main idea.
LA.RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

LA.RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
LA.RI.3.5	Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
LA.RI.3.6	Distinguish their own point of view from that of the author of a text.
LA.RI.3.8	Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence) to support specific points the author makes in a text.
LA.RI.3.9	Compare, contrast and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) the most important points and key details presented in two texts on the same topic.
LA.RI.3.10	By the end of the year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.
LA.SL.3.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

Differentiation

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

• Definitions of Differentiation Components:

- o Content the specific information that is to be taught in the lesson/unit/course of instruction.
- o Process how the student will acquire the content information.
- o Product how the student will demonstrate understanding of the content.
- Learning Environment the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:

Exit Ticket: Use Data to Inform Differentiation

Every lesson closes with an Exit Ticket. Differentiation recommendations reside in the Teacher Edition to make the Exit Ticket data actionable.

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Refer to QSAC EXCEL SMALL SPED ACCOMMOCATIONS spreadsheet in this discipline.

Modifications and Accommodations used in this unit:

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

DRA

Additional Benchmarks used in this unit:

Reveal Unit assessments

Formative Assessments

Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

Teacher observation

Checklists

Questioning and Discussion

Summative Assessments

summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

End of Unit assessments

Instructional Materials

See above

Standards

MA.3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
MA.3.NF.A.3a	Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
MA.3.NF.A.3b	Recognize and generate simple equivalent fractions (e.g., $1/2 = 2/4$, $4/6 = 2/3$). Explain why the fractions are equivalent, e.g., by using a visual fraction model.
MA.3.NF.A.3d	Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.