

Number and Operations - Fractions: Grade 3

Stage 1 Desired Results

ESTABLISHED GOALS:

Competencies:

- ***Students will demonstrate the ability to apply number sense by modeling and comparing fractions.***

Content Standards:

- 3.NF.1 Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.
- 3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.
- 3.NF.2a Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line.
- 3.NF.2b Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.
- 3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
- 3.NF.3a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
- 3.NF.3b 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.
- 3.NF.3c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = \frac{3}{1}$; recognize that $\frac{6}{1} = 6$; locate $\frac{4}{4}$ and 1 at the same point of a number line diagram.
- 3.NF.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.
- MP2 Reason abstractly and quantitatively.
- MP4 Model with mathematics.

NOTE: Grade 3 Expectations in this domain are limited to fractions with denominators of 2, 3, 4, 6, and 8.

Transfer

*Students will be able to independently use their learning to **express quantities, measurements, and number relations in different ways, with precision.***

Meaning

ENDURING UNDERSTANDINGS

Students will understand that...

- fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers.
- attending to precise detail increases reliability of mathematical results and minimizes miscommunication of mathematical explanations.

ESSENTIAL QUESTIONS

- ***Can something be both a part and a whole?***

Acquisition

Students will know...

- fractions express relationships, and the size or amount of the whole group matters.
- fractions can be represented on a number line.
- equivalent fractions are the same size, or are on the same point on a number line.
- a whole is equal to the sum of all its fractional parts, and a whole number can be expressed as a fraction.
- two fractions can be compared by looking at the numerator if the denominators are the same - The higher the numerator, the larger the fraction.
- two fractions can be compared by looking at the denominator if the numerators are the same - The smaller the denominator, the larger the fraction.

vocabulary:

fraction, numerator, denominator, unit fraction, equivalent, whole number, number line

Students will be skilled at...

- identifying the value of a fraction by its numerator and denominator.
- identifying the numerator and denominator.
- locating fractions and equivalent fractions on a number line.
- partitioning a whole into equal parts representing a fraction.
- recognizing and generating equivalent fractions. ($\frac{1}{2} = \frac{2}{4}$) .
- expressing whole numbers as fractions.
- comparing the value of fractions using $>$, $<$, or $=$.
- using models to show and explain whole numbers as fractions.
- explaining why two fractions are equivalent using a visual fraction model.
- justifying the result of a comparison of two fractions with like numerators or denominators.
- explaining why fractional size may be different based on the whole.

<i>Content Area Literacy Standards</i>	<i>21st Century Skills</i>
not applicable	<i>reason effectively</i> <i>make judgments and decisions</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
<i>Summary of Key Learning Events and Instruction</i>	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	not applicable
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	