

$\frac{1}{2}$ Sort

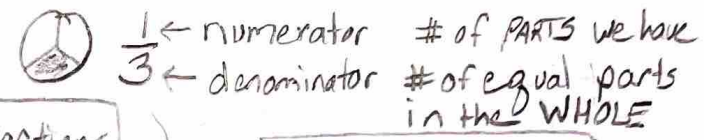
represents $\frac{1}{2}$ ~~not~~ $\frac{1}{2}$
 (Give 3 examples and non-examples. Sort them together. Add to Comparison.)
 equal size

3 types

proper $\frac{3}{4}$ ^{not} improper $\frac{5}{4}$ mixed $1\frac{1}{4}$

Whole number proper fraction

Fractions → a part of a whole



Modeling Fractions

Area Length Set

(Use a picture)

(Cuisenaire rods or paper strips)

Reading Fractions

- | | |
|-------------------------|---------------------------|
| $\frac{1}{2}$ half | $\frac{2}{2}$ halves |
| $\frac{1}{3}$ third | $\frac{3}{3}$ thirds |
| $\frac{1}{4}$ fourth | $\frac{4}{4}$ fourths |
| $\frac{1}{5}$ fifth | $\frac{5}{5}$ fifths |
| $\frac{1}{6}$ sixth | $\frac{6}{6}$ sixths |
| $\frac{1}{7}$ seventh | $\frac{7}{7}$ sevenths |
| $\frac{1}{8}$ eighth | $\frac{8}{8}$ eighths |
| $\frac{1}{9}$ ninth | $\frac{9}{9}$ ninths |
| $\frac{1}{10}$ tenth | $\frac{10}{10}$ tenths |
| $\frac{1}{11}$ eleventh | $\frac{11}{11}$ elevenths |
| $\frac{1}{12}$ twelfth | $\frac{12}{12}$ twelfths |

The size of the whole matters.

(Use cuisenaire rods)

whole (brown) | (purple) $\frac{1}{2}$

$\frac{1}{2}$ or $1\frac{1}{2}$

Unit fractions

$\frac{1}{2}, \frac{1}{4}, \frac{1}{3}$ 1 in the numerator

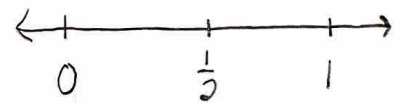
$\frac{1}{10}, \frac{1}{7}, \frac{1}{6}$

"building blocks"

$\frac{2}{3} = \frac{1}{3} + \frac{1}{3}$

$\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

Using Benchmarks



Is — closer to 0, $\frac{1}{2}$, 1?

Number Lines

$\frac{3}{4}$

(denominator)

① How many parts in the whole?
 ② How many parts in the numerator?

0 (interactive) 1

Comparing Fractions

> greater than = equal to
 < less than

$\frac{1}{2} < \frac{1}{3}$

$\frac{1}{2} > \frac{1}{4}$

$\frac{1}{2} = \frac{1}{2}$

Math Standards and Process Goals

- 1) We will represent and compare fractions using models, numbers and words.
- 2) We will use reasoning to understand fractions and solve problems in everyday life.

What we Know...

Inquiring fractions

What we want to learn...

UNIT PLANNING TOOL

Planning Focus: Introducing Fractions 3rd Grade (VA)

Module(s)/Unit(s) Unit 5 (ACPS)

VA Standards of Learning:

3.2abc The student will a) name and write fractions and mixed numbers represented by a model; b) represent fractions and mixed numbers, with models and symbols;

and c) compare fractions having like and unlike denominators, using words and symbols ($>$, $<$, $=$, or \neq), with models.

3.5 The student will solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less.

3.7a The student will estimate and use U.S. Customary and metric units to measure length to the nearest $\frac{1}{2}$ inch, inch, foot, yard, centimeter, and meter

Process Goals being Emphasized:

Representation

Problem Solving

Communication

Reasoning

Connections

Essential Questions

How can we use fractions to describe everyday situations?

What is a fraction?... a mixed number? And how are they named and written?

How can fractions including mixed numbers be modeled?

How can fractions with different denominators be equivalent?

Key Concepts

- Fractions are distinct numbers.
- A fraction is a part of a whole.
- The parts must be of equal size (but not shape).
- The denominator tells how many equal parts the whole is divided into. The numerator tells how many of these parts we are counting.

Compendium

(planned on a separate piece of paper)

Pre and Post Assessments

Based on second grade standards:

- measure length to the nearest inch
- Compare unit fractions
- Name and write fractions represented by a set, region, or length model for halves, fourths, eighths, thirds, and sixths

Also:

- Put numbers on a number line including $\frac{1}{2}$

Pre-assessment: Use problems from second grade post assessment on fractions and add to it.

Use third-grade pre-assessment where appropriate

Post-assessment: ACPS unit 5 post assessment

Other formative assessment opportunities:

- Inquiry Chart
- Numbered Heads reporting out
- Exit slips
- Lesson work
- Guided math groups

Connections (Real World Applications)

- Dividing food to share (pizza, candy bars, an apple...)
- Buying groceries (2 ½ pounds of hamburger, ½ pound of grapes...)
- Measuring objects or distance (3 ½ inches, 4 ¼ miles)
- Increasing or decreasing recipes
- In sports (1/2 yard from the in zone, 1/2 time, swam ¼ of the pool)
- Identifying parts of groups (2/3 of the students are wearing pajamas)

Language Functions/Structures

Describe There are ___ equal parts in the whole. ___ parts are shaded.
 The numerator tells us _____. The denominator tells us _____.
 I partitioned the shape into ___ parts and shaded in ___ of them.

Discuss I agree with _____ because. I want to add... I respectfully disagree with _____ because...

Compare ___ is greater than _____. ___ is less than _____. ___ is equal to _____.
 ___ and ___ are equivalent.
 ___ is closest to (0, ½, 1) because ...

Vocabulary

fraction, numerator, denominator, mixed number, improper fraction, equal parts, equivalent, benchmark fraction, unit fraction, greater than, less than, equal to, number line, set, area model, equal distance (interval), reasonable, partitioned

half/ halves, third(s), fourth(s), fifth(s)...twelfth(s)

Focus and Motivation

Chant: *Understanding Fractions Yes, Ma'am* by Lisa Meyer

Songs by Number Rock: *Fraction Song* by Number Rock <https://www.youtube.com/watch?v=ITce7f6KGE0> (targets numerator and denominator), *Fractions on a Number Line* <https://www.youtube.com/watch?v=SZaXtOHh6s> (make sure to extend the idea beyond one)

Video and quizzes on Brainpop for fractions

Literature: *Give me Half* by Stuart J. Murphy
How big is a foot? By Robert Myller (measurement connection)
The Wishing Club by Donna Jo Napoli
Fraction Action by Loreen Leedy
Apple Fractions by Jerry Pallotta

Fraction Card Games: fractions less than ½, ½ or more than ½, comparing fractions

Scavenger Hunt: Fractions in real life

Understanding Fractions Yes Ma'am

by Lisa Meyer

Is this a fraction?	Yes, Ma'am
Is this a fraction?	Yes, Ma'am
How do you know?	It's a partial number.
How do you know?	Numerator and denominator
Give me an example.	$\frac{3}{4}$ (3 out of 4)
Give me an example.	$\frac{1}{4}$ (1 out of 4)

Is this a unit fraction?	Yes, Ma'am
Is this a unit fraction?	Yes, Ma'am
How do you know?	1 in the numerator
How do you know?	One part of the whole
Give me an example.	$\frac{1}{2}$ or $\frac{1}{3}$
Give me an example.	$\frac{1}{5}$ or $\frac{1}{8}$

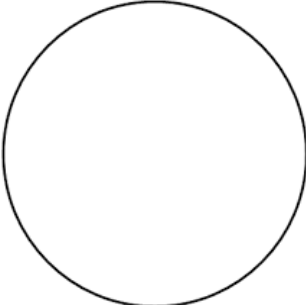
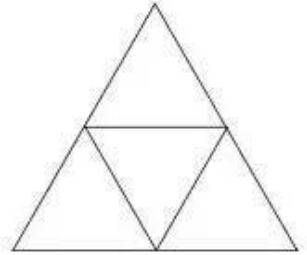






Is this a benchmark fraction?	Yes, Ma'am
Is this a benchmark fraction?	Yes, Ma'am
How do you know?	Common fractions we know
How do you know?	Easier to compare
Give me an example.	$\frac{1}{2}$
Give me other benchmarks.	0 and 1

Is this an equivalent fraction?	Yes, Ma'am
Is this an equivalent fraction?	Yes, Ma'am
How do you know?	They're the same size.
How do you know?	One equals the other
Give me an example.	$\frac{1}{2}$ and $\frac{2}{4}$
Give me an example.	$\frac{2}{5}$ and $\frac{4}{10}$

Repeat first verse.

Note: Chant could be *Yes, Ma'am*; *Yes, of course*; *Yes, sir...*

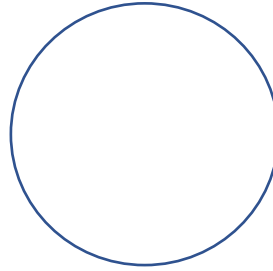
Student Name: _____

#	Fraction Check-in
1 2.4a	Divide this shape into 2 equal parts 
2 2.4 ab	This triangle is cut into --?  A. Half B. Thirds C. Fourths D. Eighths
3 2.4 ab	Which model below represents $\frac{4}{6}$? A.  B.  C.  E. 
4 2.4c	Compare the shaded parts. Using $<$, $>$, or $=$ complete the statement below.  _____ 

Name _____

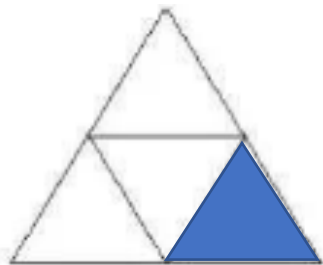
Third Grade Fraction Check-in

5 Shade $\frac{1}{3}$ of each shape.



6 Write the fraction for the shaded part.





7 Write the numbers below on the number line.

1, 3, 5, and $2\frac{1}{2}$

