

3rd Grade 3.NF.3 a-b

Pre-Instruction

1. List the Standard. Underline the nouns (what students will know) and highlight the verbs (what student will do):

3.NF.3-**Explain** equivalence of fractions in special cases, and **compare** fractions by **reasoning** about their size.

a.) **Understand** two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

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** visual models.

2. Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

3. I Can Statements – Put learning targets in student friendly terms.

1. I can compare fractions by their size.
2. I can recognize and generate equivalent fractions on a number line.
3. I can recognize and generate equivalent fractions by their size.
4. I can explain equivalent fractions using a model.

Depth of Knowledge of the standard (Highlight the Level of the Learning Target):

Level 1 Recall; Level 2 – Skill/Concept; **Level 3 – Strategic Thinking; Level 4 – Extended Thinking**

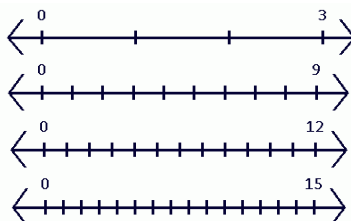
4. List the skills students need to know in order to begin this standard:

1. Vocabulary-Equivalent.
2. What a fraction is-parts of whole, parts of a set.
3. What a unit fraction is- $\frac{1}{2}$, $\frac{1}{4}$, etc.
4. Understand the basics of a number line.
5. Understand mathematical models.

5. What type of assessment am I going to write? [**selected response** (m/c, t/f, y/n, matching, fill in ___) **or constructed response** (**short**: word, phrase, sentence, single problem; **extended**: multi-step operations in math, problem solving)] List the assessment questions.

Assessment 1 – Card Sort using fraction pictures, numbers, words and/or equivalents.

Assessment 2 –



Using the number lines, show a fraction equivalent to $\frac{1}{3}$?

Assessment 3 – Using fraction bars, build 5 equivalent fractions.

Assessment 4 – Is $\frac{1}{4}$ equivalent to $\frac{3}{12}$. Explain using models and words.

Is $\frac{2}{3}$ equivalent to $\frac{6}{8}$? Explain using models and words.

6. Scoring Guide

Assessment 1:

Exceeds Expectations: Student was able to match all cards and recognize equivalence between matches

Proficient: Student was able to match all cards

Approaching Proficiency: student was able to match $\frac{3}{4}$ of the cards

Not Proficient: student could only match less than $\frac{3}{4}$ of the cards.

Assessment 2:

Exceeds Expectations: Student could plot $\frac{1}{3}$ and more than one equivalent fraction or a fraction that is not a typical equivalent (exceeds $\frac{2}{6}$).

Proficient: Student could plot $\frac{1}{3}$ and a fraction equivalent to $\frac{1}{3}$.

Approaching Proficiency: Student could plot $\frac{1}{3}$.

Not Proficient: Student could not plot $\frac{1}{3}$ or incorrectly plots $\frac{1}{3}$ and is unable to plot an equivalent fraction.

Assessment 3:

Exceeds Expectations: Builds more than 5 pairs or more equivalence for each fraction.

Proficient: Builds 5 equivalent fraction pairs.

Approaching Proficiency: Builds 3 equivalent fraction pairs

Not Proficient: Builds less than 3 equivalent fraction pairs

Assessment 4:

Exceeds Expectations: Correctly drew models for both situations and correctly explained why or why not using more detail and precision.

Proficient: Correctly drew models for both situations and correctly explained why or why not.

Approaching Proficiency: Could complete one half of the task correctly (could complete and explain the equivalent set but not the nonequivalent set and/or could draw models correctly but not explain).

Not Proficient: Could not complete half of the task correctly.

Power Standard: 3.NF3 a

Assessment 1:

Directions: Card Sort using fraction pictures, numbers, words and/or equivalents.

Resource for cards:

<http://www.montessoriforlearning.com/MathFiles/Level1Math/Level1MathFiles/fractionlabelcards.pdf>

Other resources:

<http://pinterest.com/sgw/math-fractions/>

http://www.nsa.gov/academia/files/collected_learning/elementary/fractions/fishing_fractions.pdf

<http://www.e-turo.org/files/math2ui.pdf>

Scoring Guide:

Exceeds Expectations: Student was able to match all cards and recognize equivalence between matches

Proficient: Student was able to match all cards

Approaching Proficiency: student was able to match $\frac{3}{4}$ of the cards

Not Proficient: student could only match less than $\frac{3}{4}$ of the cards.

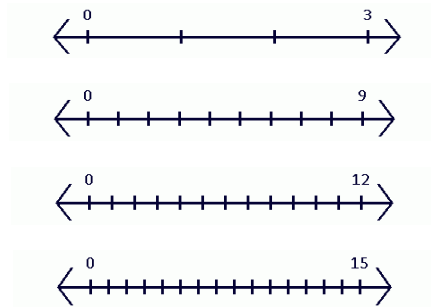
Name _____

Date _____

Assessment 2

Power Standard: 3.NF.1a

Directions: Using the number lines, show a fraction equivalent to $\frac{1}{3}$?



Scoring Guide:

Assessment 2:

Exceeds Expectations: Student could plot $\frac{1}{3}$ and more than one equivalent fraction or a fraction that is not a typical equivalent (exceeds $\frac{2}{6}$).

Proficient: Student could plot $\frac{1}{3}$ and a fraction equivalent to $\frac{1}{3}$.

Approaching Proficiency: Student could plot $\frac{1}{3}$.

Not Proficient: Student could not plot $\frac{1}{3}$ or incorrectly plots $\frac{1}{3}$ and is unable to plot an equivalent fraction

Tracking Sheet

Class: _____ Assessment 1 or 2 (Circle)

Skill: 3.NF.3-**Explain** equivalence of fractions in special cases, and **compare** fractions by **reasoning** about their size.
 a.) **Understand** two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

Student	1 st Attempt				2 nd Attempt				3 rd Attempt			
	Not Proficient	Approaching Proficiency	Proficient	Exceeds Expectations	Not Proficient	Approaching Proficiency	Proficient	Exceeds Expectations	Not Proficient	Approaching Proficiency	Proficient	Exceeds Expectations

Assessment 1:
Exceeds Expectations: Student was able to match all cards and recognize equivalence between matches
Proficient: Student was able to match all cards
Approaching Proficiency: student was able to match ¾ of the cards
Not Proficient: student could only match less than ¾ of the cards.

Assessment 2:
Exceeds Expectations: Student could plot 1/3 and more than one equivalent fraction or a fraction that is not a typical equivalent (exceeds 2/6).
Proficient: Student could plot 1/3 and a fraction equivalent to 1/3.
Approaching Proficiency: Student could plot 1/3.
Not Proficient: Student could not plot 1/3 or incorrectly plots 1/3 and is unable to plot an equivalent fraction.

Assessment 3

Power Standard: 3.NF.3 b

Directions: Using fraction bars, build 5 equivalent fractions.

Resource: Marilyn Burns Fraction Kit, Magnetic boards with fraction pieces, etc.

http://www.nsa.gov/academia/files/collected_learning/elementary/arithmetric/exp_equiv_fractions.pdf

Assessment 3:

Exceeds Expectations: Builds more than 5 pairs or more equivalence for each fraction.

Proficient: Builds 5 equivalent fraction pairs.

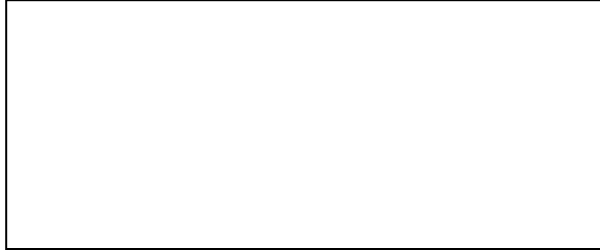
Approaching Proficiency: Builds 3 equivalent fraction pairs

Not Proficient: Builds less than 3 equivalent fraction pairs

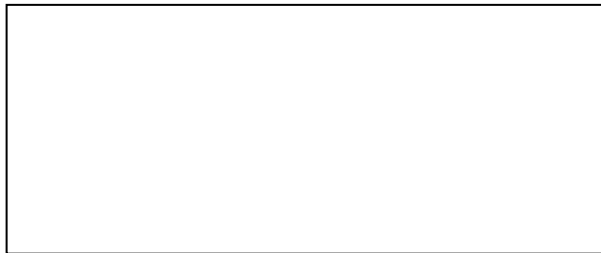
Power Standard: 3.NF.3b

Directions: – Complete the following questions.

1. Is $\frac{1}{4}$ equivalent to $\frac{3}{12}$. Explain using models and words.



2. Is $\frac{2}{3}$ equivalent to $\frac{6}{8}$? Explain using models and words.



Assessment 4:

Exceeds Expectations: Correctly drew models for both situations and correctly explained why or why not using more detail and precision.

Proficient: Correctly drew models for both situations and correctly explained why or why not.

Approaching Proficiency: Could complete one half of the task correctly (could complete and explain the equivalent set but not the nonequivalent set and/or could draw models correctly but not explain).

Not Proficient: Could not complete half of the task correctly.

