3rd Grade 3.NF.3 a-b

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| 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 ½ =2/4, 4/6 = 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-1/2,1/4,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 –  **[Number Line](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=3&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)**  **[Number Line](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=9&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)**  **[Number Line](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=12&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)**  [Number Line](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=15&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)  Using the number lines, show a fraction equivalent to 1/3?  Assessment 3 – Using fraction bars, build 5 equivalent fractions.  Assessment 4 – Is ¼ equivalent to 3/12. Explain using models and words.  Is 2/3 equivalent to 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 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:  **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

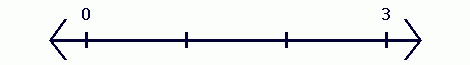
**Approaching Proficiency:** student was able to match ¾ of the cards

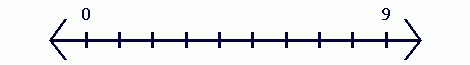
**Not Proficient:** student could only match less than ¾ of the cards.

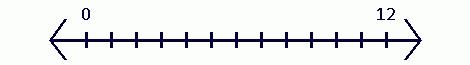
Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Assessment 2

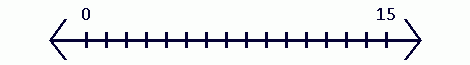
Power Standard: 3.NF.1a

Directions: Using the number lines, show a fraction equivalent to 1/3?

[](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=3&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)

[](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=9&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)

[](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=12&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)

[](http://www.mathwarehouse.com/number-lines/number-line-outputter.php?s=0&e=15&w=300&label=firstLast&endtype=arrows&inc=1&bg=FFFFFF&col=000033&download=1)

Scoring Guide:

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

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.

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

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_ Assessment 4

Power Standard: 3.NF.3b

Directions: – Complete the following questions.

1. Is ¼ equivalent to 3/12. Explain using models and words.

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1. Is 2/3 equivalent to 6/8? Explain using models and words.

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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.

Tracking Sheet

Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Assessment 3 or 4 (Circle)

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

b.)Recognize and generate simple equivalent fractions, e.g ½ =2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g by using visual models.

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