UBD Unit Plan Janessa Fractions

by Janessa Gorgonio

Unit Cover Page

Unit Information

Unit Title: Fractions

Grade Level: 3rd
Subject/Topic Areas: Math / Fractions; Fraction Models, Fraction Comparison

Key Words: Fractions, Part of a Whole, Equivalent Fractions, Numerator, Denominator,

Designed by: Janessa Gorgonio

Time Frame for Instruction: 2 weeks

School District: N/A

Brief Summary

The main goal for this unit is to get students familiar with the fraction. Some goals for this unit include: recognizing parts of a fraction, identifying what is a fraction, being able to model fractions in different ways, comparing fractions, and ordering fractions from least to greatest and vice-versa. During this learning process, the students will know terms like numerator, denominator, area models, set models, length models, renaming fractions (simplifying fractions), and equivalent fractions. This unit is meant to introduce the concept of fractions and is the start of the beginning stages of fraction concepts.

Design Status

Check as you complete each part:

_ X_ Template pages (Stages 1, 2, and 3)
_ X_ Blueprint for each performance task
_ X_ Rubrics
_ X_ Directions to students and teachers
_ X_ Materials and resources listed
_ X_ Suggested accommodations and extensions
Stage 1 - Identify Desired Results

Standards

CC-MA-2010.3.NF.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.

CC-MA-2010.3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.

CC-MA-2010.3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

NCTM-S.NUM.3-5.1.1.4 > use models, benchmarks, and equivalent forms to judge the size of fractions; [Numbers and Operation]

Big Ideas and Mathematical Practices

Big Ideas:

- A fraction describes the division of a whole into equal parts.
- The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.
- Each fraction can be associated with a unique point on the number line.

Standards for Mathematical Practice:

4. Model with mathematics.

- Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace.
- Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later.
- They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas.
- They can analyze those relationships mathematically to draw conclusions.
- They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

What essential questions will be considered?
What is a fraction?
Why is it important to identify fractions?
Why is it important to know how to model, compare, and order fractions?
How can fractions be used in real life?
How many fractions are between zero and one?
How many different ways can you show 1/2?

What understandings are desired?

Students will...

Knowledge:
- Describe that fractions are numbers representing objects that have been broken apart into equal pieces.
- Describe that fractions are part of a whole.
- Recognize fractions in area models, length models, and set models.
  - Area Models are fractions that are based on parts of an area that involve sharing something that could be cut into smaller parts.
  - Length Models show lengths or measurements that are compared instead of areas.
  - Set Models are where the whole make is understood to be a set of objects and subsets of the whole make up fractional parts.

Comprehension:
- Estimate fractions to easily select where it belongs on the number line and in order.
- Extend fractions using equivalent fractions.

Application:
- Construct fraction models (area models, length models, and set models).

Analysis:
- Compare fractions
  - Ability to judge the relative size of two or more fractions
- Identify the greatest to the least given fractions.
  - Ability to arrange two or more fractions in order based on their size

Synthesis:
- Explain how a fraction can be modeled (fractions can be modeled using the three fraction models: area, length and set), compared, and ordered.

Evaluation:
- Justify fractions using different manipulatives: fraction strips, cuisenaire rods, fraction circles, number line, fraction bars.

What key knowledge and skills will students acquire as a result of this unit?
Students will know...

- Key terms: Fraction, part of a whole, numerator, denominator, proper fraction language (such as whole, half, third, fourth, fifth, sixth, etc.)
- That fractions can be interpreted as part-whole or as a part of a whole.
- Fractions as a single value.
  - Numerator: tells how many
  - Denominator: tells how many parts it takes to make a whole
- The three types of models
  - Area Model:
    - What defines the whole: area of the defined region defines the whole.
    - What the fraction means: the part of the area covered; as it relates to the whole unit
  - Length Model:
    - What defines the whole: unit of distance or length
    - What the fraction means: the location of a point in relation to 0 and other values on the number line
  - Set Model:
    - What defines the whole: whatever value is determined as one set
    - What the fraction means: the count of objects in the subset as it relates to the defined whole

Students will be able to...

- recognize and name equivalent fractions
- identify fractions as part of a whole, part of a set, part of an area, and locations on the number line
- recognize fractions in real life outside of school

Stage 2 - Determine Acceptable Evidence

Performance Tasks - What evidence will show that students understand?

Students will show understanding of fractions when completing activities/lessons by:

- Ordering fractions from least to greatest or greatest to least using a variety of manipulatives.
- Describing that the numerator tells how many and the denominator tells how many parts it takes to make a whole.
- Using the fraction language such as: whole, half, third, fourth, fifth.
  - Incorrect use: 1/3 as one over three, one out of three, or one-threes
- Modeling fractions in an area model (i.e. in a circle area), length model (i.e. on a numberline), and set model (i.e. within a set of buttons[objects]).
- Identifying equivalent fractions.
- Comparing fractions based on pictorial/concrete examples.
What other evidence needs to be collected in light of Stage 1 Desired Results?

- **Informal Checks for Understanding:**
  - Teacher questioning, observations, examining student work, and think alouds will be done by the teacher while they walk around the class watching the students complete their work.
  - Questions to ask that check for understanding include: "Do you see anything interesting about these strips?" "What's going on in your head?" "What do you see?" "Is there anything else that you know for sure about fractions?" "What can you tell about this fraction and this other fraction?" The questions are meant to provide feedback to the teacher and the student.

- Activities* accompanying worksheets
- Whole group discussions
- Think-pair-share discussions
- Journal entries that look for specific answers. *

*can be found in Stage 3 timeline.

**Student Self-Assessment and Reflection**

Math Journals:
Students will showcase their reflections on the given prompts and topics*. The reflections will be done at the end of each day (math block). Some prompts will be given in the beginning of the day (math block) to get students' brains thinking and to spark interest for students.

*Topics/prompts:

1. Where can you see fractions in the world?
2. What did you do today in class/what was your favorite part of math today?
3. Note what fractions were in the video/what different words were used that had something to do with fractions?
4. From video: What things are useful when you split them to fractions? What things aren't useful?
5. What are some fraction language words?
6. How would you explain an example of one of the 3 fraction models to a 1st grader?
7. How would you explain to a 1st grader that 1/3 is greater than 1/4?
8. Would you want a 1/2 of a pizza ot 1/3 of a pizza, why?
9. Which is greater 4/5 or 2/3? How do you know?
10. What does the word equivalent mean to you?
11. Which is greater 1/2 or 3/6? How do you know?
12. How many different ways can you show 1/2?
13. What do you think is the most important thing to learn about fractions?

**Stage 3 - Plan Learning Experiences**

**WHERE TO**

Code each learning activity with one of these letters:

- **W** - Ensure that students understand WHERE the unit is headed, and WHY.
- **H** - HOOK students in the beginning and HOLD their attention throughout.
- **E** - EQUIP students with necessary experiences, tools, knowledge, and know-how to meet performance goals.
- **R** - Provide students with numerous opportunities to RETHINK big ideas, REFLECT on progress, and REVISE their work.
- **E2** - Build in opportunities for students to EVALUATE progress and self-assess.
- **T** - Be TAILORED to reflect individual talents, interests, styles, and needs.
- **O** - Be ORGANIZED to optimize deep understanding as opposed to superficial coverage.

**Sequence of Teaching and Learning Experiences**

**WEEK 1**

**Monday:**
- Ask students if they know what a fraction is and discuss. **WH**
- Read the picture book, *The Wishing Club* to the students to introduce fractions. **H**
- Math Journal prompt #1. **O**
- Activities as a whole-class on different models of fractions, i.e.: showing 7 total fish on smart board, 3 fish are colored red. What fraction of the fish are red? (3/7) Or a bar separated by fifths, students come up and show different fractions that are given (1/5, 2/5, etc.) **WHET**
- Activity 15.3 Class Fractions: Use a group of students as the whole—for example, 6 students if you want to work on thirds, halves, sixths. Ask students “what fraction of our friends [are wearing tennis shoes, have brown hair, etc.]?” Change the number of people over time. **HETO**
- Show numerator and denominator song: fraction on YouTube. **HE**
- As a class come up with a way to remember numerator and denominator (like a song or a hand motion). **ERTO**
- Math Journal Entry #2 **RE2O**

**Tuesday:**
- Show the short video on YouTube: *Numberjacks - s02e17 - Fraction Friction*. **WHE**
- Math Journal prompt #3 while students watch the video. **WE**
- Math Journal prompt #4. **WO**
- Activity 10-3 Fractional Parts of a Whole. This is will enhance fraction language.
  - Use of Fraction Factory pieces to find how many:
    - thirds are in a whole
    - fifths are in a whole
    - tenths are in a whole
    - twelfths are in a whole
  - Students will answer the prompt: Do you notice a pattern? **WEE2TO**
- Fraction Packet **ET**

**Wednesday:**
- Math Journal prompt #5 **WERE2**
- Pose question on the board: What are the different ways to represent fractions? **W**
- Show different models on Smartboard (i.e. Figure 10-13 Using Different Units to Model Fractions shows continuous quantities and discrete quantities). **E**
- Fraction Model Activity:
Break students up into three groups, an area model group, a length model group, and a set model group.
- Each group will draw out their model of any fraction.
- Groups will come up and share their modeled fraction. WERTO

Math Journal prompt #6 ERO

### Thursday:

- **Fun with Fractions: Lesson 1: Making and Investigating Fraction Strips from Illuminations**
  - Fun with Fractions worksheet ETO
- **Activity 10-8 Comparing Fractions:** Use Fraction Bars to compare the following:
  - 1 part out of 3 and 1 part out of 4
  - 5 parts out of 6 and 3 parts out of 4
  - 1 part out of 2 and 5 parts out of 12 E
- **Discussion as a whole-class or groups of what they saw. E2O**
- **Activity 10-9 Comparing Fractions:**
  - Find Fraction Bars that have a greater shaded amount than a blue bar with 3 parts shaded.
  - Find Fraction Bars that have ess shading than a red bar with 1 part shaded. WE
- **Activity 10-10 Fractions on a Number Line:**
  - Draw three number lines he same length
  - Divide one line in eighths, one in tenths, and one in twelfths
  - Use your number lines to order the following sets of fraction: 1/3, 5/8, 3/5; 9/12, 6/10, 5/8; 4/8, 3/10, 5/12; 7/8, 11/12, 9/10 WE
- **Practice the way students came up with to remember numerator and denominator. E**
- **Math Journal prompt #7 ER**

### Friday:

- **Math Journal #8 E**
- **Activity 15.2 Who is Winning:** The friends below are playing "Red Light-Green Light." Who is winning? The fractions tell how much of the distance they have already mobed. Can you place these friends on a line to show where they are between the start and finish?
  - Mary: 3/4
  - Harry: 1/2
  - Larry: 5/6
  - Han: 5/8
  - Miguel: 5/9
  - Angela: 2/3 WE
- **As a class figure out which fractions are greater and which fractions are least, then students will come up to the board and put fractions on a number line. WE**
- **Activity 15.18 Ordering Unit Fractions:** List a set of unit fractions such as 1/3, 1/8, 1/5, and 1/10. Ask students to use reasoning to put the fractions in order from least to greatest. Challenge students to explain their reasoning with an area model and on a number line. Ask students to connect the two representations. ("What do you notice about 1/3 of the circle and 1/3 on the number line?") WEE2O
- **Computer Work Day:** Students can grab a laptop or go to computer lab for different fraction interactive games:
  - Fraction Models
  - Thirteen Ways of Looking at a Half
  - Fraction Bars ET
- **Work in groups to complete Comparing Fractions Worksheets:** Comparing Fraction Worksheet1 and Comparing Fraction Worksheet2. ERE2
- **Individual completion of Ordering Fractions Worksheets. E**

### WEEK 2

Monday:
• Math Journal prompt #9 **ERE2TO**
  • Read picture book, *The Hershey’s Milk Chocolate Fraction Book* to students while they have post-it jotting down something they found interesting, helpful, something they previously knew, etc. **HE**

• **Candy Bar Activity:**
  - Give each pair of students several brown "candy bars" (*Candy Bar Sheet* (pdf)) and the instruction sheet for the activity *Sharing* (pdf).
  - Have students cut the "candy bar" in two pieces, using the lines of the "candy bar" as cutting lines, so that it will be shared fairly by TWO people.
  - Have them find three different ways to cut the "candy bar" so that it is shared fairly between TWO people.
  - Have students glue their "candy bar" solutions on plain paper and write an explanation of how they know each of their solutions is fair or equivalent and label each part with the fraction one half. **WHETO**

• Math Journal #10 **RE2**

**Tuesday:**

• Math Journal #11 **E**

• **Make Equivalent Fractions Activity:**
  - Pass out a set of fraction pattern block pieces to each cooperative group. Show students the fraction pattern block pieces. Identify the yellow hexagon as the whole. Have them discuss in their cooperative groups what the other pieces are equivalent too.
  - Model the fraction 1/2. Next model how to create a fraction that is equivalent to 1/2 using different pattern block pieces. For example, you could choose to model 2/4. Be sure to name the new fraction, and talk about how you know that 1/2 and 2/4 are equivalent fractions.
  - The teacher should model several fractions and their equivalent fraction. Be sure to include your "thinking aloud" as you continue to do this.
    - After you have modeled several equivalent fractions, give a fraction for your cooperative groups to use to model an equivalent fraction. (A different fraction could be given to each group, but be sure to have students explain what how they got their equivalent fraction.) Examples of fractions that could be used in groups are: 2/3, 3/4, 5/8, 4/6, 2/8.
  - After the cooperative groups have had a few minutes to model the fractions they believe are equivalent to the initial fractions choose someone to come up and represent the fractions his/her team made. Be sure to ask whether another group came up with a different solution. **WERTO**

• Computer Math Interactive Games:
  - **Equivalent Fractions**
  - **Melvin’s Make A Match E**

• Students will used fraction manipulatives to complete **Equivalent Fractions Worksheet. ET**

**Wednesday:**

• Introduce students that they will be creating one of these crafts to help with worksheet on fractions. (Each worksheet will have instructions on how to make craft. I.e. For the caterpillar, instructions will say 1/4 of caterpillar is blue and the caterpillar will have 12 different parts to color; for the pizza, instructions will say 2/8 of the pizza will have just cheese on it; for the Hershey’s bar, the instructions will say that 6/12 of the bar will have almonds.) **WHERTO**

• When students are finished, they will discuss with their groups on how they did figured out where to color. **RE2**

• Math Journal #12 **RO**

**Thursday:**
Timeline for WhereTo elements

**WEEK 1**

**Monday**

- Ask students if they know what a fraction is.
  - Note possible outcomes.
  - Let the students know that for the next couple of weeks, they will be learning about fractions!
- Read the picture book, *The Wishing Club* to the students to introduce fractions.
- Math Journal prompt #1.
- Activities as a whole-class on different models of fractions, i.e.: showing 7 total fish on smart board, 3 fish are colored red. What fraction of the fish are red? (3/7) Or a bar separated by fifths, students come up and show different fractions that are given (1/5, 2/5, etc.)
- Introduce concepts of numerator and denominator.
  - Numerator: tells how many
  - Denominator: tells how many parts it takes to make a whole
- **Activity 15.3 Class Fractions:** Use a group of students as the whole—for example, 6 students if you want to work on thirds, halves, sixths. Ask students “what fraction of our friends [are wearing tennis shoes, have brown hair, etc.]?” Change the number of people over time.
- Show numerator and denominator song: fraction on YouTube.
- As a class come up with a way to remember numerator and denominator (like a song or a hand motion).
- Math Journal Entry #2

**Tuesday:**

- Show the short video on YouTube: Numberjacks - s02e17 - Fraction Friction.
- Math Journal prompt #3 while students watch the video.
- Math Journal prompt #4.
- **Activity 10-3 Fractional Parts of a Whole.** This is will enhance fraction language.
  - Use of Fraction Factory pieces to find how many:
    - thirds are in a whole
    - fifths are in a whole
    - tenths are in a whole
    - twelfths are in a whole
  - Students will answer the prompt: Do you notice a pattern?
- Fraction Packet

**Wednesday:**

- Math Journal prompt #5
- Pose question on the board: What are the different ways to represent fractions?
- Go over the different ways to model fractions: area models, length models, and set models (some should be easy for them to understand since most of the models were shown already as examples).
- Show different models on Smartboard (i.e. Figure 10-13 Using Different Units to Model Fractions shows continuous quantities and discrete quantities).

https://college.livetext.com/doc/8428920?print=1
• Fraction Model Activity:
  ○ Break students up into three groups, an area model group, a length model group, and a set model group.
  ○ Each group will draw out their model of any fraction.
  ○ Groups will come up and share their modeled fraction.
• Math Journal prompt #6

Thursday:
• Fun with Fractions: Lesson 1: Making and Investigating Fraction Strips from Illuminations
  ○ Fun with Fractions worksheet
• Activity 10-8 Comparing Fractions: Use Fraction Bars to compare the following:
  ○ 1 part out of 3 and 1 part out of 4
  ○ 5 parts out of 6 and 3 parts out of 4
  ○ 1 part out of 2 and 5 parts out of 12
• Discussion as a whole-class or groups of what they saw.
• Activity 10-9 Comparing Fractions:
  ○ Find Fraction Bars that have a greater shaded amount than a blue bar with 3 parts shaded.
  ○ Find Fraction Bars that have ess shading than a red bar with 1 part shaded.
• Activity 10-10 Fractions on a Number Line:
  ○ Draw three number lines he same length
  ○ Divide one line in eighths, one in tenths, and one in twlefths
  ○ Use your number lines to order the following sets of fraction: 1/3, 5/8, 3/5; 9/12, 6/10, 5/8; 4/8, 3/10, 5/12; 7/8, 11/12, 9/10
• Practice the way students came up with to remember numerator and denominator.
• Math Journal prompt #7

Friday:
• Math Journal #8
• Activity 15.2 Who is Winning: The friends below are playing "Red Light-Green Light." Who is winning? The fractions tell how much of the distance they have already mobed. Can you place these friends on a line to show where they are between the start and finish?
  ○ Mary: 3/4
  ○ Harry: 1/2
  ○ Larry: 5/6
  ○ Han: 5/8
  ○ Miguel: 5/9
  ○ Angela: 2/3
• Come together as a whole-class and work on Smartboard together on putting those fractions on number line.
• As a class figure out which fractions are greater and which fractions are least, then students will come up to the board and put fractions on a number line.
• Activity 15.18 Ordering Unit Fractions: List a set of unit fractions such as 1/3, 1/8, 1/5, and 1/10. Ask students to use reasoning to put the fractions in order from least to greatest. Challenge students to explain their reasoning with an area model and on a number line. Ask students to connect the two representations. ("What do you notice about 1/3 of the circle and 1/3 on the number line?")
• Computer Work Day: Students can grab a laptop or go to computer lab for different fraction interactive games:
  ○ Fraction Models
  ○ Thirteen Ways of Looking at a Half
  ○ Fraction Bars
• Work in groups to complete Comparing Fractions Worksheets: Comparing Fraction Worksheet1 and Comparing Fraction Worksheet2.
• Individual completion of Ordering Fractions Worksheets.
WEEK 2

Monday:

- Math Journal prompt #9
- Read picture book, *The Hershey’s Milk Chocolate Fraction Book* to students while they have post-it jotting down something they found interesting, helpful, something they previously knew, etc.
- Students discuss the book.
- **Candy Bar Activity:**
  - Give each pair of students several brown "candy bars" (*Candy Bar Sheet* (pdf)) and the instruction sheet for the activity *Sharing* (pdf).
  - Have students cut the "candy bar" in two pieces, using the lines of the "candy bar" as cutting lines, so that it will be shared fairly by TWO people.
  - Have them find three different ways to cut the "candy bar" so that is it shared fairly between TWO people.
  - Have students glue their "candy bar" solutions on plain paper and write an explanation of how they know each of their solutions is fair or equivalent and label each part with the fraction one \( \frac{1}{2} \).
- Give a real Hershey's bar to students to share equally amongst the two in the group.
- Math Journal #10

Tuesday:

- Math Journal #11
- **Make Equivalent Fractions Activity:**
  - Pass out a set of fraction pattern block pieces to each cooperative group. Show students the fraction pattern block pieces. Identify the yellow hexagon as the whole. Have them discuss in their cooperative groups what the other pieces are equivalent too.
  - Model the fraction \( \frac{1}{2} \). Next model how to create a fraction that is equivalent to \( \frac{1}{2} \) using different pattern block pieces. For example, you could choose to model \( \frac{2}{4} \). Be sure to name the new fraction, and talk about how you know that \( \frac{1}{2} \) and \( \frac{2}{4} \) are equivalent fractions.
  - The teacher should model several fractions and their equivalent fraction. Be sure to include your "thinking aloud" as you continue to do this.
    - After you have modeled several equivalent fractions, give a fraction for your cooperative groups to use to model an equivalent fraction. (A different fraction could be given to each group, but be sure to have students explain what how they got their equivalent fraction.) Examples of fractions that could be used in groups are: \( \frac{2}{3}, \frac{3}{4}, \frac{5}{8}, \frac{4}{6}, \frac{2}{8} \).
  - After the cooperative groups have had a few minutes to model the fractions they believe are equivalent to the initial fractions choose someone to come up and represent the fractions his/her team made. Be sure to ask whether another group came up with a different solution.
- **Computer Math Interactive Games:**
  - Equivalent Fractions
  - Melvin's Make A Match
- Students will used fraction manipulatives to complete **Equivalent Fractions Worksheet**.

Wednesday:

- Have a few examples of crafts at the front of the classroom to share with the students: pizza box, with a partitioned off pizza, Hershey's chocolate bar, caterpillar, etc.
- Introduce students that they will be creating one of these crafts to help with worksheet on fractions. (Each worksheet will have instructions on how to make craft. I.e. For the caterpillar, instructions will say 1/4 of caterpillar is blue and the caterpillar will have 12 different parts to color; for the pizza, instructions will say 2/8 of the pizza will have just...
cheese on it; for the Hershey’s bar, the instructions will say that 6/12 of the bar will have almonds.)

- Students will complete the crafts for the rest of the math block.
- When students are finished, they will discuss with their groups on how they did figured out where to color.
- Math Journal #12

Thursday:

- Math Journal #13
- Read *Apple Fractions* to students.
- Students will discuss the story and relate the story to things that they already know.
- Students will create a fraction book based on their ideas and learnings of fraction.
- The creation of the fraction book will take the rest of the math block to finish.
- Students turn in fraction book for assessment.

Materials

- Math Journals (composition book or notebook) and a pencil.
- Different colored strips of paper (Fun with Fractions: fraction strips).
- Worksheets.
- Posterboards and different colored markers
- Creative Fraction Project (miscellaneous crafts: paper, cardboard, posterboard, construction paper, scissors, crayons, markers,
- Creative Fraction Project instruction worksheet (caterpillar, pizza, chocolate bar).
- Hershey's chocolate bar cutouts.
- Smartboard.
- *The Hershey’s Milk Chocolate Fraction Book.*
- *The Wishing Club.*
- *Apple Fractions*.
- Paper

Accomodations and Extensions

Math Journals:
Students are able to reflect on how they feel that they did that day. They are open to talk about anything about the topic. It's a way for the instructor to differentiate and give prompts to students who need a little push or to give the higher leveled students multi-entryway in their reflections. If students need more time, then time is given to them to complete a good amount of reflection time.

Fun with Fractions:
Lower leveled students will take a longer time completing the strip making. Time should be accomodated so that lower leveled students are able to get the grasp of the activity. Then they will have enough time whithout rushing to explore and compare fraction lengths. An extension would be to give some more strips to the students and they will be comparing more strips and actually writing it down in their math journal on what they notice.

Fraction Model Activity:
This is a group activity, so I coul easily assign a job for each of the students to do in each group. If the instructor does that, then there will be no one left behind in the group. The group has to work together to make up ideas for a specific fraction model and to be able to present it to the
class afterwords. There are different jobs that can be used for lower leveled students and different jobs for higher leveled students. For example, the lower leveled students would be the ones to make up the different type of fraction and how they would model it; the lower leveled student might make up the fraction 3/5 and in a set model, would use the example of rubber duckies. A higher leveled student might want to be the one that will explain what is going on in the poster and will want to be the first one in the group to start explaining (each person should have a speaking part in the group presentation).

Creative Fraction Project:

This project has multi-entryways for students of different levels to join in. They have hands on materials that will help them see concretely what each fraction of that piece looks like. There is an instruction sheet, so for lower leveled students, the instructor could sit with the student and give him/her one on one attention. That way, the instructor can read the instructions to the student and give them an extra push. The instructor will be also close by so if there were any questions that the student may have, the instructor can answer them quickly.

Candy Bar Activity:

This activity is accomodated for students to use manipulatives. Having concrete materials help students with low level learning be able to see what is going on. To extend this, the instructor would have students work by themselves (or within a group that needs an extension) and the student will look for solutions of splitting the candy bar equally for three people or four people.

Make Equivalent Fractions Activity:

This activity is another hands-on activity, so it is easy to tailor to different learners' needs. The students are able to use a different manipulative and it just might work better than the other manipulatives. To accomodate for this lesson, the instructor must sit close to the group that has the lower level learners and be a guide whenever the students raise up any questions. To extend this activity, the students can make up their own pattern (however big they may want it) and look for specific fractions within the pattern shape.

Computer Games:

These activies are tailored to each of the students' needs. Students are able to choose what they want to participate in. The interactive games have different levels that students are able to go on.

Resources

[Common Core State Standards: Math Practices](http://www.corestandards.org/Math/Practice)

Blue text was adapted from this website.

[Big Ideas and Understandings as the Foundation for Elementary and Middle School Mathematics](#)

By Randall I. Charles, Carmel CA. Text highlighted in yellow is from this source.

[Understand By Design: Professional Development Workbook](#)

Violet text was adapted from this source.

[Elementary and Middle School Mathematics: Teaching Developmentally](#)

By John A. Van De Walle, Karen S. Karp, Jennifer M. Bay-Williams Text in dark green is adapted from this source.
**Learning Mathematics in Elementary and Middle Schools: A Learner-Centered Approach**
By W. George Cathcart, Yvonne M. Pothier, James H. Vance, Nadine S. Bezuk
Text in light blue is adapted from this source.

Text in red is adapted from this source.

Text highlighted in green is from this source.

**Utah Education Network** [http://www.uen.org/Lessonplan/LPview.cgi?grade=3](http://www.uen.org/Lessonplan/LPview.cgi?grade=3)
Lesson plans from this source are highlighted in violet.

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