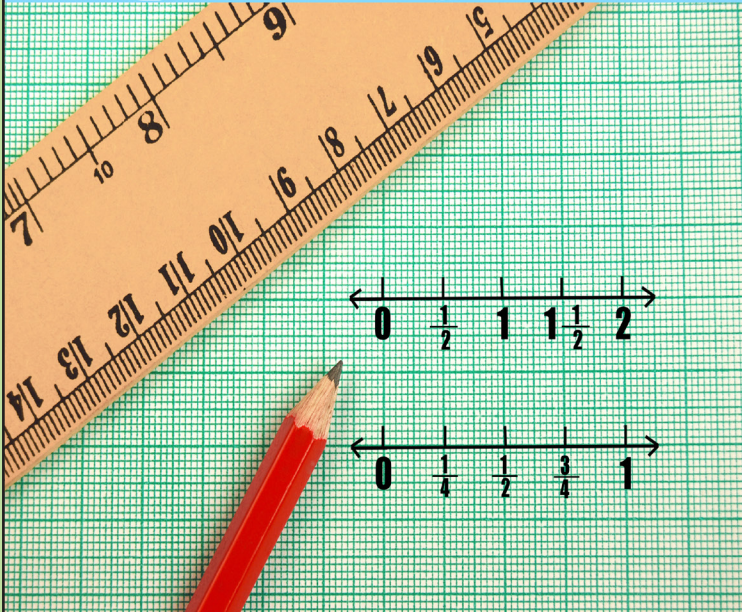
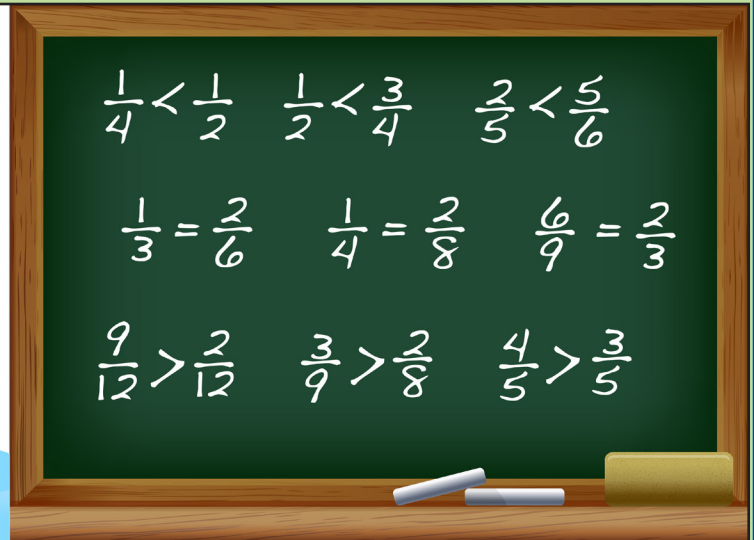


FRACTION FACE-OFF!

Fraction Foundation Tutoring Program for Fourth Grade



Lynn Fuchs, Ph.D.,
Robin Schumacher, Ph.D.,
Amelia Malone, Ph.D., and
Doug Fuchs, Ph.D.

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Dear Educator,

Thank you for your interest in the Fraction Face-Off! small group tutoring program developed at Vanderbilt University. We are pleased to offer you this excerpt to review.

These pages from the Fraction Face-Off! manual are provided as a courtesy to allow you to preview a representative sampling of the Fraction Face-Off! tutoring program for 4th Grade. This excerpt includes the following:

1. Table of Contents
2. Introduction
3. Day 12
 - a. Activity 1: Word Problem Warm-Up (pages 143-147)
 - b. Activity 2: Training (pages 147-150)
 - c. Activity 3: Relay (page 151)
 - d. Activity 4: Fraction Sprint (pages 151-152)
 - e. Activity 5: Individual Contest (page 152)
 - f. Activity 6: Scoreboard (page 153)
4. Preparing Implementation Materials
5. Glossary
 - a. Materials Glossary
 - b. Activities Glossary

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If you would like to place an order for Fraction Face-Off! please visit the PALS Website at <http://kc.vanderbilt.edu/pals/> and select "Ordering" at the top of the page. If you have questions, email Lynn Davies at lynn.a.davies@vanderbilt.edu.

Thank you for your interest in Fraction Face-Off!



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Fraction Face-Off!

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- Manipulatives
 - Greater Gator: Less than/Greater than Cards
 - " $>$ ", " $<$ ", & " $=$ " Tokens
- Cards
 - Compare Card
 - Number Line Card
 - Ordering Card
 - Mixed to Improper Card
 - Improper to Mixed Card
 - Addition & Subtraction Card
- Flashcards
 - Grey Naming Flashcards
 - Yellow Comparing Flashcards
- Word Problem Warm-Up Guide
- Championship Game
 - Spinner & Spinner Game Wheel
 - Fraction Championship Game Sheet (Football Field)
 - Championship Game Cards (4 Categories)
- Certificate of Achievement

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INTRODUCTION

Welcome to Fraction Face-Off!, a tutoring program designed to build a solid foundation in understanding fractions. Research shows that success in fractions provides the foundation for success in algebra, which leads to success with higher-level mathematics. A solid understanding of fraction concepts is vital for a student's positive movement through the mathematics curriculum.

Fraction Face-Off! is designed to promote fraction understanding for at-risk learners (students who have shown previous difficulty with mathematics) in the fourth grade. Fraction Face-Off! was validated in a series of randomized control studies, conducted by Dr. Lynn Fuchs and colleagues (contact lynn.a.davies@vanderbilt.edu for study information). These studies were funded by a grant from the U.S. Department of Education (Institute of Education Sciences: Grant #R324C100004).

Fraction Face-Off! uses explicit instruction to address two types of understanding about fractions: the part/whole interpretation of fractions and the measurement interpretation of fractions. This program emphasizes the measurement interpretation. This includes understanding the magnitude of fractions: comparing two fractions, ordering three fractions, and placing fractions on a 0-1 and 0-2 number line.

Fraction Face-Off! incorporates a sports theme to increase students' interest. In each lesson, students work together as a team to solve problems during the Relay and Fraction Sprint activities, and also work independently during the Individual Contest. Throughout the program, students are treated like "professional athletes" and have the opportunity to earn "Fraction Money" which they can use to buy prizes at varying price points. Understanding the correct fraction denominations that equal 1 whole dollar is important to buy prizes at the Fraction Store.



RULES OF THE GAME

What is Fraction Face-Off!?

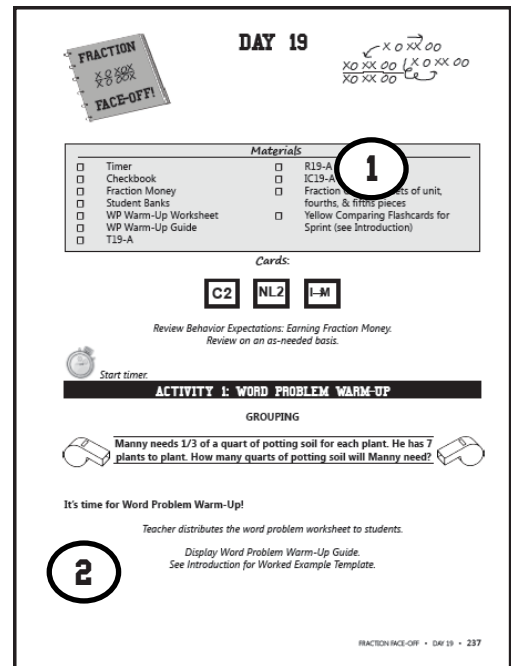
Fraction Face-Off! is a supplemental program for your core curriculum, designed to help students who have difficulty solving fraction problems. For each lesson you will find:

1 MATERIALS LIST

The Materials List identifies the materials to be used for that day. Be sure to review the Materials List ahead of time to make sure you have everything you need for the day's lesson. The Implementation Ready (IR) Pack includes materials that teachers would otherwise have to prepare themselves, such as the Fraction Money, flashcards, etc. If you purchased the IR Pack with your manual, most of the things in the Materials List will be prepared for you and ready to use. If you did NOT purchase the IR Pack, plan well before your lesson to ensure you have your materials prepared. For a comprehensive list of all the materials used during the program, refer to the "Materials List" section on p. 13.

2 LESSON GUIDES

The daily Lesson Guide is a framework to help the teacher cover the material and activities that are scheduled for each day in the time allotted. It is written like a “script;” however, the guide is not meant to be read word-for-word. Teachers should be familiar with the Lesson Guide before giving the lesson to the students.



LESSON GUIDE FONT FORMAT:

- Teacher's verbal instruction is marked in **bold**.
- Possible student responses are in unmarked font.
- *Italicized* and centered content includes directives to the teacher.
- (Parenthetical non-bolded content) within the bolded script are directives for the teacher.
- **BOLDED CAPS** content directs teacher toward a worksheet or activity change.

Included on the front page of each Lesson Guide will be Icons directing your attention to specific instructional cards. The Cards will assist you in describing a concept to a student. The Icon Key is on p. 14.

After a concept/skill has been taught, the script will begin to refer to these Cards. The Cards are designed to help teachers approach problems requiring similar solution strategies. These instructional Cards help streamline lessons for the teacher when studying the content for the day's lesson.

IMPLEMENTATION SCHEDULE

The program was designed to be taught three times per week for 12 weeks. Lessons are approximately 30-35 minutes long. Each lesson is labeled Day 1, Day 2....through Day 36.

The following is the sequence of each activity and the average number of minutes to conduct the activity:

- Word-Problem Warm-Up (5 minutes)
- Training + Relay (20 minutes)
- Sprint (2 minutes)
- Individual Contest + Scoreboard (8 minutes)

ACTIVITY DESCRIPTIONS

WORD-PROBLEM WARM-UP

(Begins on Day 7)

This activity teaches students to solve word problems that require multiplicative reasoning. Instruction is based on schema theory and students are taught to recognize and solve two problem-types. Procedures for solving problems are outlined on the Word Problem Warm-Up Guide. For each word problem, students receive a copy of the problem where they can show their work and set up each problem within a type the same way. The teacher also has a copy to model the work for the students. On Days 26, 30, and 32, we include a distractor problem, which fits neither of the taught problem types. Students do not receive a copy of the distractor problem. These problems are used to desensitize students to the idea that all word problems fit within the two problem types for which the Fraction Face-Off! program focuses.

TRAINING

(Begins Day 1)

This activity is for new fraction content to be taught/explained. Teachers model new content and work examples to demonstrate how to solve different fraction problems. Manipulatives are generally used during Training (if required for that day). Students focus on magnitude by comparing two fractions, ordering three fractions, placing fractions on the number line, and finding equivalent fractions. Students are taught to recognize proper vs. improper fractions and to convert improper fractions to mixed numbers. Computation (addition and subtraction) of fractions is also included in the program.

RELAY

(Begins on Day 2)

Students take turns solving fraction problems that were taught during training. This activity also includes a cumulative review.

SPRINT

(Begins on Day 10)

This activity focuses on building fluency with fraction magnitude and equivalency topics. This activity requires flashcards (the master file to use for copying the flashcards is on the CD). There are three different flashcard activities (see descriptions below) and the same activity is repeated over a 3-day period. Students build fluency and try to beat their score from the previous day. The Sprint activity is indicated on the Lesson Guide for days 10 - 36.



Equal, Not Equal to 1/2

- Days 10-15
- Flashcards: Grey Naming Flashcards (proper fractions only)

The flashcards in this activity have 1 fraction on them. Students say “equal,” if the fraction is equal to $\frac{1}{2}$, and “not equal,” if it is not equal to $\frac{1}{2}$. Becoming familiar with fractions equal to $\frac{1}{2}$ so they can be used as benchmarks is a hallmark feature of the program and this activity helps students memorize fractions equivalent to $\frac{1}{2}$.



Which Fraction is Greater?

- Days 16-21, Days 25-27, Days 28-36
- Flashcards: Yellow Comparing Flashcards

The flashcards in this activity have two fractions on them. Students have to state which fraction is bigger. Additional difficult comparison types are incorporated as content in the program becomes more difficult. See below.

Days 16-21

$$\boxed{\frac{2}{4} \quad \frac{2}{3}} \text{ Proper, same numerator}$$

$$\boxed{\frac{2}{4} \quad \frac{1}{4}} \text{ Proper, same denominator}$$

$$\boxed{\frac{2}{2} \quad \frac{3}{3}} \text{ Both fractions equal to 1}$$

$$\boxed{\frac{2}{4} \quad \frac{3}{6}} \text{ Both fractions equal to } \frac{1}{2}$$

Days 25-27 (add the following flashcards)

$$\boxed{\frac{8}{5} \quad \frac{8}{6}} \text{ Improper, same numerator}$$

$$\boxed{\frac{6}{5} \quad \frac{7}{5}} \text{ Improper, same denominator}$$

$$\boxed{1 \frac{1}{4} \quad 1 \frac{1}{6}} \text{ Mixed numbers, same numerator}$$

$$\boxed{1 \frac{1}{4} \quad 1 \frac{3}{4}} \text{ Mixed numbers, same denominator}$$

Days 28-36 (add the following flashcards)

$$\boxed{\frac{2}{4} \quad \frac{5}{4}} \text{ Proper vs. improper}$$

$$\boxed{\frac{1}{2} \quad \frac{3}{4}} \text{ Comparing } \frac{1}{2} \text{ to another proper fraction}$$



Proper/Improper/Mixed

- Days 22-24
- Flashcards: Grey Naming Flashcards (all types)

The flashcards in this activity have one fraction on them. Students state whether a fraction is proper, improper, or mixed.

Individual Contest (IC)

(Begins on Day 4)

During the IC, students complete a worksheet individually to check their understanding of fraction concepts. There are two bonus problems for Days 4-21 and four bonus problems for Days 22-36. All bonus problems are chosen at the discretion of the teacher and the selected bonus problems are revealed to the students after they complete their work. Based on correctly answering bonus problems, students earn extra half or quarter dollars, which they can spend at the Fraction Store every third day (e.g. Day 3, Day 6, etc...). The first part of the IC includes fraction problem types taught in Training and practiced in Relay, with cumulative review. The second part of the IC has a word problem.

MATERIALS LIST

The following applies to ALL orders:

Copies To Be Made By The Teacher

- Word-Problem Warm-Up Worksheets
- Training Worksheets
- Relay Worksheets
- Individual Contest Worksheets

Materials To Be Provided By The Teacher

- 1 Timer
- 1 Dry-Erase Marker
- 1 Set of Fraction Tiles
- 1 Pair of Scissors
- Prizes for the Fraction Store
- Grand Prize for the Championship Winner

*Additional Materials**

(Included in IR Pack, if purchased)

- Checkbook
- 6" x 9" Clasp Envelopes for Student Banks**
- Laminated Number Lines
- 2 Sets of Fraction Circles**
- Grey & Yellow Flashcards (Naming & Comparing)
- "Greater Gator" Less than/Greater than Cards
- Less than, Greater than & Equal sign Tokens
- Fraction Money
- Instructional Cards (see next page):
 - Compare Card (Days 1-16 & 17-36)
 - Number Line Card (Days 1-16 & 17-36)
 - Ordering Card (Days 1-16 & 17-36)
 - Improper to Mixed Card
 - Mixed to Improper Card
 - Addition & Subtraction Card
- Word Problem Warm-Up Guide
- Championship Game Sheets (Football Fields)
- Championship Game Cards
- Championship Game Wheel
- Plastic Spinner for Championship Game Wheel**
- Certificate of Achievement
- Representational Fraction Tiles

***Note:** If your purchase included only the Teacher's Manual & CD, the Additional Materials list on the left identifies the materials for which templates are provided and which the teacher must prepare prior to the program implementation. Note that the items marked with ** must be purchased as there are no templates provided.

****Note:** No template is provided. These items must be purchased.

Suggestions for the Fraction Store

Students have the opportunity to earn Fraction Money after successfully completing activities during the Program. Students keep their Fraction Money in their Bank envelopes. Fraction Money is used to buy prizes at the end of the week. Prizes include physical items like jewelry, stickers, bouncy balls, etc... or opportunity prizes like first in line to lunch or a free homework pass. The "prices" for the Fraction Store prizes are set in whole Fraction Money dollars by the teacher; however, we recommend a modest pricing strategy of \$1, \$3, \$5, and \$15. At the end of each lesson, the teacher uses the Scoreboard activity to inform students of how much Fraction Money they earned during the Lesson. Students either choose to spend their money at the end of the week at the Fraction Store or trade-in their half and quarter dollars for whole dollars to save to purchase more expensive prizes later. Keeping prizes organized by price point helps students to plan their purchases at the end of the week.

ICON KEY

CARDS

ICONS

CARDS

ICONS

Compare Card

Same Denominators?
Bigger Numerator
Bigger Fraction

Same Numerators?
Fewer Parts
Bigger Fraction

Both Different?

Are they equivalent?

Is one fraction equivalent to $\frac{1}{2}$?
• Rewrite $\frac{1}{2}$ with the same denominator

Are none equivalent to $\frac{1}{2}$?
• Compare each fraction to $\frac{1}{2}$
• Write L or G

C1

Compare Card
Days 1-16

Number Lines

Find $\frac{1}{2}$

Compare to $\frac{1}{2}$ and write L or G

LL or GG?
Compare and write < or >

NL1

0-1 Number Line Card
Days 1-16

Compare Card

Same Denominators?
Bigger Numerator
Bigger Fraction

Same Numerators?
Fewer Parts
Bigger Fraction

Both Different?

Label:
Proper (P), Improper (I), or Mixed (M)

Are they equivalent?

Is one fraction equivalent to $\frac{1}{2}$?
• Rewrite $\frac{1}{2}$ with the same denominator

Are none equivalent to $\frac{1}{2}$?
• Compare each fraction to $\frac{1}{2}$
• Write L or G
• OR: rewrite an equivalent fraction to make the denominators the same

C2

Compare Card
Days 17-36

Number Lines

Which number line?

Find $\frac{1}{2}$

Compare to $\frac{1}{2}$ and write L or G

LL or GG?
Compare and write < or >

Label:
Proper (P), Improper (I), or Mixed (M)
Change I to M

If Proper:
Look at 0-1
Compare to $\frac{1}{2}$ and write L or G

If Mixed:
Look at 1-2
Compare to $\frac{1}{2}$ and write L or G

NL2

0-1 & 0-2
Number Line Card
Days 17-36

Ordering

$\frac{a}{d} \frac{b}{e} \frac{c}{f}$

Compare:

Same Denominators?
Bigger Numerator
Bigger Fraction

Same Numerators?
Fewer Parts
Bigger Fraction

All Different?
1. Compare to $\frac{1}{2}$ and Write L, G, or =
2. LL or GG?
Compare and write < or >

O1

Ordering Card
Days 1-16

Writing Improper Fractions as Mixed Numbers

Improper Fraction: $\frac{3}{2}$

STEP 1:
Write a fraction equal to 1 with the same denominator

STEP 2:
Subtract

STEP 3:
Answer to STEP 2 plus 1

Your New Mixed Number!

I→M

Improper to Mixed Card
Days 17-36

Ordering

$\frac{a}{d} \frac{b}{e} \frac{c}{f}$

Label:
Proper (P), Improper (I), or Mixed (M)
Change I to M

Compare:

Same Denominators?
Bigger Numerator
Bigger Fraction

Same Numerators?
Fewer Parts
Bigger Fraction

All Different?
1. Compare to $\frac{1}{2}$ and Write L, G, or =
2. LL or GG?
Compare and write < or >

O2

Ordering Card
Days 17-36

Writing Mixed Numbers as Improper Fractions

Mixed Number: $1\frac{1}{2} = 1 + \frac{1}{2}$

STEP 1:
Write a fraction equal to 1 with the same denominator

STEP 2:
Answer to Step 1 plus proper fraction

Your New Improper Fraction!

M→I

Mixed to Improper Card
Days 17-36

Fraction Addition/Subtraction Card

Think first:

- Add or subtract?
- Mixed number in problem?
- Add proper fractions first.

Same Denominators?

- Add/subtract right away.
- Can you rewrite answers?

Different Denominators?

- Find an equivalent fraction to make denominators the same.
- Can you rewrite answers?

Mixed number? Rewrite as whole numbers

AS

Addition &
Subtraction Card

Note:

Once cards are introduced, their applicable icons are listed under the Materials List for each day. These cards are used throughout the program. When a new card is first introduced, the icon is also embedded within the Training or Relay Script.

WORKED EXAMPLES TEMPLATE

Note: In the following examples, any original printed information is denoted with regular font. Teacher and/or student work is denoted with "handwritten" font.

Word Problem Warm-Up

Splitting:

Matt has $\overset{U}{2}$ apples. He cut each apple into $\overset{S}{\text{fifths}}$. How many pieces of apple does Matt have?

$$\begin{array}{r|l}
 2 \text{ } \overset{U}{U} & \overset{\frac{1}{5}}{S} \\
 \hline
 1 & \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} \\
 1 & \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} \\
 \hline
 & 10 \text{ pieces of apple}
 \end{array}$$

Grouping:

Keisha is making $\overset{I}{4}$ necklaces for friends. For each necklace, she needs $\overset{S}{\left(\frac{1}{3}\right)}$ of a yard of string. How many yards of string does Keisha need?

$$\begin{array}{r|l}
 \frac{1}{3} \text{ } \overset{S}{S} & \\
 \hline
 4 \text{ } \overset{I}{I} & \left(\frac{1}{3} + \frac{1}{3} + \frac{1}{3} \right) + \frac{1}{3} \\
 & 1\frac{1}{3} \text{ yards of string}
 \end{array}$$

Grouping (with non-unit fractions):

Ray needs $\frac{2}{3}$ of a cup of flour to make a loaf of bread. He's making 2 loaves of bread.

How many cups of flour does Ray need?

$$\begin{array}{r}
 \frac{2}{3} \quad S \\
 \hline
 2 \quad 1
 \end{array}
 \quad
 \begin{array}{r}
 \frac{1}{3} + \frac{1}{3} \quad \frac{1}{3} + \frac{1}{3} \\
 \hline
 \frac{2}{3} \quad \frac{2}{3} \\
 \hline
 \end{array}$$

$1\frac{1}{3}$ cups of flour

Comparing fractions

Compare to $\frac{1}{2}$:

$$\frac{5}{6} > \frac{3}{6} \quad \cancel{\frac{1}{2}}$$

Compare to $\frac{1}{2}$ ($\frac{1}{2}$ not in problem):

$$\frac{4}{8} < \frac{5}{6} \quad \frac{2}{8} < \frac{3}{6}$$

L G

Ordering fractions

Ordering (compare all fractions to $\frac{1}{2}$; $\frac{1}{2}$ in the problem):

$$\frac{1}{2} \quad \frac{5}{6} \quad \frac{3}{6} \quad \frac{2}{8} \quad \frac{4}{8}$$

= G L

Least

$$\underline{\frac{2}{8}}$$

Greatest

$$\underline{\frac{1}{2}}$$

$$\underline{\frac{5}{6}}$$

Ordering (compare all fractions to $\frac{1}{2}$; $\frac{1}{2}$ not in problem):

$$\frac{3}{4} \quad \frac{2}{4} \quad \frac{5}{8} \quad \frac{4}{8} \quad \frac{2}{6} \quad \frac{3}{6}$$

G G L

Least

$$\underline{\frac{2}{6}}$$

Greatest

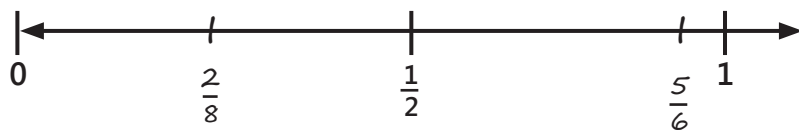
$$\underline{\frac{5}{8}}$$

$$\underline{\frac{3}{4}}$$

$$\frac{3}{4} \quad \frac{6}{8} \quad \frac{5}{8}$$

$\frac{3}{4} > \frac{6}{8}$

Placing fractions on a number line

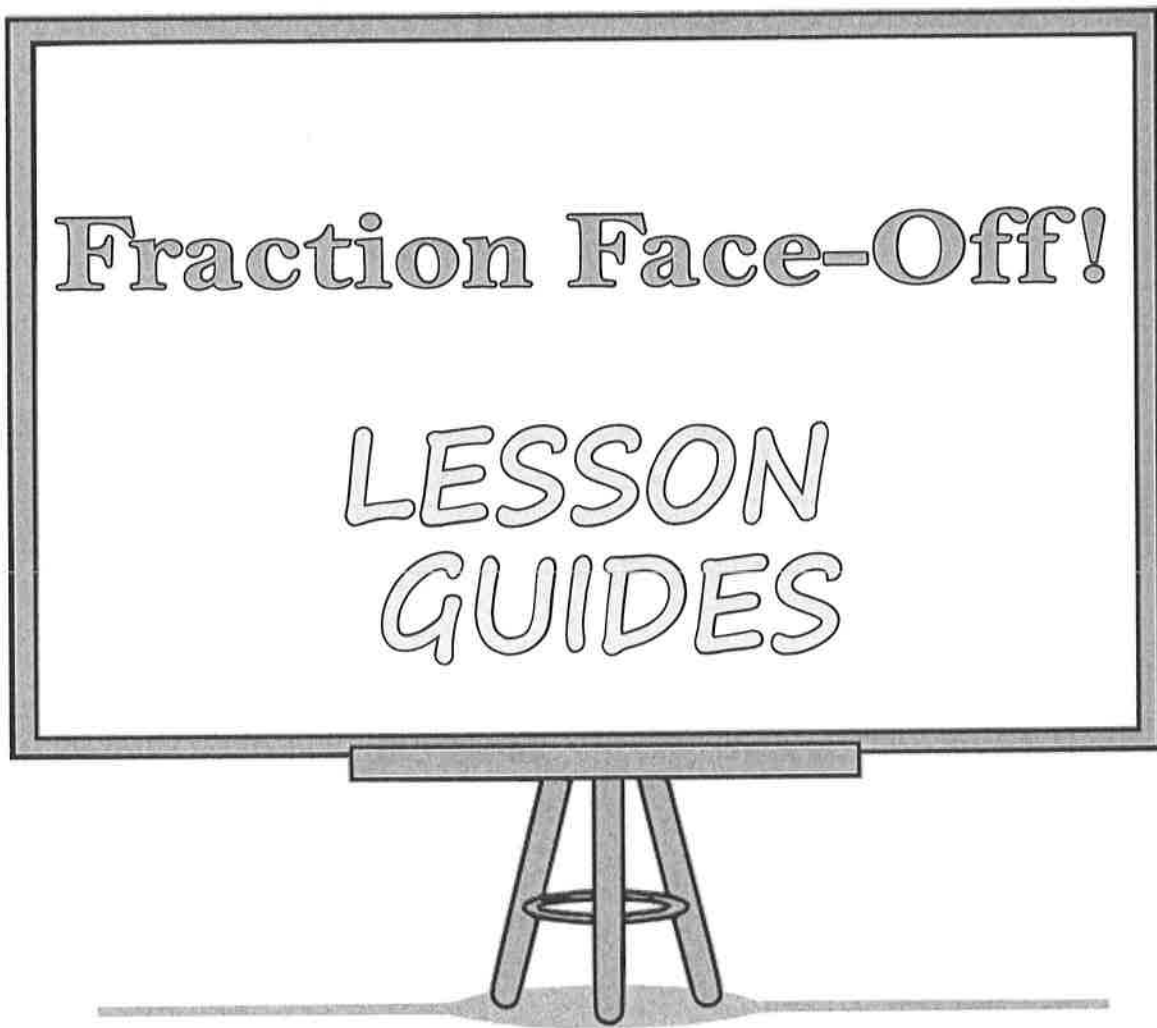


$$\frac{3}{6} \quad \frac{5}{6} \quad \frac{2}{8} \quad \frac{4}{8}$$

G L

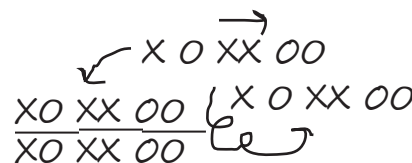
Fraction Face-Off!

LESSON GUIDES





DAY 12



Materials	
☐ Timer	☐ Grey Naming Flashcards for Sprint (see Introduction)
☐ Checkbook	☐ T12-A
☐ Fraction Money	☐ R12-A
☐ Student Banks	☐ IC12-A
☐ WP Warm-Up Worksheet	☐ Fraction Store Prizes
☐ WP Warm-Up Guide	

Cards:



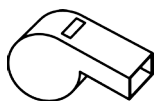
Review Behavior Expectations: Earning Fraction Money.
Review on an as-needed basis.



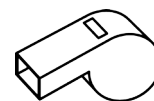
Start timer.

ACTIVITY 1: WORD PROBLEM WARM-UP

SPLITTING



Lydia baked 3 pies for the picnic. She cut each pie into fifths.
How many pieces of pie does Lydia have now?



It's time for Word Problem Warm-Up!

Teacher distributes the word problem worksheet to students.

Display Word Problem Warm-Up Guide.
See Introduction for Worked Example Template.

NAME THE PROBLEM TYPE

Splitting

1. Underline what's Missing

2. Circle what's Known

Write Units

Write Size

3. Make a Table

4. Solve the Problem

Grouping

1. Underline what's Missing

2. Circle what's Known

Write Items

Write Size

3. Make a Table

4. Solve the Problem

Teacher should follow the Word Problem Warm-Up Guide and let students take the lead on the steps. Call on different students to help the group with underlining, circling, labeling etc. When students get in a bind, follow the types of questions/feedback below. The script below is a guide for how to ask questions throughout the lesson if students get stuck.

We'll solve the problem together. Let's follow these steps (point to the Word Problem Warm-Up Guide).

Listen as I read the problem. "Lydia baked 3 pies for the picnic. She cut each pie into fifths. How many pieces of pie does Lydia have now?"

Let's think about the story. What's happening in the story?

Pie is being cut, divided, or split. We are starting with a whole pie which is something big and in the end we have something smaller.

Good. In this problem, something is being cut, divided, or split. Student C, what does the question say?

How many pieces of pie does Lydia have now?

Right. This question asks "How many pieces of pie does Lydia have now?" Lydia starts with something big and at the end the pieces are smaller. Lydia cuts something into smaller pieces. That's what the question asks us to find. So what kind of problem is this?

Splitting.

Right. As soon as we figure out this is a Splitting problem, we Name the Problem Type. Student A, where do we write the name of the problem type?

Above the problem.

Good. Everyone do this with me.

Teacher and students write Splitting above the word problem.

Student B, what's Step 1?

Underline what's Missing.

In a word problem, where do we find what's missing?

In the question.

Good. Student A, tell us again what the question says.

How many pieces of pie does Lydia have now?

Student B, what's missing?

Pieces of pie.

Good. Let's Underline what's Missing (demonstrate).

Student C, what's Step 2?

Circle what's Known.

Let's look at the word problem to see what we know. Student A, what important information is in the first sentence (point)?

She has 3 pies.

Good. Let's circle 3 pies (demonstrate). **Student B, is pie the Unit or the Size of the pieces?**

The Unit

Good. We write U to stand for the Unit.

Teacher and students label the known information as Unit.

Student C, what important information does the next sentence tell us?

Lydia cut each pie into fifths.

Good. Let's circle fifths (demonstrate). **Student B, is fifths the Unit or the Size of the pieces?**

Size.

Good. We write S to stand for the Size of the pieces.

Teacher and students label the known information as Size of the pieces.

Student A, what's the next step?

Make a Table.

Good. Let's make the Table. We draw lines like this (demonstrate). **I write U here for Units. I write S here for the Size of the pieces** (demonstrate writing U and S in the Table).

See Worked Examples Template.

Before we fill in the Table, Student A, what's missing?

How many pieces of pie.

Good. We do not know how many pieces of pie there are. Our Table will help us figure out what's missing.

Now let's fill in the Table. Student A, find the U in the problem. How many Units do we write on the Table?

3.

Good. In our Table we put 3 in front of U (demonstrate writing 3 in front of the U on the Table). **We write 1 here, and another 1 here, and another 1 here** (demonstrate writing the 1's below the Units column). **Everyone do that now.**

Teacher and students write a 1 in the Table for every Unit.

Remember, 1 Unit + 1 Unit + 1 Unit (point) **makes 3 Units. The story told us 3 pies.**

Now we need to add the Size of the pieces to the problem. Student B, what's the Size of the pieces in our problem?

1/5.

Remember, the S tells us about the Size of the pieces. It does NOT tell us how many pieces. That's what's missing. S stands for the Size of the missing pieces.

Write 1/5 next to the S for the Size of the pieces.

Student A, how many 1/5 pieces makes 1 Unit?

5.

Good. There are 5 pieces in each Unit. Let's write $1/5 + 1/5 + 1/5 + 1/5 + 1/5$ next to each Unit (demonstrate).

I finished the Table. Now I Solve the Problem. Student A, remind me what's missing.

The number of pieces.

Let's count the number of pieces from our Table. We count each of these fractions (point).

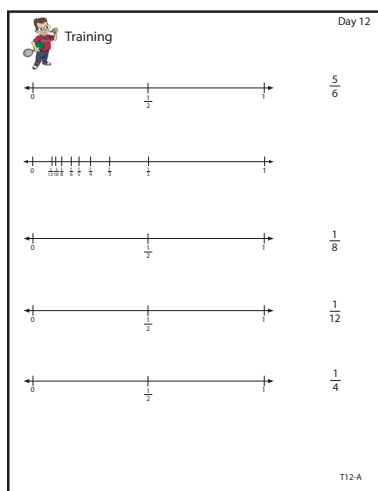
Teacher should point on the Table to each fraction piece as the teacher and students count together. Check off each fraction as you count it.

Now we answer the question, "How many pieces of pie does Lydia have now?"

Teacher and students should write the numerical answer and label it with the correct words from the Table.

Good we answered the question. Our answer is 15 pieces of pie. Remember to label your answer.

ACTIVITY 2: TRAINING



TRAINING WORKSHEET T12-A: Let's get started on number lines! Yesterday, we put fractions on the number line and compared these fractions to $\frac{1}{2}$. We used the 0-1 Number Line Card.

Let's review it together. Student A, what do we do first?

Find $\frac{1}{2}$.

Excellent! Student B, what's the next step?

Compare to $\frac{1}{2}$ and write L or G.

Great! Then you're ready to put the fraction on the number line. Let's do one together. Student C, what fraction do we put on the number line?

$\frac{5}{6}$.

Student A, look at the 0-1 Number Line Card. What do we do first?

Find $\frac{1}{2}$.

Great. $\frac{1}{2}$ is marked on the number line here (point). Student B, what's the next step?

Compare to $\frac{1}{2}$ and write L or G.

To figure out where $\frac{5}{6}$ goes on the number line, we compare it to $\frac{1}{2}$. Let's write a fraction equivalent to $\frac{1}{2}$ with the same denominator. What denominator should we use?

6.

Right. We want a fraction equivalent to $\frac{1}{2}$ with 6 in the denominator because the fraction we're putting on the number line (point) has 6 in the denominator. Student C, when we have the denominator 6, what fraction is equivalent to $\frac{1}{2}$?

$\frac{3}{6}$.

Good. (Write $\frac{3}{6}$ above the number line where $\frac{1}{2}$ is marked.) $\frac{3}{6}$ is equivalent to $\frac{1}{2}$ so it goes in the same place on the number line. I can use the Doubling Rule to check it. Does $3 + 3 = 6$?

Yes.

Good. Now it's easy to decide. Is $\frac{5}{6}$ greater than or less than $\frac{3}{6}$?

Greater than.

Right. $\frac{5}{6}$ is greater than $\frac{1}{2}$ because $\frac{5}{6}$ is greater than $\frac{3}{6}$. I write G below $\frac{5}{6}$ (demonstrate). Which part of the number line is greater than $\frac{1}{2}$?

Students point.

Good. I put a G above the 1. What part of the number line is less than $\frac{1}{2}$?

Students point.

I put an L above the 0. Everyone, point where I put $\frac{5}{6}$ on the number line.

Students point.

Great job, everyone. $\frac{5}{6}$ is greater than $\frac{3}{6}$. So $\frac{5}{6}$ is greater than $\frac{1}{2}$ on the number line. $\frac{5}{6}$ goes between $\frac{1}{2}$ and 1. I make a mark on the number line where I put $\frac{5}{6}$. Then, I write $\frac{5}{6}$ below the mark (demonstrate).

Now look at this number line (point to the 0-1 number line with $\frac{1}{n}$ marked on T12-A). **All the fractions on this number line have 1 in the numerator** (point). **Student A, point to $\frac{1}{2}$ on this number line.**

Students point.

One-half divides the number line into two equal parts. On this side of the number line (point), **fractions are less than $\frac{1}{2}$. On that side of the number line** (point), **the fractions are greater than $\frac{1}{2}$. On this number line, there are two equal parts between 0 and 1** (point). **We put fractions from 0 to $\frac{1}{2}$ on this side** (point). **We put fractions from $\frac{1}{2}$ to 1 on that side** (point). **Show me which side we put fractions less than $\frac{1}{2}$.**

Students point.

Great. We put fractions less than $\frac{1}{2}$ on this side (point), between 0 and $\frac{1}{2}$. Show me

which side of the number line we put fractions greater than $\frac{1}{2}$.

Students point.

Great. We put fractions greater than $\frac{1}{2}$ on that side (point), between $\frac{1}{2}$ and 1. Does anyone notice anything interesting about this number line?

All of the fractions are between 0 and $\frac{1}{2}$.

When fractions have 1 in the numerator, they ALL go between 0 and $\frac{1}{2}$. Fractions with 1 in the numerator are ALL less than $\frac{1}{2}$. Let's think about why all fractions with 1 in the numerator are less than $\frac{1}{2}$. Think about sharing a pizza. The denominator tells us how many people share the unit. For $\frac{1}{2}$, how many people share the pizza?

2.

Right. $\frac{1}{2}$ tells us two people share the pizza. What happens when we share the pizza with more than 2 people?

The pieces get smaller and smaller.

That's right. What does the 1 in the numerator of these fractions (point to the 1s in the fractions below $\frac{1}{2}$) tell us?

That I only get 1 slice.

Yes. The 1 in the fractions (point to the 1s in the $\frac{1}{n}$ fractions) tells us you only get 1 slice. For all fractions with 1 in the numerator (point), you only get 1 slice. The biggest piece of the pizza you get is if the pizza is divided into only 2 pieces (point to the denominators). So all fractions with 1 in the numerator are less than $\frac{1}{2}$.

When we put fractions with 1 in the numerator on the number line, we still follow the 0-1 Number Line Card.

Student A, what do we do first?

Find $\frac{1}{2}$.

Good. Student B, what do we do next?

Compare to $\frac{1}{2}$ and write L or G.

Excellent. We compare it to $\frac{1}{2}$ just like before. This time we use the same numerators rule from the Compare Card: Fewer Parts, Bigger Fraction. We use this rule because fractions with 1 in the numerator have the same numerator as $\frac{1}{2}$. Let's try some!

Student C, what fraction do we put on the number line?

$\frac{1}{8}$.

Student A, what do we do first?

Find $\frac{1}{2}$.

Great. To figure out where $\frac{1}{8}$ goes on the number line, we first find $\frac{1}{2}$. Student C, where's $\frac{1}{2}$?

Student points.

Great. $\frac{1}{2}$ is marked on the number line here (point). Student B, what's the next step?

Compare to $\frac{1}{2}$ and write L or G.

To figure out where $\frac{1}{8}$ goes on the number line, we compare it to $\frac{1}{2}$. What rule from the Compare Card do we use?

Fewer Parts, Bigger Fraction.

Good. Now it's easy to decide. Is $\frac{1}{8}$ greater than or less than $\frac{1}{2}$?

Less than.

Right. $\frac{1}{8}$ is less than $\frac{1}{2}$ because $\frac{1}{2}$ has fewer parts than $\frac{1}{8}$. I write L below $\frac{1}{8}$ (demonstrate). Which part of the number line is less than $\frac{1}{2}$?

Students point.

Good. I put a L above the 0. What part of the number line is greater than $\frac{1}{2}$?

Students point.

I put a G above the 1. Everyone, point where should I put $\frac{1}{8}$ on the number line.

Students point.

Great job, everyone. $\frac{1}{8}$ is less than $\frac{1}{2}$. $\frac{1}{8}$ goes between 0 and $\frac{1}{2}$. I make a mark on the number line where I put $\frac{1}{8}$. Then, I write $\frac{1}{8}$ below the mark (demonstrate).

Follow the 0-1 Number Line Card for the remaining problems.

Now let's do the Relay!

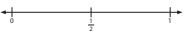
ACTIVITY 3: RELAY

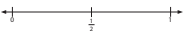


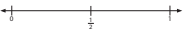
The Relay

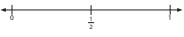
Day 12

Place each fraction on the number line.

A.  $\frac{5}{6}$

B.  $\frac{1}{10}$

C.  $\frac{1}{6}$

D.  $\frac{2}{8}$

Follow the appropriate Card.

ACTIVITY 4: FRACTION SPRINT

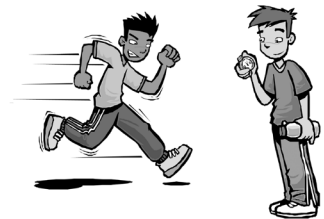


Equal/Not Equal to $\frac{1}{2}$: TIMED FOR 1 MINUTE

Now it's time for the Fraction Sprint. Remember, I'll hold up a fraction and you tell me if it is equivalent to $\frac{1}{2}$ or not. What rule helps us decide if a fraction is equivalent to $\frac{1}{2}$?

The Doubling Rule.

You'll take turns. You say "equal" if the fraction is equal to $\frac{1}{2}$ and "not equal" if it is NOT equal to $\frac{1}{2}$. If you know the answer, say it fast. If not, take a few seconds to use the Doubling Rule. What happens if you say the wrong answer?



You'll tell me it's incorrect and I'll use the Doubling Rule.

Last time we did The Fraction Sprint, our group score was _____. Work as fast as you can to beat this score. If you do, each of you will get an extra bonus dollar to spend at the Fraction Store!



I'm starting my timer. Begin!

Go through the flashcards until the timer beeps.

If a student struggles with an answer, refer to the correction procedure (see next page).

CORRECTION PROCEDURE FOR WRONG ANSWERS (DOUBLING RULE)

What's $a + a$ (point to the numerator)?

Is it the denominator, b (point to the denominator)?

Is the fraction equal or not equal to $1/2$?

Time's up! Let's count how many the group got correct in the Fraction Sprint (count as a group). **Great job! Today, we got ____ correct. Let's write this in our checkbook** (Teacher writes the number in the checkbook).

Today we go to the Fraction Store. Did you beat your scores each day?

Yes/No.

(OPTION 1) **You beat your score. Everyone gets a bonus dollar at the Fraction Store today! Next time, we'll start a new Fraction Sprint and your score starts over the first day.**

(OPTION 2) **You did not beat your scores. Next time, we'll start a new Fraction Sprint and your score starts over the first day. You need to work really fast while getting right answers so you can earn the bonus dollar!**

ACTIVITY 5: INDIVIDUAL CONTEST

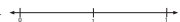
Now let's begin the Individual Contest. Listen to my directions.

Individual Contest Day 12

Place each fraction on the number line.

A.  $\frac{1}{5}$

B.  $\frac{3}{12}$

C.  $\frac{1}{6}$

Write $<$, $>$, or $=$ in the circle.

A. $\frac{5}{12}$  $\frac{9}{12}$

B. $\frac{6}{8}$  $\frac{1}{2}$

C. $\frac{1}{2}$  $\frac{3}{6}$

IC12-A

On this page (point to IC12-A), **put the fraction on the number line. Use your Compare Card to compare the fraction that's marked to $1/2$.**

Then, write the greater than, less than or equal sign between the fractions. Use the Compare Card.

Any questions?

Give students time to work on individual work, encourage them to work faster if you see any student not focusing. Go over the answers.

Reveal which problems were bonus problems and have students circle the bonus problems if they got them correct. Let students know you're marking bonus problem half dollars in your checkbook.

ACTIVITY 6: SCOREBOARD

The teacher tells the group how many half dollars they earned during today's lesson.

My timer went off 3 times today. You were ALL on task X of the 3 times. So I marked a check mark for everyone in the group X times.

For groups that did not receive all 3 check marks: **Remember, to earn check marks, everyone on the team has to be on task when the timer rings. Always listen carefully, work hard, and follow directions.**

The team earned ___ half dollars today for being on task when my timer went off!! So each of you get ___ half dollars to put in your banks. Also, (say students' names) earned ___ half dollars for bonus problems. You get ___ more half dollars!

If students won the Fraction Sprint for the week: **You also earned an additional one dollar each for beating your Fraction Sprint score for the week!**

Today you go to the Fraction Store!

Hand out half dollars. Show students the prizes.

Remember, you can either choose to purchase something, or trade in your half dollars for whole dollars. You cannot do both. You need to make a quick decision about whether you are going to buy or save.



If you decide to trade in half dollars for a whole dollar--How many half dollars do you need to trade for one dollar?

2.

Right. 2 half dollars are the same as one dollar. Who can tell me why?

Because a half dollar is one dollar divided into 2 equal parts. OR Two half dollars are the same as one dollar.

Think about what you want. You have 15 seconds to decide if you want to buy something or trade in your money to save for next time.

Students make their decision and trade in their money or buy prizes as needed.

Great job everyone! See you next time.

Fraction Face-Off!

Preparing Implementation Materials

PREPARING IMPLEMENTATION MATERIALS

Listed below are the materials you will need to prepare/construct prior to implementing Fraction Face-Off! if the Implementation Ready Pack (IR Pack) wasn't purchased. The print instructions identify where to locate the template to make the copies and also provide instructions to facilitate the copying process.

The quantities listed below assumes that each tutoring group is composed of 3 students.

ITEM	LESSON	USED FOR	QTY	PRINT INSTRUCTIONS
Fraction Money \$1/2	1-36	Earned when students are on task, from the Individual Contest (IC) bonus problems	The equivalent of \$60 Fraction Dollars per group.	Single-sided Yellow cardstock Black ink Lamination optional Located on CD Part 2
Fraction Money \$1	1-36	Received from trading in \$1/4 and \$1/2 dollars on Fraction Store Days; Earned during the Fraction Sprint	The equivalent of \$60 Fraction Dollars per group.	Single-sided Pastel green cardstock Black ink Lamination optional Located on CD Part 2
Fraction Money \$1/4	22-36	Earned from the IC bonus problems	The equivalent of \$30 Fraction Dollars per group.	Single-sided Pastel blue cardstock Black ink Lamination optional Located on CD Part 2
Checkbook	1-36	Behavior Management	1 checkbook per 3 students	Double-sided White regular bond paper Black ink Located on CD Part 2
Number Lines	1, 3, 4, 6, 9, 17, 33-36	Training	0-20, 0-1, 0-2 with 1 marked, 0-2 with 1/2 and 1 1/2 marked, 0-1 with 1/n marked, halves, fourths, fifths and tenths.	White card stock (8.5" x 11") Lamination optional Located on CD Part 2
">" (Greater than & Less than) Tokens	2, 5	Training	12	Single-sided Orange cardstock Located on CD Part 2

ITEM	LESSON	USED FOR	QTY	PRINT INSTRUCTIONS
"=" (Equal Sign) Tokens	5	Training	6	Single-sided Orange cardstock Located on CD Part 2
Greater Gator: Less than & Greater than Card	2, 4, 5, 6	Training	1 card	Single-sided or double-sided White cardstock Color printing Lamination optional Located on CD Part 2
Flashcards Naming	2, 5, 6, 10-15, 22-24	Training & Sprint	1 set	Double-sided Grey cardstock Black ink Located on CD Part 2
Flashcards Comparing	5, 6, 16-21, 25-36	Training & Sprint	1 set	Double-sided Yellow cardstock Black ink Located on CD Part 2
Compare Mat	5, 6	Training	1	Provided with all orders. White card stock (8.5" x 14") Lamination optional Located on CD Part 2
Word Problem Warm-Up Guide	8-36	Word Problem Warm-Up	1	Single-sided White cardstock Black ink Lamination optional Located on CD Part 2
Instructional Cards Compare Card (C1 & C2)	4-36	Training, Relay, Sprint, IC	1	Single-sided Pastel green paper Black ink Fold cardstock in half to make one double-sided 8" x 5.5" cards Lamination optional Located on CD Part 2

ITEM	LESSON	USED FOR	QTY	PRINT INSTRUCTIONS
Instructional Cards Number Line Card (NL1 & NL2)	11-36	Training, Relay, & IC	1	Print Single-sided Orange cardstock Black ink Fold cardstock in half to make one double-sided 8" x 5.5" card Lamination optional Located on CD Part 2
Instructional Cards Ordering Card (O1 & O2)	14-36	Training, Relay, & IC	1	Print Single-sided Orange cardstock Black ink Fold cardstock in half to make one double-sided 8" x 5.5" card Lamination optional Located on CD Part 2
Instructional Cards Improper to Mixed Card (I to M) AND Mixed to Improper Card (M to I)	18-36	Training, Relay, & IC	1	Print Single-sided White cardstock Color printing Fold cardstock in half to make one double-sided 8" x 5.5" card Lamination optional Located on CD Part 2
Instructional Cards Addition & Subtraction Card (AS)	15-36	Training, Relay, & IC	1	Print Single-sided Pastel blue cardstock Color printing Fold cardstock in half to make one single-sided 8" x 5.5" card Lamination optional Located on CD Part 2
Fraction Championship Game Spinner Game Wheel	33-36	Fraction Championship Game	1	Full color printing Requires a spinner which is not provided Lamination recommended Located on CD Part 2

ITEM	LESSON	USED FOR	QTY	PRINT INSTRUCTIONS
Fraction Championship Game Game Sheet (Football Field)	33-36	Fraction Championship Game	2 double-sided sheets per student	Double-sided White paper Black ink Located on CD Part 2
Fraction Championship Game Number Line Game Cards	33-36	Fraction Championship Game	1 set	Double-sided Orange cardstock Black ink Located on CD Part 2
Fraction Championship Game Addition & Subtraction Game Cards	33-36	Fraction Championship Game	1 set	Double-sided Pastel pink cardstock Black ink Located on CD Part 2
Fraction Championship Game Ordering & Comparing Game Cards	33-36	Fraction Championship Game	1 set	Double-sided Pastel blue cardstock Black ink Located on CD Part 2
Fraction Championship Game Improper & Mixed Game Cards	33-36	Fraction Championship Game	1 set	Double-sided Pastel green cardstock Black ink Located on CD Part 2
Individual Certificates of Achievement	36	Program Conclusion	1 per student	Single-sided White paper Color ink optional Located on CD Part 2
12" Ruler	17	Measuring Images	1	Included with all Orders
Representational Fraction Tile Card		Reference	1	Single-sided White paper Color ink Lamination optional Located on CD Part 3

Fraction Face-Off!

Glossary

Materials Glossary

Addition & Subtraction Card

The Addition & Subtraction Card is first introduced on Day 25. It is used throughout the program as a guide to help students add and subtract fractions.

Cards

Instructional Cards are introduced and used throughout the program to assist in describing concepts to students. Icons representing the Cards used in each lesson are listed on the front page of each Lesson Guide. The following are the Cards used in Fractions Face-Off!: Compare Card, Number Line Card, Ordering Card, Improper to Mixed Card, Mixed to Improper Card, Addition & Subtraction Card.

Certificate of Achievement

The Certificate of Achievement is awarded to each student upon completion of the Fraction Face-Off! Program on Day 36.

Checkbook

The checkbook is used by the teacher to track behavioral management points after the timer beeps; the teacher records whether or not the group was on task. The teacher also records correctly solved bonus problems from the Individual Contest. The number of check marks in the checkbook determines how many half or quarter dollars the teacher gives to the students at the end of each lesson.

Compare Card

The Compare Card is first introduced on Day 4. It is used throughout the program as a guide to help students compare fractions. There are two versions: C1 (used Days 1-16) and C2 (Days 17-36).

Comparing Flashcards

These flashcards are yellow; one side displays two fractions to be compared and the back reveals the answer. On Days 5 and 6, the students use the Compare Mat to categorize the fractions on the Compare Flashcards into three categories: "Same Numerator," "Same Denominator," and "Both Different." On Day 5, the same numerator cards should only include unit fractions; Day 6 incorporates all fraction pairs with the same numerator. The Compare Flashcards are also used at various times during the Fraction Sprint, which occurs after the Relay beginning on Day 10. Students take turns deciding which of the two fractions on the card is bigger and try to successfully compare as many fractions as possible during an allotted amount of time. Categories of these cards include: same numerator, same denominator, comparing to $\frac{1}{2}$, proper versus improper, equal to 1, and equal to $\frac{1}{2}$. To increase difficulty, compare types are added each week as they are introduced in the core program.

Compare Mat

The Compare Mat is only used on Days 5 and 6. It is a laminated sheet of paper (8.5" x 14") which is divided into three areas: "Same Numerator," "Same Denominator," and "Both Different." On Days 5 and 6, students sort Compare Flashcards into the appropriate category. This activity helps students recognize patterns of fraction comparisons to help them understand and consolidate conceptual comparing strategies. A laminated Compare Mat is included with all orders.

Fraction Circles

Fraction circles help students visualize fraction amounts and understand equivalent fractions. Fraction circles are in denominators of 1, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{10}$ and $\frac{1}{12}$. These circles are used on

Days 2, 7, 16, 18, 19, and 27. Day 16 requires 4 sets of half pieces which are provide with all orders.

Fraction Championship Game Sheet

This football field game sheet is used to record student progress during the Fraction Championship game. Spinner Game Cards are divided into easy (earn 20 yards), medium (earn 30 yards), and hard (earn 50 yards) problems. If a student correctly solves the problem, the student earns the number of yards listed on the card. The teacher or student can shade the number of yards earned on the game sheet. At the end of the Championship, the student with the highest amount of yards wins.

Fraction Money

Fraction Money is used as the currency in Fraction Face-Off!. Fraction Money is in denominations of $\$1/2$ bill, $\$1/4$ bill, and $\$1$ bill. Students earn money throughout the program to buy prizes. Students have three opportunities to earn Fraction Money:

1. Being on task (as a group) when the timer beeps during the day's lesson.
Each check mark for being on task earns the student $\$1/2$ (up to 3 per lesson).
2. Beating their team score on the Fraction Sprint (beginning on Day 10) on every third day.
Students earn $\$1$ for beating their Fraction Sprint score.
3. Accuracy on the Individual Contest.
On the Individual Contest, students earn $\$1/2$ for each correct bonus problem (up to 2) on Days 4-21. On Days 22-36, students earn $\$1/4$ for each correct bonus problem (up to 4).

Students keep their Fraction Money in their Banks, an envelope which they can decorate. On Fraction Store days (every third day), the student can either buy a prize or trade in their quarter and half dollars for whole dollars.

Fraction Number Lines

Laminated number lines are used throughout the program to assist in teaching the students about fractions. Laminated fraction number lines used are: 0-1, 0-2, 0-1 with $1/n$ marked, 0-20, halves, fourths, fifths, and tenths. Starting on Day 11, students begin placing proper fractions on a 0-1 number line. They then learn how to place proper fractions, improper fractions, and mixed numbers on the 0-2 number line. Fraction number lines are used on Day 1, 3, 4, 6, 9, 17, and 33-36.

Fraction Tiles

Fraction tiles help students visualize fraction amounts and understand equivalent fractions. Fraction tiles are in denominators of 1, $1/2$, $1/3$, $1/4$, $1/5$, $1/6$, $1/8$, $1/10$ and $1/12$. Fraction tiles are used on Day 3, 4, 6, 7, 9 and 30.

Game Cards

The Game Cards are the playing cards that are used for the Fraction Championship. The cards are to be copied on colored paper and cut into quarters. There is a fraction problem on each card, and these are divided among four categories: Number Line (orange), Ordering/Comparing (blue), Improper/Mixed (green), and Addition/Subtraction (pink). Students take turns using the spinner, and picking a game card matching the same category on the spinner wheel. If the student gets the fraction problem correct, he or she earns yards on the Fraction Championship Game Sheet.

"Greater Gator" Less than/Greater than Cards

The "Greater Gator" is introduced on Day 2 to help students learn about the less than and greater than signs to compare fractions. These cards can be used as needed to help students understand the greater than and less than signs.

Greater than/Less than/Equal Sign Tokens

A page of Greater than/Less than Tokens and a page of Equal Sign Tokens are located on the CD. They should be copied on card stock and cut out. The Tokens are used on Days 2, 5, and 6. The Greater than and Less than Tokens can be rotated around to represent either sign.

Improper to Mixed Card

The Improper to Mixed Card is one of the instructional cards and is first introduced on Day 18. It is used throughout the program as a guide to help students change improper fractions to mixed numbers.

Mixed to Improper Card

The Mixed to Improper Card is one of the instructional cards and is first introduced on Day 18. It is used throughout the program as a guide to help students change mixed numbers to improper fractions.

Naming Flashcards

The Naming Flashcards are grey and have a single fraction on one side of the card. The other side of the Naming Flashcard reflects the way the fraction should be read. These cards are first used on Day 2 along with fraction circles to teach students the correct way to read a fraction, and are used for further practice on Days 5 and 6. They are also used at various times for the Sprint, either for identifying whether or not a fraction is equal to $\frac{1}{2}$ (Days 10-15) or for labeling fractions as improper, proper, or as a mixed number (Days 22-24).

Number Line Card

The Number Line Card is one of the instructional cards and is first introduced on Day 11. It is used throughout the program as a guide to help students place fractions on a 0-1 or 0-2 number line. There are two versions: NL1 (used Days 1-16) and NL2 (Days 17-36).

Ordering Card

The Ordering Card is one of the instructional cards and is first introduced on Day 14. It is used throughout the program as a guide to help students order fractions from least to greatest. There are two versions: O1 (used Days 1-16) and O2 (Days 17-36).

Timer

The timer is used to help you manage your time while you and your students are engaged in the Fraction Face-Off! activities.

Word Problem Warm-Up Guide

The Word Problem Warm-Up Guide is first introduced on Day 7. It is used to help students solve Splitting and Grouping problems during the Word Problem Warm-Up portion of the program.

Activities Glossary

Word Problem Warm-Up

During the Word Problem Warm-Up (begins on Day 7), students use the Word Problem Warm-Up Guide to solve word problems. Students differentiate between a Splitting and Grouping problem. Then, they follow the appropriate steps to solve that particular type of problem. Word problems are solved during this portion of the program and occasionally during the Individual Contest.

Training

During Training, the teacher models new concepts. This activity occurs on most days of the program. Training is usually at the beginning of each Day, but occurs after the Word Problem Warm-Up once that activity is introduced (Day 7). Only the teacher writes on the Training worksheet.

Relay

During the Relay, the teacher guides students in solving problems together. This section is a source of practice to reinforce learning of concepts previously introduced in Training. Both teachers and students write on the Relay worksheet (teacher and each student has his/her own).

Fraction Sprint

During the Fraction Sprint, students build fluency on Fraction Face-Off! core concepts (e.g. identifying fractions equal to $\frac{1}{2}$; differentiating between proper, improper or mixed numbers; comparing fractions). Students respond individually, but work as a team to correctly answer as many fraction related questions as possible in an allotted amount of time (one minute). If a student answers incorrectly, he/she has to correct the answer according to the correction procedure (provided in each lesson guide). Fraction Sprint begins on Day 10. For each consecutive three-lesson period thereafter, students work to increase their score from the prior day. Every third day, if students have successfully increased their score, they are awarded an extra \$1 that they can use at the Fraction Store. Their scores reset on the next day of the Sprint.

Individual Contest

During the Individual Contest, students practice problems independently (Day 4-36). Students solve problem types learned in Training and practiced in the Relay. Some Days also feature a Word Problem Warm-Up item. Students earn extra Fraction Money for correctly answering bonus problems (selected by the teacher).

Scoreboard

During the Scoreboard, the teacher announces the amount of $\frac{1}{2}$ dollars earned by the group for being on task when the timer went off, the amount of $\frac{1}{2}$ or $\frac{1}{4}$ dollars earned by individual students for answering bonus questions on the Individual Contest correctly, and any \$1 earned by the group for beating their Sprint score. On every third day students have the opportunity to visit the Fraction Store to buy prizes or trade in the Fraction Money they've earned during the week for \$1 bills.

Fraction Championship

The Fraction Championship takes place on Days 33-36. Students use this time to review everything that they have learned in a game format. Students spin the Championship spinner to determine what kind of problem they need to solve. If they solve the problem correctly, they earn a designated number of yards which are recorded on their Fraction Championship Game Sheets. The student with the most yards on Day 36 is the winner of the Championship.