

Fearless Fractions

In this Kit: Help students to find that there is no need to fear fractions. Included in this kit are many hands on visual and kinesthetic materials to develop and enhance the learning of fractions. Fractions are a concept with which students may have difficulty. The kit offers a new way to look at these. There are opportunities to work independently or learn by playing games. The materials may be adapted in a variety of ways. Grades three, four, and five can benefit from the use of these materials. Grade two could also benefit from the recognition of fractions and equivalencies.

Ohio Math Standards – Grade 3

Number and Number Systems:

- ❑ Represent fractions and mixed numbers using words, numerals and physical models.
- ❑ Compare and order commonly used fractions and mixed numbers using number lines, models (such as fraction circles or bars), points of reference (such as more or less than $\frac{1}{2}$), and equivalent forms using physical or visual models.
- ❑ Recognize and use decimal and fraction concepts and notations as related ways of representing parts of a whole or a set; e.g., 3 of 10 marbles are red can also be described as $\frac{3}{10}$ and 3 tenths are red.

Ohio Math Standards – Grade 4

Number and Number Systems:

- ❑ Use models and points of reference to compare commonly used fractions.
- ❑ Estimate the results of computations involving whole numbers, fractions and decimals, using a variety of strategies.
- ❑ Use physical models, visual representations, and paper and pencil to add and subtract decimals and commonly used fractions with like denominators.

Ohio Math Standards – Grade 5

Number and Number Systems:

- ❑ Use various forms of “one” to demonstrate the equivalence of fractions.
- ❑ Identify and generate equivalent forms of fractions, decimals and percents.

**++++The following activities can be used with the balance scales:
Weighted Fractions**

++++Weighted Fractions++++

This resource includes 24 fractions- one-1, two 1/2, three 1/3, four 1/4 and six 1/6 and eight 1/8. There is enough of each to make equations.

Each fraction increases in weight helping to demonstrate their relative value. You can add the fractions together using the balance scale. See if you are correct by getting the balance bucket to balance. $1/2+1/4+1/4=1$

Each fraction piece follows the Rainbow Fraction color-coded system and can be used with other Rainbow resources.

Fraction Recognition:

Learn how to read fractions. Explain that the top number is a numerator and the bottom number is a denominator. The numerator indicates the number of parts of the whole. The denominator indicates the number of parts into which one whole is divided. Each fraction piece is labeled on the back with its name for self-checking. Students learn how to reach fractions as a number and symbol.

Activity:

1. Students could work independently or students could work in partners, one calling out a fraction and other finding the correct one.
2. Using the balance scale, students can explore relationships among the fractions. Explore simple equations to see if they can get the scale to balance. Place 1 on one side of the scale and ask how many 1/4 it would take to balance. Then write the equation. Or, you could give the equation and ask what the answer would be- find out if they're right by the scale balancing.

++++The Deluxe Fraction Tower Set++++

This Fraction Tower consists of a 51piece fraction cube set. These cubes represent unit fractions from 1/12 to 1. An additional set of 51 cubes is included with the kit. The pieces snap together to display the concepts of fractions. Visual and kinesthetic activity is involved by seeing, touching, and

moving the fractions helping the children to develop their math skills. The children can make comparisons and equivalencies. A set of 12 cards provides practice with basic fraction problems. The set can be used for demonstration or large or small group activities or even individual practice. The 12 page teaching guide offers suggestions to use the cubes in various ways:

- ❑ Exploration
- ❑ Build proper fractions and compare
- ❑ Build improper fractions
- ❑ Saying fraction names.
- ❑ Estimating decimals
- ❑ Build, observe and compare equivalent fractions.
- ❑ Comparing unit fractions and show relationships with $<>$
- ❑ Simplify fractions
- ❑ Add fractions with common denominators
- ❑ Add fractions with unlike denominators
- ❑ Develop number sense
- ❑ Subtract fractions with common denominators
- ❑ Subtract fractions with unlike denominators
- ❑ Subtract with fractions and mixed numbers
- ❑ Multiply fractions and whole numbers
- ❑ Multiply fractions by unit fractions
- ❑ Divide fractions

+++Pizza Fraction Fun+++

These 7 games offer multiple levels of challenge for primary through middle grades. Most games are for 2-4 players.

- ❑ **Pizza with Everything** can be adjusted and simplified for students just starting to understand the fraction concept. Students identify and estimate fractions to make 1 whole.
- ❑ **Pizza Sandwiches** Students can mix and match fractions to make an equivalent fraction that is less than or equal to 1.
- ❑ **Every Way You Slice It** allows for practice in making equivalent fractions. Students manipulate fractions and apply their knowledge of equivalencies while practicing addition of fractions to compete in this game.

- **Who Gets the Pizza?** Problem solving through addition and recognition of multiples of fractions makes this game a challenge.
- **Pizza Tossing Contest** Students practice speed in identifying equivalent fractions.
- **One Topping Pizza** Students identify fractions and equivalent fractions. They then add, mix and/or match them to build a whole pizza. The game gives practice for problem solving with equivalencies.
- **Pizza Slice-Up** This is a more difficult game that poses a challenge for players. They will be practicing addition and subtraction of fractions to make equivalent fractions. Strategy in trading adds to the challenge.

+++Beginning Fraction Zone Bingo+++

2-4 players can play this game at one time. This Bingo game can be played on two levels. The first level is recognition of fractions from $\frac{1}{2}$ to $\frac{7}{8}$ ths. Level two introduces fractions and equivalencies of one whole.

+++Advanced Fraction Zone Bingo+++

This Bingo game can be played by 2-4 children and incorporates fractions through twelfths. Level 1 features identifying fractions using circles, rectangles and parts of a set. Level 2 focuses on equivalencies and fractions in lowest terms.

Materials found in Fearless Fractions

- 1- Pan Balance Jr.
- 1 Set of Weighted Fractions
- 1 Deluxe Fraction Tower Activity Set
- 1 Set of additional fraction cubes for the Fraction Tower
- 1 Pizza Fraction Fun Game
- 1 Beginning Fraction Zone Bingo Game
- 1 Advanced Fraction Zone Bingo Game

No consumable items are found in this kit. Each item needs to be accounted for when returned.

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Materials found in Fearless Fractions

- 2- Pan Balance Jr. #ETA 42285-\$17.95
- 1 Set of Weighted Fractions #LER3020-\$24.95
- 1 Deluxe Fraction Tower Activity Set #LER2075-\$23.95
- 1 Set of additional fraction cubes for the Fraction Tower #LER5261-\$11.95
- 1 Pizza Fraction Fun Game #LER5060-\$17.95
- 1 Beginning Fraction Zone Bingo Game # LER0613-\$19.95
- 1 Advanced Fraction Zone Bingo Game #LER0614-\$19.95

All items can be found in the ETA Cuisenaire Catalog and can be found on the internet for ordering purposes.

The total price for items in this kit is \$133.65