Name: _____ Date: _____

Finding Fractions 0 to 2

Find each fraction on the number line. On each number line, make sure to

- Identify 0, 1, 2.
- Divide the space between each whole number into equal parts.
- Label the fraction.

1. $1\frac{3}{4}$

2. $\frac{7}{8}$

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

4. $1\frac{4}{5}$

5. Choose one fraction from above. Describe how you found where to place the fraction on the number line.

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Really Good Stuff® Activity Guide
Fractions on a Number Line Two-Sided Banner

This Really Good Stuff® product includes:
- **Fractions on a Number Line Two-Sided Banner**, laminated
- This Really Good Stuff® Activity Guide

Congratulations on your purchase of this Really Good Stuff® **Fractions on a Number Line Two-Sided Banner**—a powerful reference tool that helps students visualize fractions.

Meeting Common Core State Standards
This Really Good Stuff® **Fractions on a Number Line Two-Sided Banner** is aligned with the following Common Core State Standards for Mathematics:

Numbers and Operations—Fractions

3.NF.A.2   Understand a fraction as a number on the number line; represent fractions on a number line diagram.

3.NF.A.2a   Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.

3.NF.A.2b   Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

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

3.NF.A.3a   Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

Grade 4 Overview
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- Understand decimal notations for fractions, and compare decimal fractions.

4.NF.A.1   Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Assembling and Displaying the *Fractions on a Number Line Two-Sided Banner*
Before displaying the **Fractions on a Number Line Two-Sided Banner**, make copies of this Really Good Stuff® Activity Guide, and file the pages for future use. Or, download another copy of it from our Web site at www.reallygoodstuff.com. Hang the Banner where students will be able to see it easily.

Introducing the *Fractions on a Number Line Two-Sided Banner*
Tell students that they are going to review fractions on a number line. Remind students that fractions represent a part of a whole. Examine several examples of visual models, such as ½ (circle with ½ shaded) or ⅔ (rectangle, with two of three parts shaded). Emphasize that in the visual models, the denominator represents the number of equal parts in the whole and the numerator represents the number of parts to shade.

Draw a number line with the numbers 1, 2, 3, 4. Remind students that the number line goes on forever in both directions, can be used to show whole numbers, and can also show fractions between whole numbers. Display Side 1 of the **Fractions on a Number Line Two-Sided Banner**, and explain how this Banner represents the space on the number line between 0 and 1. Describe how this number line shows a dog, Rover, (at 0) who is trying to get home (to 1) using the sidewalk (number line).

Think aloud as you model using the number line: "Let's think about where Rover will be on the sidewalk when he is halfway home. The

2 in the denominator tells us that the number line needs to be divided into **two** equal parts. The red mark on the line divides the space between 0 and 1 into two equal parts (or halves). The 1 in the numerator tells us that we need to move to one of those equal spaces." (Model jumping down the number line by following the red path.) "This is ½. If Rover moves another ½, he will get to his home at 1." (Model moving down the number line on the red path.) "We can also think about this as two-halves, which is equivalent to **one whole**." Repeat to feature quarters and eighths.

Find My Fraction
On the board, draw a number line with arrows on each end. Explain that we can use what we learned from Rover to find other fractions on the number line. Model finding ⅓ on the number line by labeling 0 and 1 and then dividing the number line into three equal parts or thirds. Label the first segment with ⅓. Extend to ⅔ and ⅗. Remind students that ⅗ is equivalent to 1. Have students practice with ²⁄₄, ⁴⁄₅, ³⁄₈.

Finding Fractions 0 to 1
To build on the understanding of how to partition a blank number line to represent fractions, copy and distribute the *Finding Fractions (0 to 1) Reproducible*. Tell students to locate the given fractions on the number line. Use their reproducibles to assess students' understanding.

Many Names for Fractions
Refer to the **Fractions on a Number Line Two-Sided Banner**. Remind students that there are many smaller numbers between the whole numbers that can be represented as fractions. Explain that the name of the fraction is based on the number of equal parts that it takes to make one whole and that the same location on the number line can have more than one name. Review how the number line is broken into halves, quarters, and eighths. Model finding an equivalent fraction. For example, "¼ and ²⁄₈ are in the same location, so ¼ = ²⁄₈. We can see that ²⁄₈ is the same length as ¼ on the number line." Copy and distribute the Many Names for Fractions Reproducible. Review the directions with students to use the number line to find equivalent fractions, Use their reproducibles to assess students' understanding.

Variation: Extend to sixteenths: Have students explore how many sixteenths would be equivalent to ⅛, ¼, ⅜, ½.

Comparing Fractions on the Number Line
Refer to the Banner. Have students create number sentences that compare fractions using greater than, less than, and equal to, and explain how they used the number line to find their answers. For example, "¼ < ³⁄₈ because ¼ comes before ³⁄₈ on the number line, and ¼ is equal to ²⁄₈, so I know ¼ is less than ³⁄₈."

Exploring Fractions Greater than 1
Display Side 2 of the **Fractions on a Number Line Two-Sided Banner**. Review with students that they can also find fractions on the number line that are greater than 1: Have them describe what they see on the number line and how it relates to what they know about fractions from 0 to 1. Copy and distribute the *Finding Fractions (0 to 2) Reproducible*. Have students locate the given fractions on the number line. Use their reproducibles to assess students' understanding.
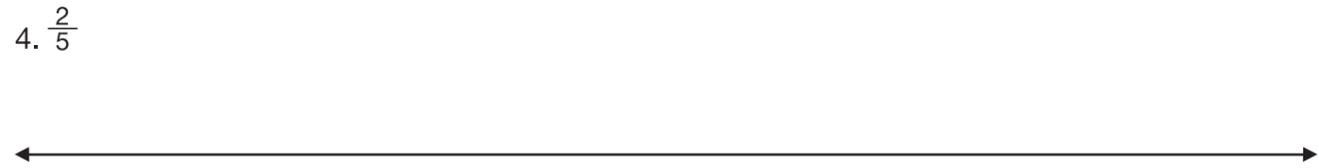
All activity guides can be found online.

Name: _____ Date: _____
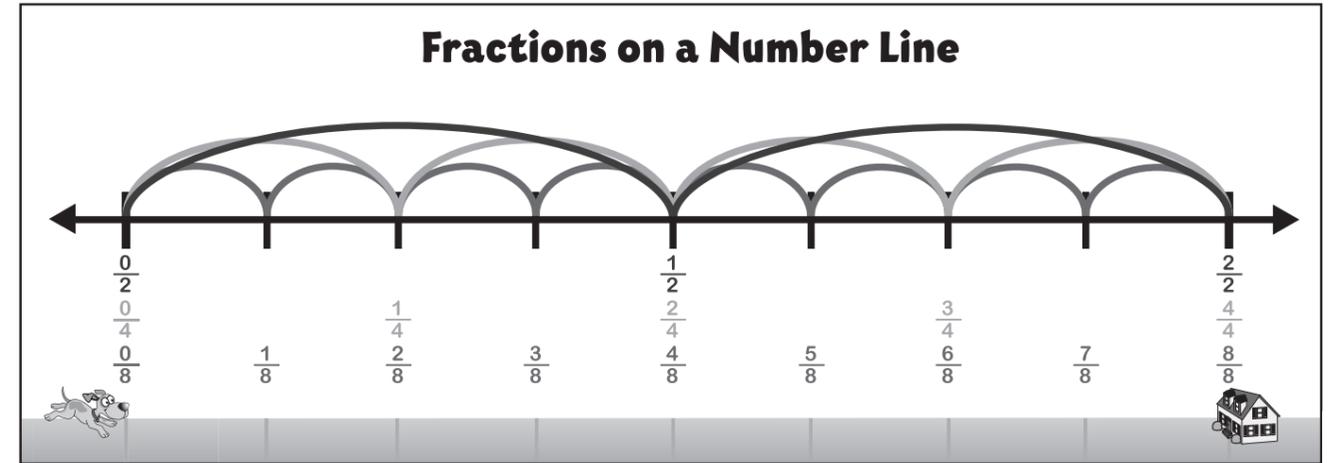
Finding Fractions 0 to 1

Find each fraction on the number line. On each number line, make sure to
- Identify 0 and 1.
- Divide the space between 0 and 1 into equal parts.
- Label the fraction.

1. $\frac{1}{4}$

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2. $\frac{3}{8}$

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3. $\frac{1}{3}$

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4. $\frac{2}{5}$

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5. Choose one fraction from above. Describe how you found where to place the fraction on the number line.

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Name: _____ Date: _____

Fractions on a Number Line

Use the number line above to find another name for the fraction.

1. $\frac{1}{2}$ = _____

2. $\frac{3}{4}$ = _____

3. $\frac{1}{3}$ = _____

4. $\frac{3}{5}$ = _____

5. Choose one fraction from above. Describe how you found where to place the fraction on the number line.

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