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Teacher Notes

I sincerely hope that you and your students enjoy this fraction unit! This unit has been designed around the Common Core Standards, but you should find the content useful in any fourth grade classroom. In this unit you will find performance tasks to conceptually teach new skills through the workshop model, as well as work station activities and games for review. I have included a suggested pacing guide below. As always, feel free to contact me if you have any questions. ashleigh_60@hotmail.com

Unit at a Glance

Introducing Decimals	Lesson 1 Reviewing 10 to 1 Place Value Relationship Skill: Size of Digits	Lesson 2 Role of the Decimal Point Skill: Shade the Fraction	Lesson 3 Fractions to Decimals Skill: Shade the Decimal	Lesson 4 Four in a Row Skill: Forms of Decimals	Lesson 5 Decimals to Fractions Skill: Spin the Decimal
Developing Number Sense	Lesson 6 Fractions to Decimals Skill: Writing Fractions as Decimals	Lesson 7 Fractions to Decimals Continued Skill: Writing Fractions as Decimals	Lesson 8 Problem Solving With Fractions Skill: Comparing Fractions	Lesson 9 Decimals on a Number Line Skill: Identifying Fractions	Lesson 10 Friendly Fractions Skill: Drawing Decimals
Comparing and Ordering Decimals	Lesson 11 Best Match Skill: Comparing Decimals With Models	Lesson 12 Line the Fractions Up Skill: Comparing Decimals With Models	Lesson 13 Nice Numbers Skill: Comparing Decimals	Lesson 14 Decimal War Skill: Comparing Decimals	Lesson 15 Decimal Pictures Skill: Ordering Decimals
Decimal Problem Solving	Lesson 16 Decimal Models Skill: Adding Fractions-Part 1	Lesson 17 Decimal Scavenger Hunt Skill: Adding Fractions-Part 2	Lesson 18 Dog Sitting Services Skill: Adding Fractions-Part 3	Lesson 19 Decimal Matching Skill: Adding Fractions-Part 4	Lesson 20 Decimal Problem Solving Skill: Decimal Practice

20 Detailed Lesson Plans

Lesson 1: Equal Parts

Standard: Developing prior knowledge and conceptual understanding to approach fourth grade standards.

Standard

Materials:

- 4 pieces of chart paper (label each piece of chart paper with a different term: halves, thirds, fourths, and fifths)
- Construction paper

Materials

Mini-lesson

Mini Lesson

Today we are beginning a brand new unit where we will be learning about fractions! I realize that you learned a lot about fractions as third graders, and this year we will take what you already know and go a little farther. By the end of this unit, you'll be able to generate equivalent fractions, compare fractions, add & subtract fractions, and multiply fractions! We're going to start slow and take things step-by-step. First, can anyone tell me what a fraction is? Give students time to respond. A fraction tells us how many parts of a whole we have.

Fractions must be partitioned into equal parts, and today we're going to practice partitioning shapes into equal parts. Spend a few minutes discussing equal parts and why it is important for fractions to be partitioned into equal parts.

Work Time

Work Time

At the top of one piece of chart p ith thirds, fourths, and fifths. Place the chart paper around the classroom. Have students cut out shapes with their construction paper and fold one shape into halves, one into thirds, one into fourths, and one into fifths. Encourage students to only create one rectangle. The other shapes can be circles, triangles, trapezoids, etc. Have students outline the pieces with a marker to show how the shape is partitioned into equal pieces. Students should place their shape on the correct piece of chart paper.

Closing

Closing

Draw everyone's attention to the chart paper and discuss how students know their shapes were partitioned into equal pieces. Ask students which part was easiest to fold and which part was most difficult to fold. Use this time to introduce the term denominator. Explain that the denominator is the total number of pieces.

Intervention

Intervention

ut shapes.

Extension

Extension

- Have students find how many can partition each shape into pieces.

Essential Questions

Essential Questions

rts and how do I create

need equal parts?

Formative Assessment

Formative Assessment

- Observe students as they
- Look at the shapes on each You will quickly be able to i misconceptions.

Lesson 4: Four in a Row

Standard: 4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.

Materials:
- Game Boards
- Paperclip and Pencil for Spinner
- 2 Color Counters

Mini-lesson

Review what students have learned within the unit. Ensure that students understand the role of the decimal point. Have students practice reading and writing decimals and identifying the place value and value of decimals. *In the number 4,323.95 what is the value of the 4? What is the value of the digit 9? What is the place value of the digit 5?* Have students also practice writing decimals as fractions and fractions as decimals.

Model how to play the Four in a Row game. This game will be used to reinforce the concepts taught to this point in the unit.

Work Time

Students will play the game with a partner. Partner A should spin the spinner and find a model that represents the fraction or decimal that the spinner landed on. Partner A will cover that model with a counter (be sure to have Player A continue using the same color counter throughout the game).

Then, Player B will repeat the steps above and cover his/her model with a different color counter. If either player lands on "Lose a Turn" the player's turn ends without the player placing a counter on the game board. If either player lands on "Bonus" the player may place his/her counter in their choice of places on the game board. If the player spins and there are no available models to place the counter on, the player's turn is over. The game continues until a player has four counters in a row.

Closing

To give a different twist to today's closing, have students solve the following problem in their math journal: I added three decimal numbers together to make exactly 4. What might the three numbers be? Explain your thoughts.

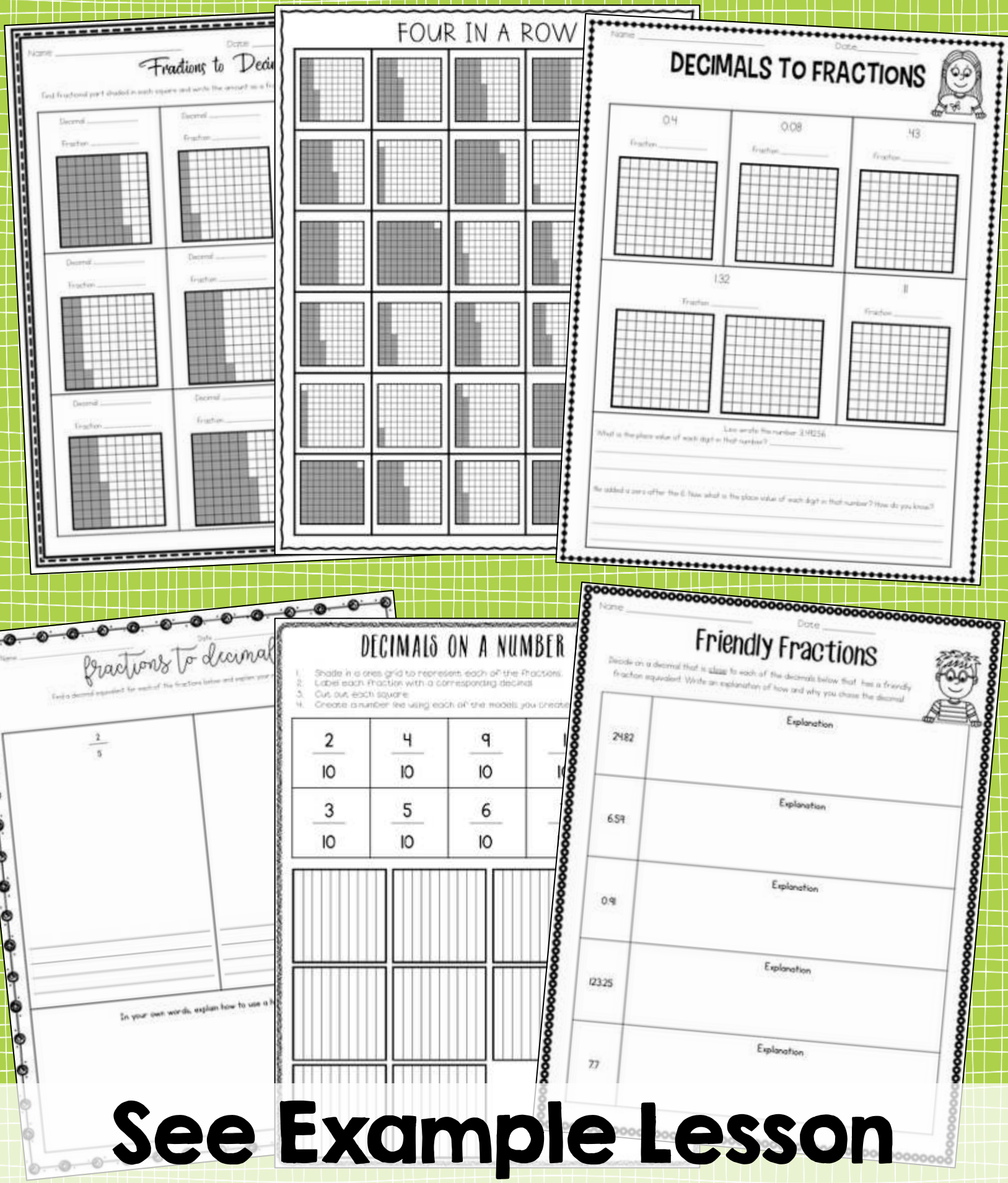
Intervention
- Partner students with a partner who will be able to provide assistance.

Extension
- Allow students to work with other students who may need extra help.

Essential Questions
- How do I write decimals from fractions?
- How are fractions and decimals related?

Formative Assessment
- Observe students as they work.
- Check for accuracy in student work.
- Listen to student conversations.

20 Conceptual Lessons



See Example Lesson

Lesson 13: Nice Numbers

Materials:
- Nice Numbers recording sheet

Standard: 4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add fractions with denominators 10 and 100.
4.NF.6. Use decimal notation for fractions with denominators 10 or 100.
4.NF.7 Compare two decimals to hundredths by reasoning about their size. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

Mini-lesson

Review the previous lessons and address any areas of the decimal unit that appear to cause students difficulty. Use this time to reinforce vocabulary (*what is a decimal)*, place value of digits (*what is the place value of the digit 5 in the number 4,320.51)*, value of digits *(what is the value of the 6 in the number 1,284.96)*, and how to read and write decimals as fractions *(what is 0.45 as a fraction)* and fractions as decimals *(what is 4/10 as a decimal)*. I like to give one of each problem below (one at a time) and have students write their answers on their dry erase board.

Explain the directions for today's task and show students how to prove their answers with a number line, hundredths model, or hundredth disc. Students may use the manipulative of their choice.

Work Time

On the recording sheet there is a three digit number. Students must determine which whole number the decimal is closest to. Then, students will determine which tenth the decimal is closest to by using a manipulative of their choice. There are hundredth models on the student recording sheet to help students prove their work without having to draw the model. Students will repeat these steps with a different three digit number.

Closing

Have students share each problem and allow them to share their explanation. Ask students to share whether they agree or disagree with the explanation and explain why. Allow students to ask questions and use this time to address any misconceptions.

Intervention
- Work with students in a small group.

Extension
- Have students work with decimals through the thousandths place.

Essential Questions
- How can I find nice numbers?
- What does the place value of each digit in a decimal tell me?

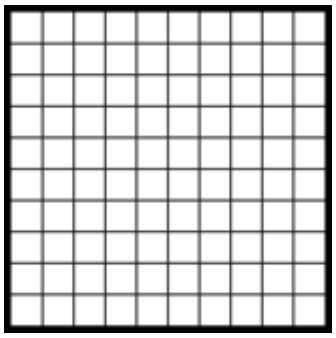
Formative Assessment
- Observe students as they work.
- Check for accuracy in student work.
- Listen to student conversations.

Name _____ Date _____

Nice Numbers

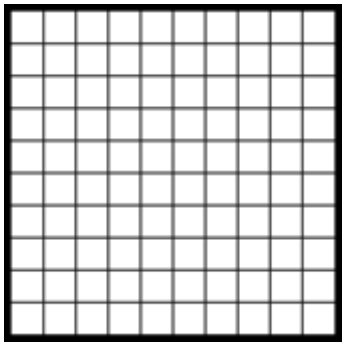
5.62

Is the number closer to 5 or 6?



Explain your thinking in words.

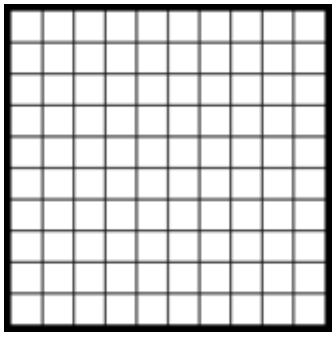
Is the number closer to 5.6 or 5.7?



Explain your thinking in words.

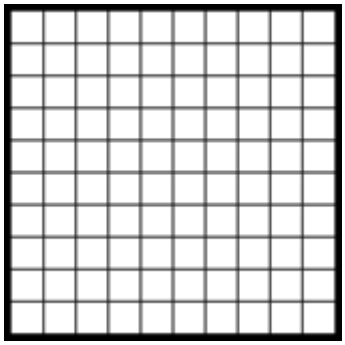
2.47

Is the number closer to 2 or 3?



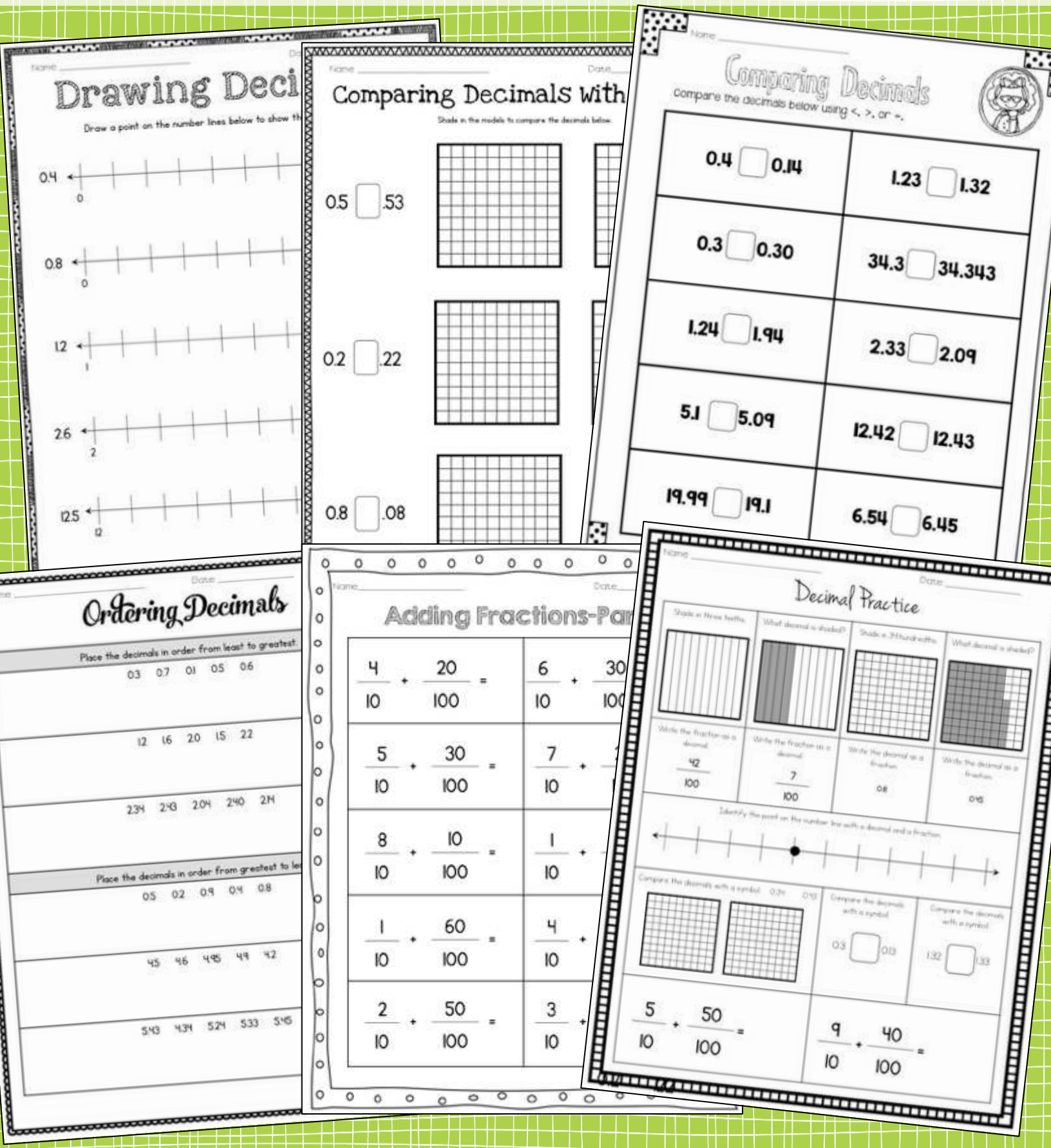
Explain your thinking in words.

Is the number closer to 2.4 or 2.5?



Explain your thinking in words.

25 Skills Practice Printables

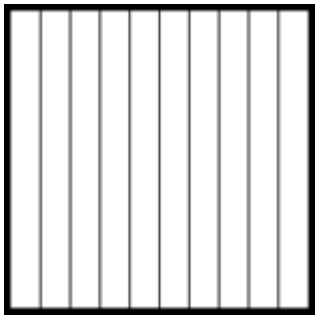


Aligned to Each Lesson

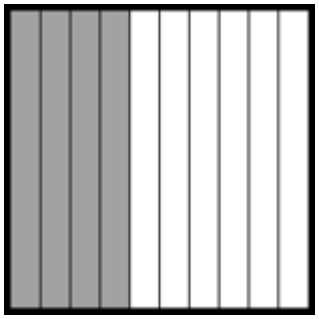
Name _____ Date _____

Decimal Practice

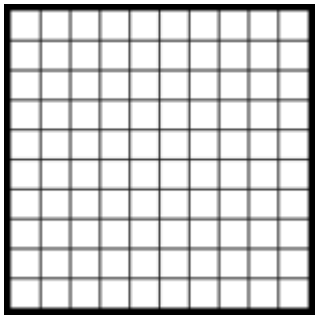
Shade in three tenths.



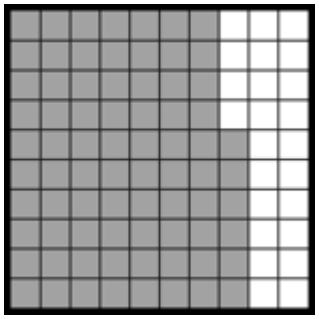
What decimal is shaded?



Shade in 34 hundredths.



What decimal is shaded?



Write the fraction as a decimal.

$\frac{42}{100}$

Write the fraction as a decimal.

$\frac{7}{100}$

Write the decimal as a fraction.

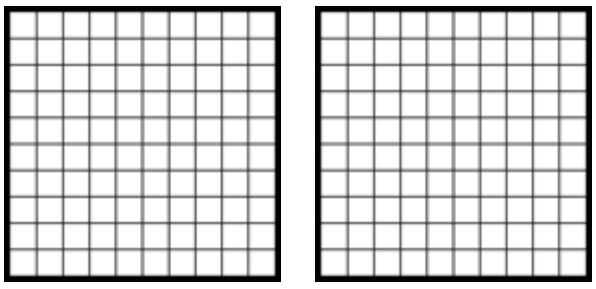
0.8

Write the decimal as a fraction.

0.45

Identify the point on the number line with a decimal and a fraction.

Compare the decimals with a symbol. 0.34 0.43



Compare the decimals with a symbol.

0.3 ☐ 0.13

Compare the decimals with a symbol.

1.32 ☐ 1.33

$\frac{5}{10} + \frac{50}{100} =$

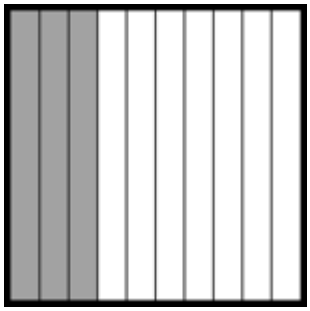
$\frac{9}{10} + \frac{40}{100} =$

0.2 1.22

Name _____ Date _____

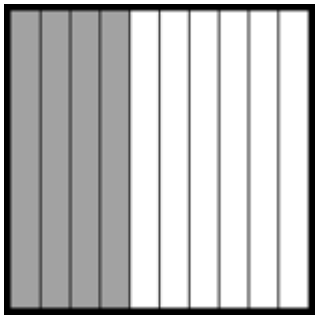
Decimal Practice

Shade in three tenths.

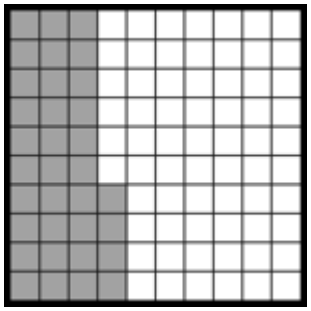


What decimal is shaded?

0.4

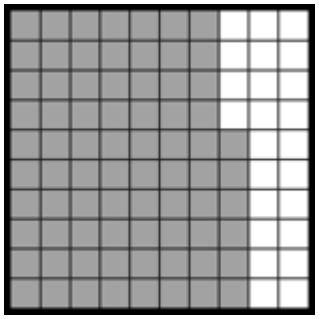


Shade in 34 hundredths.



What decimal is shaded?

0.76



Write the fraction as a decimal. 0.42

$\frac{42}{100}$

Write the fraction as a decimal. 0.07

$\frac{7}{100}$

Write the decimal as a fraction.

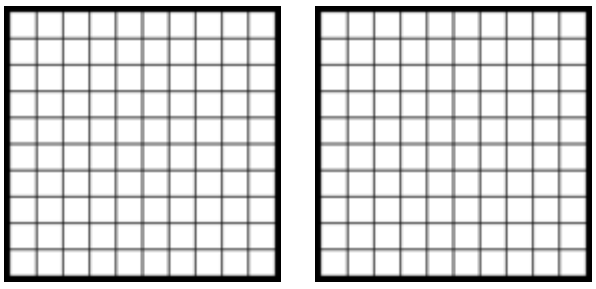
0.8 $\frac{8}{10}$

Write the decimal as a fraction.

0.45 $\frac{45}{100}$

Identify the point on the number line with a decimal and a fraction. 0.4 4/10

Compare the decimals with a symbol. 0.34 < 0.43



Compare the decimals with a symbol.

0.3 > 0.13

Compare the decimals with a symbol.

1.32 < 1.33

$\frac{5}{10} + \frac{50}{100} = \frac{100}{100}$

$\frac{9}{10} + \frac{40}{100} = \frac{130}{100}$

0.2 1.22