



# **On Core Lessons** for Common Core Math



**Using the Whiteboard**

Use the table of contents to go to specific sections of the lesson, or, tap **Next** to go to the first section of the lesson.

**Teaching the Math**

Preview the *Essential Question*: How can you record tenths and hundredths as fractions and decimals?

**Common Core Standards for Mathematical Content**

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

**Common Core Standards for Mathematical Practice**

**CC.K–12.MP.6** Attend to precision.

**CC.K–12.MP.7** Look for and make use of structure.

**Navigating the *SMART Notebook* file**

	<b>Home</b>	Return to the Main Menu.		<b>Example</b>	View a sample problem.
	<b>Teacher Notes</b>	Open the Teacher Notes PDF.		<b>Answer</b>	Show the correct answer to a problem.
	<b>Previous</b>	Go to the previous page.		<b>Try Another</b>	Generate another problem for extra practice.
	<b>Next</b>	Go to the next page.		<b>SMART Response Question</b>	Indicates the question is compatible with a <i>SMART Response</i> interactive Response system.
	<b>Action Arrow</b>	Reveal hidden content.			
	<b>Try This</b>	Reveal additional problems. Tap again to return to the previous page.		<b>Workspace</b>	Reveal additional content for the activity. Tap again to return to the previous page.

**Tips****Clear or reset the screen**

To reset the screen, tap **Edit > Reset Page** or tap the **Reset Page** button if it is on the toolbar.

**Add tools and functions to your *SMART Notebook* toolbar or floating palette**

Tap the **Customize** button in the toolbar or floating palette, and then drag the tool to the toolbar or floating palette.

**Using the Whiteboard**

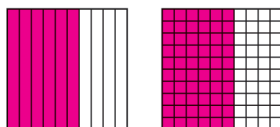
- Pull out the Problem tab and discuss the problem with students.
- Tap the first **Action Arrow** to reveal the model.
- Have a student use the **Highlighter Tool** to shade the model.
- Have the student use the **Pen** to complete the fraction.
- Tap the second **Action Arrow** to reveal the rest of the problem.
- Ask another student to use the **Pen** to write the fractions.

**Teaching the Math**

Have students read and discuss the problem. Emphasize that either a fraction or a decimal representation of six tenths is correct in this problem.

**Ask:** By what number should you multiply the denominator of  $\frac{6}{10}$ ? Explain your answer. **10; possible explanation:** I need to write  $\frac{6}{10}$  as a fraction with 100 in the denominator. Since  $10 \times 10 = 100$ , I multiply by 10.

**Ask:** Why do you also multiply the numerator of  $\frac{6}{10}$  by 10? **To find an equivalent fraction, I need to multiply the numerator and denominator by the same number.  $\frac{10}{10} = 1$ , so it is like multiplying by 1.**

**Answer Key**

$$\frac{6}{10} = \frac{60}{100}$$

$$\frac{6}{10} = \frac{6 \times 10}{10 \times 10} = \frac{60}{100}$$

**Using the Whiteboard**

- Pull out the Problem tab and discuss the problem with students.
- Tap the first **Action Arrow** to reveal the problem.
- Tap **Think** to reveal helpful text.
- Ask a student to use the **Pen** to complete the chart and the sentences.
- Tap **Math Talk** to reveal a discussion question.

**Teaching the Math**

**Ask:** Explain where the tenths place is in the place-value chart. **one digit to the right of the decimal point**

**Ask:** Explain where the hundredths place is in the place-value chart. **two digits to the right of the decimal point**

If students are having difficulty, use the models on the previous page to emphasize that 0.6 is equivalent to 0.60 because they name the same amount.

**Ask:** What do you notice about the shaded area on both of the grids? **They are the same size or equal.**

Use **Math Talk** to help students understand that adding a zero to the right of a decimal does not change the value of the decimal.

**Answer Key**

Ones	.	Tenths	Hundredths
0	.	6	0

So, Daniel drank  $\frac{60}{100}$ , or **0.60** liter of water.

**Math Talk**

Possible explanation: 0.2 is 2 tenths or  $\frac{2}{10}$ . Multiply the numerator and denominator by 10 to get  $\frac{20}{100}$ . The equivalent decimal is 0.20.

**Using the Whiteboard**

- Discuss the problem with students.
- Pull out the Definition tab to view the definition of *equivalent decimal*.
- Tap the first **Action Arrow**.
- Tap **Think** to reveal helpful text.
- Have a volunteer tap **Answer** to reveal the numbers in the chart.
- Tap the second **Action Arrow**.
- Ask another student to tap **Answer** to reveal the completed sentences.

**Teaching the Math**

**Ask:** What digit is in the hundredths place of 0.30? **0**

Discuss with students that since 0.30 has a 0 in the hundredths place, an equivalent tenths decimal can be written for it.

**Using the Whiteboard**

- Discuss the problem with students.
- Tap the first **Action Arrow** to reveal Step 1.
- Have a volunteer tap **Answer** to reveal the answers.
- Tap the second **Action Arrow** to reveal Step 2.
- Tap **Think** to reveal helpful text.
- Have another volunteer use the **Pen** to complete the fractions and the sentence.

**Teaching the Math**

**Ask:** How do you know what denominator to use when writing 0.30 as a fraction?

**Possible answer:** 0.30 means 30 hundredths, so 100 is the denominator of the equivalent fraction.

**Ask:** Why do you divide  $\frac{30}{100}$  by  $\frac{10}{10}$ ? **Possible answer:** I divide  $\frac{30}{100}$  by  $\frac{10}{10}$  because

I need to show the answer in tenths, not hundredths. Dividing by  $\frac{10}{10}$  is the same as dividing by 1, so it does not change the value.

**Answer Key**

$$\frac{30}{100} = \frac{30 \div 10}{100 \div 10} = \frac{3}{10}$$

Jasmine collected 0.3, or  $\frac{3}{10}$  liter of water.

**Using the Whiteboard**

- Discuss the problem with students.
- Tap the first **Action Arrow** to reveal the first part of the problem.
- Have a volunteer complete the fraction by dragging numbers from the dispenser.
- Have the same volunteer use the **Pen** to write the fraction in the blank.
- Tap the second **Action Arrow** to reveal the rest of the problem.
- Ask another student to complete the table by dragging numbers from the dispenser.
- If available, have students use their *SMART Response* remotes to answer the last problem.
- If installed, click the *SMART Response* tab, and then start the question to begin voting.

**Teaching the Math**

The problem connects to the learning model.

**Common Errors**

**Error** Students may write a zero in the tenths place rather than the hundredths place when writing an equivalent decimal.

**Example**  $0.7 = 0.07$


**Springboard to Learning** Model 0.7 and 0.07 using decimal models to illustrate that they are different decimals. Recommend that students continue to use decimal models to either find equivalent decimals or to check their work.

**Answer Key**

$$\frac{4}{10} = \frac{4 \times 10}{10 \times 10} = \frac{40}{100}$$

Fraction:  $\frac{40}{100}$

Ones	.	Tenths	Hundredths
0	.	4	0

Decimal: 0.40 

**Using the Whiteboard**

- Discuss the first direction line with students.
- Ask a volunteer to use the **Pen** to write his or her answer.
- Repeat the step with two more problems.
- Tap the **Action Arrow** and discuss the second direction line with students.
- Have a volunteer use the **Pen** to answer the first problem.
- Repeat the step with two more problems.

**Answer Key**

Write the number as hundredths in fraction and decimal form.

$$\frac{8}{10} \frac{80}{100}, 0.80 \quad \frac{2}{10} \frac{20}{100}, 0.20 \quad 0.1 \frac{10}{100}, 0.10$$

Write the number as tenths in fraction form and decimal form.

$$\frac{60}{100} \frac{6}{10}, 0.6 \quad \frac{90}{100} \frac{9}{10}, 0.9 \quad 0.70 \frac{7}{10}, 0.7$$



**Using the Whiteboard**

- Discuss the question with students.
- Ask a volunteer to use the **Pen** to work out his or her answer on the blank lines.

**Teaching the Math**

This problem requires students to identify and correct an error using the relationship between equivalent fractions and equivalent decimals.

**Answer Key**

Possible answer: 0.08 is 0 tenths 8 hundredths, which is the same as 8 hundredths. Write 8 hundredths as  $\frac{8}{100}$ .

**Using the Whiteboard**

- Read the question to the students.
- Ask students to solve the problem.
- If available, have students use their *SMART Response* remotes to answer.
- If installed, click the *SMART Response* tab, and then start the question to begin voting.
- Students may also use the **Pen** to circle the answer.
- Tap **Answer** to reveal the correct answer.

**Teaching the Math****Test Prep Coach**

In the Test Prep exercise, if students selected:

- A)** They confused 50 hundredths with 5 hundredths.
- C)** They added an extra 5 to the numerator.
- D)** They confused 50 tenths with 50 hundredths.

**Answer Key**

**B)**  $\frac{50}{100}$

**Using the Whiteboard**

- Read aloud the *Essential Question*: How can you record tenths and hundredths as fractions and decimals?
- Instruct a volunteer to use the **Pen** to write his or her answer.
- Pull out the Answer tab to reveal a possible answer.

**Answer Key**

**Essential Question:** Possible answer: I can write equivalent fractions and decimals using models or place value.

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