LN7.1 Storyboard

Overview	In this lesson, you will learn about percent and will learn how to convert percents.
Outcome(s)	The student will be able to define and convert percents between percent, decimal, and fraction notation.
Learning Objectives	Define and Convert Percents Between Percent, Decimal, and Fraction Notation.
Topics	Define Percents Convert Percents
Lesson Presentation	Title: Converting to Percents
CORE Standards	*A-CED.1, A-REI.1, A-REI.3, N-Q.2*

Lesson Presentation Converting to Percents

Slide 1	Splash Screen
Topic Title	Converting to Percents
Topic Summary	In this topic, you will learn how to convert percents between percent, decimal, and fraction notation.
Audio Transcript	Converting to Percents. In this topic, you will learn how to convert percents between percent, decimal, and fraction notation.

Introduction

Slide 2	Introduction / Slide 1 of 2
Screen Type	Photo Story – Center Image No Text
Slide Title	Introduction to Converting Percents
Image <342 x 210>	LN7-1_SL02_intro.swf (alt text: Animation illustrating an introduction to converting percents.) Make an animation sequence first showing a meteorologist in front of a weather map, showing a 70% chance of rain (for example). Fade to a stock broker with a chart using a pointer to

	show on a graph a growth in a home supply store's (such as Home Depot) stock being up by .025% (for example). Fade to a store ad showing 25% off in the coming sale this weekend. Fade to a news anchor doing a news story on the increase in consumer spending- up by 10% since last year.
Audio Transcript	Meteorologists determine the probability of weather with percents. Stock Brokers explain growth and decreases in market values using percents. Store Managers advertise sales using percents.The news media uses percents to describe increases and decreases for data like income, expenses, and shortages. In this lesson, you will learn how to write equivalent forms of a number using percents, decimals, and fraction notations. Let's begin!
Development Notes	Insert custom image at beginning of slide. Remove image placeholder; animation exceeds placeholder size.

Slide 3	Introduction / Slide 2 of 2
Screen Type	Photo Story – Text Left Image Right A
Slide Title	Contextual Problem
On-Screen Text	Text 1: .0012 rejects per phone made Text 2: How do you convert to percent?
Image <277 x 210>	LN7-1_SL03_phone.jpg (alt text: Image of a manufacturing plant that makes cordless phones) Picture of a manufacturing warehouse with assembly line (may be similar to the included example photo in image folder called phonemanufacturer.jpg) with phones instead of boxes. Have an inspector who is inspecting and finds one reject phone that they are picking up/holding.
Audio Transcript	Let's say that a manufacturing plant produces cordless phones. The quality control inspector rejects phones for defects at a rate of point zero zero one two, or 12 ten-thousandths, rejects per phone manufactured. They want to calculate the percent of the plant's phones that are rejected. Let's learn how to do that by first understanding what percent means.
Development Notes	Delete 3rd text box and recenter two remaining text boxes. Show image and time text with narration. As it says, “At a rate of .0012,” (Enter) Text 1. As it says, “calculate the percent,” (Enter) Text 2.

Presentation

Slide 4	Presentation / Slide 1 of 9
Screen Type	Photo Story – Text Right Image Left A
Slide Title	What is percent?
On-Screen Text	Text 1: A percent is a ratio that compares a number to 100 ($\frac{a}{100}$) Text 2: 40% Text 3: .40
Image <277 x 210>	LN7-1_SL04_percent.swf (alt text: An animation showing how to change a percent to a decimal.) See the image folder for an example- called percenttodecimal.mov. On image screen, the number 40% should be in black. Then, use red to put a decimal where the percent sign is and show it moving two spaces to the left. You may or may not show the image of a hand writing.
Audio Transcript	A percent is a ratio that compares a number to 100 (*a over* 100). It can be written in percent notation, and it can also be expressed as a decimal. To write it as a decimal, just take the percent sign, change it to a decimal and move it two spaces to the left. 40 percent would then be point four zero in decimal notation. Therefore, 40 percent and point four zero are equal and are just expressed in different formats.
Development Notes	Time on-screen text and images with narration: As the first sentence is read, (Enter) Text 1 onto the screen. After a couple second delay, (Enter) Text 2 onto the screen. As it says, “just take the percent sign,” show the animation on image screen. After it says, “ 40 percent would then,” (Enter) Text 3.

Slide 5	Presentation / Slide 2 of 9
Screen Type	Activity – MC Single Answer B
Slide Title	You Try It!
Question	Can you convert percent notation into decimal notation?
On-Screen Text	Question Title: Which of the following answers is equal to 52%? Answer Options: (denote correct answer with an “*”) A) .052 B) .52 *

	C) .0052 D) 52.
Audio Transcript	Which of the following answers is equal to 52 percent?
Development Notes	Remove the asterisk next to answer B in development.

Slide 6	Presentation / Slide 3 of 9
Screen Type	V & A – Animation
Slide Title	Converting Decimals to Percents
Audio Transcript	Just like you can convert a percent to a decimal, you can also change a decimal to a percent. To do this, you just take the decimal point and move it two spaces to the right. For example, in the number sixty-five hundredths, move the decimal two places to the right. The equivalent percent would be sixty-five percent.
Image <670x276> Development Notes	LN7-1_SL06_decimal.swf (alt text: An animation showing how to change a decimal to a percent.) Create an animation like the example provided in the image folder called decimaltopercent.mov. Start with the number .65 in black lettering. Show in red the decimal moving two places to the right and then adding a percent sign. Time narration with animation: After it says, “For Example,” (Enter) .65. When it says, “Move the decimal,” show the decimal moving.

Slide 7	Activity / Slide 4 of 9
Screen Type	Activity – MC Single Answer A
Slide Title	You Try It!
On-Screen Text	Question Title: What is the correct percent notation for .37? Answer Options: (denote correct answer with an “*”) A) 3.7% B) .37% C) 37% * D) .037%

Audio Transcript	What is the correct percent notation for point three seven, or thirty-seven hundredths?
Development Notes	Remove the asterisk next to answer C in development.

Slide 8	Presentation / Slide 5 of 9
Screen Type	V & A – Animation
Slide Title	Converting Percent into a Fraction
Audio Transcript	Now, let's try changing 60 percent into a fraction. In fraction form, we would write 60 as the numerator and 100 as the denominator. Now, we reduce the fraction. Both numbers can be divided by 10, which would give us six tenths. Now, both numbers can be divided by 2, which gives us three-fifths, which is the simplest fraction we can get. Therefore, 60 percent is equal to three-fifths.
Image <670 x 276> Development Notes	LN7-1_SL08_fraction.swf (alt text: An animation showing how to change a percent to a fraction.) Create an animation of the text below. The slide will begin with Text 1 entering and subsequent texts will enter timed with narration. In Text 2, show ÷ 10 on both top and bottom of fraction as well as ÷ 2. Time on-screen text and images with narration: Text 1: 60% Text 2: $\frac{60}{100}$ ÷ 10 = $\frac{6}{10}$ ÷ 2 = ? Text 3: $\frac{3}{5}$ As first sentence is read, (Enter) Text 1. As second sentence is read, (Enter) first part of Text 2 60/100. As it says, “Both numbers can be divided by 10,” (Enter) next part of Text 2- ÷ 10 (but show ÷ 10 on both top and bottom of fraction). As it says, “Now both numbers can be divided by 2,” (Enter) last part of Text 2- ÷ 2 (again show ÷ 2 on both top and bottom of fraction). As it says, “which gives us three fifths,” (Enter) Text 3.

Slide 9	Presentation / Slide 6 of 9
Screen Type	Activity – MC Single Answer A
Slide Title	You Try It!
On-Screen Text	Question Title: What fraction is the correct equivalent of 30%? Answer Options: (denote correct answer with an "*") A) $\frac{3}{5}$ B) $\frac{30}{10}$ C) $\frac{3}{100}$ D) $\frac{3}{10}$ *
Audio Transcript	What fraction is the correct equivalent of 30 percent?
Development Notes	Remove the asterisk next to answer D in development.

Slide 10	Presentation / Slide 7 of 9
Screen Type	V & A – Animation
Slide Title	Converting Fractions to Percents
Audio Transcript	It is also helpful to be able to convert a fraction to a percent. Let's convert three-fourths to percent. Remember that percent is a ratio of a number to 100 (a over 100). In order to get the correct percent, you need to change the denominator to 100. To do so, you would multiply the numerator and denominator by the same number. If the fraction is three-fourths, what number can you multiply 4 by to get 100? The answer is 25. Multiply both the numerator and denominator by 25 to get seventy-five hundredths, which equals 75 percent.
Image <670 x 276>	LN7-1_SL10_percent.swf (alt text: An animation showing how to change a fraction to a percent.) Create an animation of the text below. The text will enter with the first part of Text 1 and subsequent texts will enter timed with narration. In Text 1, the arrow should be even with the fraction bar (centered between the two fractions). In Text 2, show · 25 on both top and bottom of fraction.
Development Notes	Time on-screen text and images with narration:

	Text 1: $\frac{3}{4} \rightarrow \frac{?}{100}$ Text 2: 4 · __ = 100 Text 3: $\frac{3}{4} \cdot 25 = \frac{75}{100}$ = 75% As it says, “Let's convert ¾ to percent,” (Enter) Text 1 ¾. After it says, “change the denominator to 100,” (Enter) Text 1 → ?/100 (but the arrow symbol should be even with the fraction bars on both fractions). As it says, “what number can you multiply 4 by to get 100,” (Enter) Text 2. After it says, “The answer is 25,” replace the blank with the number 25. As it says, “Multiply both the numerator,” (Enter) Text 3- ¾ · 25 (show the multiplication symbol and 25 being done to both the top and bottom number in the fraction). As it says, “to get seventy-five hundredths,” (Enter) Text 3- 75/100. As it says, “which equals 75 percent,” (Enter) = 75%.

Slide 11	Activity / Slide 8 of 9
Screen Type	Activity – MC Single Answer A
Slide Title	You Try It!
On-Screen Text	Question Title: What percent is the correct equivalent of $\frac{1}{5}$? Answer Options: (denote correct answer with an “*”) A) 20% * B) 50% C) 30% D) 40%
Audio Transcript	What percent is the correct equivalent of one-fifth?
Development Notes	Remove the asterisk next to answer A in development.

Slide 12	Presentation / Slide 9 of 9
Screen Type	V & A – Animation
Slide Title	Original Problem: Cordless Phone Manufacturer
Audio Transcript	Remember at the beginning of the lesson the example of the manufacturing company that makes cordless phones. The

	quality control inspector rejects phones for defects at a rate of point zero zero one two, or 12 ten-thousandths, rejects per phone manufactured. They want to calculate the percent of the plant's phones that are rejected. You should now have the ability to figure out the answer. To calculate the percent of rejects, you would change the decimal number 12 ten-thousandths into a percent. Therefore, the decimal point will move two spaces to the right, making the answer point one two, or 12 hundredths, percent.
Image <277 x 210> Development Notes	LN7-1_SL12_phone.swf (alt text: An animation showing how to change a decimal to a percent.) Show image of phone manufacturer on screen that was used on SL3- size 277 x 210 to intro this slide. For the text animation, see the example provided in the image folder called rejectphone.mov. On top of image (off to side) or next to image on a mock whiteboard, show the number .0012 on the screen. The text below will be animated and timed with the narration. Time on-screen text and images with narration: Text 1: .0012 → % Text 2: .0012 = .12% Show the number .0012 on the screen (may be on top of image or next to image on a mock whiteboard). As it says, “change the decimal number .0012,” (Enter) 2nd part of text- → %. As it says, “Therefore,” (Enter) 1st part of Text 2 .0012 As it says, “ the decimal point will move two spaces to the right,” show on screen in red the decimal moving two spaces to the right. As it says, “making the answer,” (Enter) the last part of Text 2 = .12%

Activity

Slide 13	Activity / Slide 1 of 1
Screen Type	Activity – Matching B
Question	Have you mastered converting percents?
Slide Title	You Try It!
On-Screen Text	Column 1 Title: Percent Notation Column 1 Terms: A) 30% B) 12%

	C) 45% D) 80% Column 2 Title: Decimal and Fraction Notations Column 2 Answers (should match A-D with terms above): A) $\frac{6}{50}$ B) 0.45 C) $\frac{4}{5}$ D) 0.30
Audio Transcript	Have you mastered converting percents? Match each percent in Column 1 to the correct equivalent fraction or decimal notation in Column 2.
Development Notes	The correct matches are (column 1 and 2) A and D, B and A, C and B, and D and C.

Review

Slide 14	Review / Slide 1 of 1
Screen Type	Interaction – Mouse Image
Slide Title	Let's Review!
Mouse Over Text	Text 1: Percent is a ratio comparing a number to 100. Text 2: Percent can be expressed as a fraction with a number over 100 ($\frac{a}{100}$). Text 3: Percent can be expressed as a decimal by moving the decimal two places to the left.
Image <200 x 185> <200 x 185>	Image 1: LN7-1_SL14_percent.jpg (alt text: image of percent symbol) Include an image of a percent symbol such as the example in the image folder called percentsymbol.jpg Image 2: LN7-1_SL14_fraction.jpg (alt text: image of fraction symbol)

<200 x 185>	Include an image of a fraction number such as the example in the image folder called fractionsymbol.jpg Image 3: LN7-1_SL14_decimal.jpg (alt text: image of decimal notation) Include an image of a decimal number such as the example in the image folder called decimalnotation.jpg
Audio Transcript	In this lesson, you learned what percent means and how to convert from percent to decimal and fraction notations and vice versa. Mouse over each text box to review visual representations of each type of conversion that we examined in this lesson.
Development Notes	No notes.

Final Slide

Slide 15	Final Slide / Slide 1 of 1
Screen Type	Final Slide
On-Screen Text	Text: You have successfully completed this lesson, Converting Percents.
Audio Transcript	You have successfully completed this lesson, Converting Percents.
Development Notes	No notes.