Reasoning and Problem Solving
Step 10: Hundredths as Decimals

National Curriculum Objectives:

Mathematics Year 4: (4F6b) Recognise and write decimal equivalents of any number of tenths or hundredths

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Explain which statement is correct using decimals smaller than one.
Expected Explain which statement is correct using decimals smaller than one and zero as a place holder.
Greater Depth Explain which statement is correct using decimals greater than one and zero as a place holder.

Questions 2, 5 and 8 (Problem Solving)
Developing Use three digit cards to make three decimals less than one, demonstrating understanding by including equivalent fractions. Zero given in ones.
Expected Use four digit cards to make three decimals less than one, demonstrating understanding by including equivalent fractions.
Greater Depth Use six digit cards to make three decimals greater than one, demonstrating understanding by including equivalent fractions.

Questions 3, 6 and 9 (Reasoning)
Developing Explain whether an inequality statement is correct using decimals less than one, some visual support.
Expected Explain whether an inequality statement is correct using decimals less than one with zero as a place holder.
Greater Depth Explain whether an inequality statement is correct using decimals greater than one with zero as a place holder.

More Year 3 and 4 Fractions and Decimals resources.

Did you like this resource? Don't forget to review it on our website.

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Hundredths as Decimals

1a. Who is correct?

$$\frac{68}{100} = 0.68$$

Jim: This decimal is correct because it shows sixty eight hundredths.

Maya: This decimal is incorrect because it only shows eight hundredths.

Explain your answer.

4 R

1b. Who is correct?

$$\frac{24}{100} = 0.42$$

Sally: This decimal is correct because it shows twenty-four hundredths.

Zen: This decimal is incorrect because the hundredths digit is 2.

Explain your answer.

4 R

2a. Use the digit cards to make three decimals less than one.

0 . ☐ ☐

2   7   9

Write the equivalent fraction for each decimal you create.

4 PS

2b. Use the digit cards to make three decimals less than one.
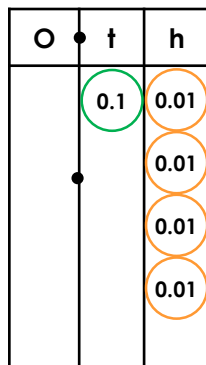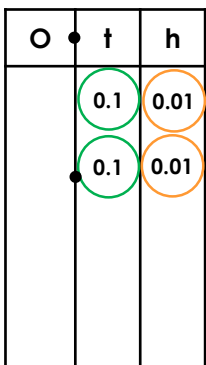
0 . ☐ ☐

6   3   5

Write the equivalent fraction for each decimal you create.
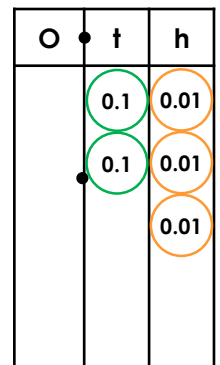
4 PS

3a. Is this statement correct?

0.22 < 0.14

O	t	h
	0.1	0.01
	0.1	0.01

O	t	h
	0.1	0.01
		0.01
		0.01
		0.01

Explain your answer.

4 R

3b. Is this statement correct?

0.31 > 0.23

O	t	h
	0.1	0.01
	0.1	
	0.1	

O	t	h
	0.1	0.01
	0.1	0.01
		0.01

Explain your answer.

4 R

Reasoning and Problem Solving – Hundredths as Decimals – Year 4 Developing
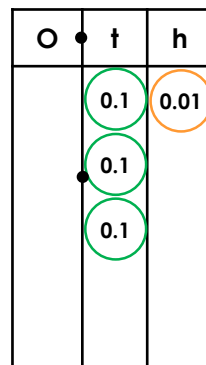
Hundredths as Decimals

4a. Who is correct?

$$\frac{6}{100} = 0.06$$

Leo: This decimal is incorrect, it should be 0.6

Lucy: This decimal is correct because it shows six hundredths.

Explain your answer.

4 R

4b. Who is correct?

$$\frac{90}{100} = 0.09$$

Emily: The decimal is correct because it shows nine hundredths.

Callum: The decimal is incorrect as it only shows nine hundredths.

Explain your answer.

4 R

5a. Use the digit cards to make three decimals less than one.

$$\boxed{} \cdot \boxed{}\boxed{}$$

$$\boxed{0} \quad \boxed{2} \quad \boxed{0} \quad \boxed{5}$$

Write the equivalent fraction for each decimal you create.

4 PS

5b. Use the digit cards to make three decimals less than one.

$$\boxed{} \cdot \boxed{}\boxed{}$$

$$\boxed{4} \quad \boxed{0} \quad \boxed{0} \quad \boxed{7}$$

Write the equivalent fraction for each decimal you create.

4 PS

6a. Is this statement correct?

$$0.90 > 0.09$$

Explain your answer.

4 R

6b. Is this statement correct?

$$0.68 > 0.86$$

Explain your answer.

4 R

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Reasoning and Problem Solving – Hundredths as Decimals – Year 4 Expected

Hundredths as Decimals

7a. Who is correct?

$$1 \text{ and } \frac{75}{100} = 1.85$$

Sameeha: The decimal number is one hundredth greater than the fraction.

Joshua: The decimal number is ten hundredths greater than the fraction.

Explain your answer.

4 R

7b. Who is correct?

$$1 \text{ and } \frac{50}{100} = 1.51$$

John: The decimal number is one hundredth greater than the fraction.

Jane: The decimal has the same number of hundredths as the fraction

Explain your answer.

4 R

8a. Use the digit cards to make three decimals that are greater than one with an even hundredths digit.

☐ . ☐ ☐

8 **2** **1** **0** **5** **4**

Write the equivalent fraction for each decimal you create.

4 PS

8b. Use the digit cards to make three decimals that are greater than one with a hundredths digit less than four.

☐ . ☐ ☐

3 **0** **5** **9** **1** **7**

Write the equivalent fraction for each decimal you create.

4 PS

9a. Is this statement correct?

$$1.1 \; > \; 1.10 \; = \; 1.01$$

Explain your answer.

4 R

9b. Is this statement correct?

$$1.21 \; > \; 1.20 \; > \; 1.12$$

Explain your answer.

4 R

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Reasoning and Problem Solving – Hundredths as Decimals – Year 4 Greater Depth

Reasoning and Problem Solving
Hundredths as Decimals

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Hundredths as Decimals

Developing

1a. Jim is correct. 6 tenths and 8 hundredths make 68 hundredths.

2a. Various answers, for example: 0.79 and $\frac{79}{100}$; 0.29 and $\frac{29}{100}$; 0.92 and $\frac{92}{100}$

3a. No, 22 hundredths are greater than 14 hundredths.

Developing

1b. Zen is correct. 24 hundredths should have 2 as the tenths digit and 4 as the hundredths digit.

2b. Various answers, for example: 0.53 and $\frac{53}{100}$; 0.65 and $\frac{65}{100}$; 0.36 and $\frac{36}{100}$

3b. Yes, 31 hundredths are greater than 23 hundredths.

Expected

4a. Lucy is correct. 0 tenths and 6 hundredths together make 6 hundredths.

5a. Various answers, for example: 0.25 and $\frac{25}{100}$; 0.02 and $\frac{2}{100}$; 0.52 and $\frac{52}{100}$

6a. Yes, 0 hundredths and 9 tenths is greater than 9 hundredths and 0 tenths.

Expected

4b. Callum is correct. To show 90 hundredths the decimal needs 9 as the tenths digit and zero as the hundredths digit.

5b. Various answers, for example: 0.04 and $\frac{4}{100}$; 0.72 and $\frac{72}{100}$; 0.47 and $\frac{47}{100}$

6b. No, 6 tenths and 8 hundredths is less than 8 tenths and 6 hundredths.

Greater Depth

7a. Joshua is correct, 85 hundredths is 10 hundredths more than 75 hundredths.

8a. Various answers, for example: 2.84 and $2\frac{84}{100}$; 1.40 and $1\frac{40}{100}$; 4.08 and $4\frac{8}{100}$

9a. No. 1.01 is not greater than 1.10. Either 1.01 should be a number greater than 1.10, or = should be replaced by >

Greater Depth

7b. John is correct, 1.51 is one hundredth greater than the fractions, which has 150 hundredths.

8b. Various answers, for example: 1.93 and $1\frac{93}{100}$; 3.50 and $3\frac{50}{100}$; 5.71 and $5\frac{71}{100}$

9b. Yes. 1.21 is greater than 1.20 and 1.20 is greater than 1.12.

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