Reasoning and Problem Solving
Step 9: Hundredths on a Place Value Grid

National Curriculum Objectives:

Mathematics Year 4: (4F1) Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Use three digit cards to make different numbers including tenths and hundredths when the ones digit is zero. Identify the smallest number made.
Expected Use three digit cards to make different numbers including ones, tenths and hundredths. Identify the biggest or smallest number made.
Greater Depth Use three digit cards to make different numbers including ones, tenths and hundredths within a set of parameters. Identify the biggest or smallest number made.

Questions 2, 5 and 8 (Reasoning)
Developing Explain if a statement is correct when using counters to make numbers less than 1 whole.
Expected Explain if a statement is correct when using counters to make numbers including 1 whole.
Greater Depth Explain if a statement is correct when using counters to make numbers more than 1 whole within a set of parameters.

Questions 3, 6 and 9 (Reasoning)
Developing Explain which partitioning of a given number less than 1 whole is correct, using decimals only.
Expected Explain which partitioning of a given number, some more than 1 whole, is correct. Using a mixture of decimals and fractions.
Greater Depth Explain which partitioning of a given number more than 1 whole is correct. Using a mixture of fractions including improper and equivalent fractions, and decimals.

More Year 4 Decimals resources.

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

Hundredths on a Place Value Grid

1a. Using the digit cards and the place value chart, make three different numbers.

Ones	Tenths	Hundredths
0		

What is the smallest number you can make?

D PS

Hundredths on a Place Value Grid

1b. Using the digit cards and the place value chart, make three different numbers.

Ones	Tenths	Hundredths
0		

What is the smallest number you can make?

D PS

2a. Stan is using a place value chart and three counters to make different numbers.

Stan says,

If I use all the counters, the smallest number I can make is 0.3.

Is he correct? Explain how you know.

D R

2b. May is using a place value chart and five counters to make different numbers.

May says,

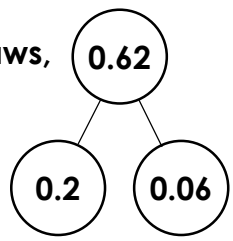
If I use all the counters, the smallest number I can make is 0.05.

Is she correct? Explain how you know.

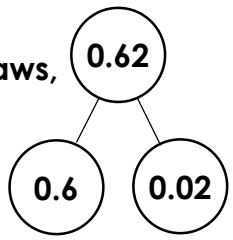
D R

3a. Kitty and Levi are partitioning 0.62.

Kitty draws,



Levi draws,

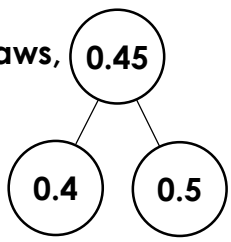


Who is correct? Convince me.

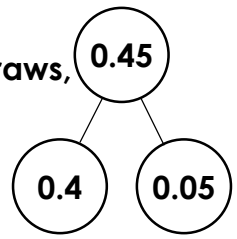
D R

3b. River and Nora are partitioning 0.45.

River draws,



Nora draws,



Who is correct? Convince me.

D R

Hundredths on a Place Value Grid

Hundredths on a Place Value Grid

4a. Using all the digit cards and the place value chart, make three different numbers.

2	1	0

Ones	Tenths	Hundredths

What is the biggest number you can make?

E

PS

4b. Using all the digit cards and the place value chart, make three different numbers.

3	1	6

Ones	Tenths	Hundredths

What is the smallest number you can make?

E

PS

5a. Mia is using a place value chart and five counters to make different numbers.

Mia says,

If I use all the counters, the smallest number I can make that includes 1 whole is 1.04.

Is she correct? Explain how you know.

E

R

5b. Paul is using a place value chart and three counters to make different numbers.

Paul says,

If I use all the counters, the smallest number I can make that includes 1 whole is 1.2

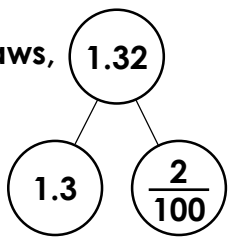
Is he correct? Explain how you know.

E

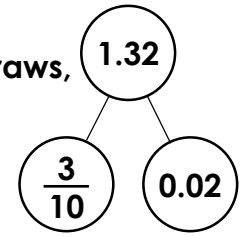
R

6a. Amy and Vidor are partitioning 1.32.

Amy draws,



Vidor draws,



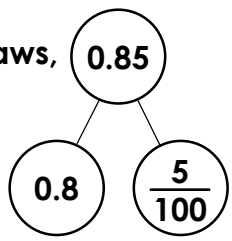
Who is correct? Convince me.

E

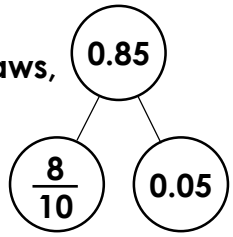
R

6b. Rhys and Lola are partitioning 0.85.

Rhys draws,



Lola draws,



Who is correct? Convince me.

E

R

Hundredths on a Place Value Grid

7a. Using all the digit cards and the place value chart, make three different numbers greater than four.

6	0	4

Ones	Tenths	Hundredths

What is the biggest number you can make?

GD PS

Hundredths on a Place Value Grid

7b. Using all the digit cards and the place value chart, make three different numbers less than four.

7	1	3

Ones	Tenths	Hundredths

What is the smallest number you can make?

GD PS

8a. Nico is using a place value chart and six counters to make different numbers between 2 and 5.

Nico says,

If I use all the counters, the smallest number I can make between 2 and 5 is 2.4.

Is he correct? Explain how you know.

GD R

8b. Oona is using a place value chart and four counters to make different numbers between 1 and 2.

Oona says,

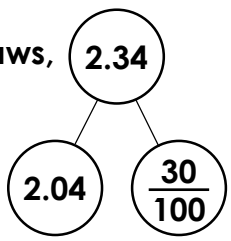
If I use all the counters, the smallest number I can make between 1 and 2 is 1.03.

Is she correct? Explain how you know.

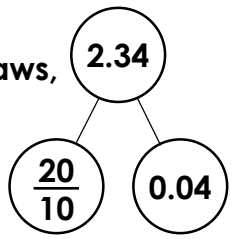
GD R

9a. Uma and Felix are partitioning 2.34.

Uma draws,



Felix draws,

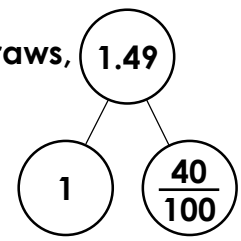


Who is correct? Convince me.

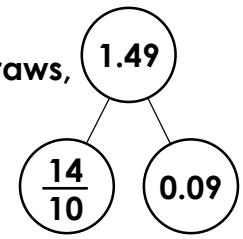
GD R

9b. Jake and Elsa are partitioning 1.49

Jake draws,



Elsa draws,



Who is correct? Convince me.

GD R

Reasoning and Problem Solving
Hundredths on a Place Value Grid

Developing

1a. Various possible answers including: 0.13; 0.15; 0.31; 0.35,; 0.51; 0.53.
The smallest number possible is 0.13.

2a. Stan is not correct because three hundredths is smaller than three tenths. The smallest number he could make is 0.03 on a hundredths place value grid, although smaller numbers are possible on other place value grids.

3a. Levi is correct because 0.62 is made up of six tenths and two hundredths.

Expected

4a. Various possible answers including: 0.12, 0.21, 1.02, 1.20, 2.01, 2.10.
The biggest number possible is 2.10.

5a. Mia is correct because the digits in her number equal 5, her number is greater than one whole and she has 4 hundredths which is the smallest decimal she can make. Smaller numbers are possible on other place value grids.

6a. Amy is correct because 1.32 is made up of one whole, three tenths and two hundredths.

Greater Depth

7a. Various possible answers including: 4.06; 4.60; 6.04; 6.40.
The biggest number possible is 6.40.

8a. Nico is not correct because four hundredths is smaller than four tenths. The smallest number he could make between 2 and 5 is 2.04 on a hundredths place value grid, although smaller numbers are possible on other place value grids.

9a. Uma is correct because 2.34 is made up of two wholes, three tenths and four hundredths.

Reasoning and Problem Solving
Hundredths on a Place Value Grid

Developing

1b. Various possible answers including: 0.12; 0.17; 0.21; 0.27; 0.71; 0.72.
The smallest number possible is 0.12.

2b. May is correct because 5 hundredths is the smallest number she could make on a hundredths place value grid, although smaller numbers are possible on other place value grids.

3b. Nora is correct because 0.45 is made up of four tenths and five hundredths.

Expected

4b. Various possible answers including: 1.36; 1.63; 3.16; 3.61; 6.13; 6.31.
The smallest number possible is 1.36.

5b. Paul is not correct because two hundredths is smaller than two tenths. The smallest number he could make is 1.02 on a hundredths place value grid, although smaller numbers are possible on other place value grids.

6b. They are both correct because 0.85 is made up of eight tenths and five hundredths.

Greater Depth

7b. Various possible answers including: 1.37; 1.73; 3.17; 3.71.
The smallest number possible is 1.37.

8b. Oona is correct because the digits in her number equal 4, her number is greater than one whole and she has 3 hundredths which is the smallest decimal she can make. Smaller numbers are possible on other place value grids.

9b. Elsa is correct because 1.49 is made up of one whole, four tenths and nine hundredths.