

Session One - Equivalent Fractions, Decimals and Percentages

In this session you will be recognising simple equivalent fractions and representing them as decimals and percentages.

1. Using your previous knowledge can you convert these decimals into a percentage:

a) 0.25

b) 0.3

c) 0.2

d) 0.5

2. Can you now convert the decimals above into fractions? Remember to *simplify* them, if you can.

3. a) Fill in the rest of the bar model using the fractions below.

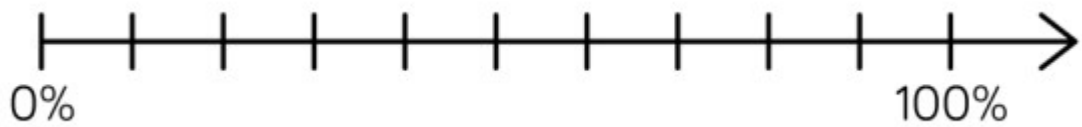
$$\frac{1}{2} \quad \frac{1}{4} \quad \frac{3}{10} \quad \frac{1}{5}$$

10%	10%	10%	10%	10%	10%	10%	10%	10%	10%

b) Using your newly completed bar model can you convert the fractions to percentages?

4. Draw arrows to show the position of each representation on the number line.

- a) 40%
- b) $\frac{4}{5}$
- c) 75%
- d) 0.2
- e) $\frac{1}{4}$






5. Deeper Understanding:

- a) How does this help to convert them to percentages?
- b) Which is closer to 100%, $\frac{4}{5}$ or 50%? How do you know?

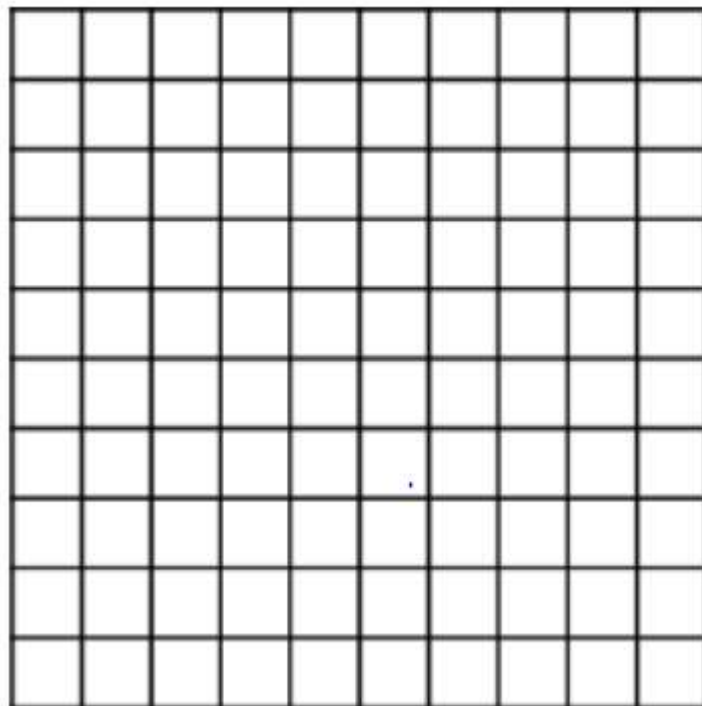
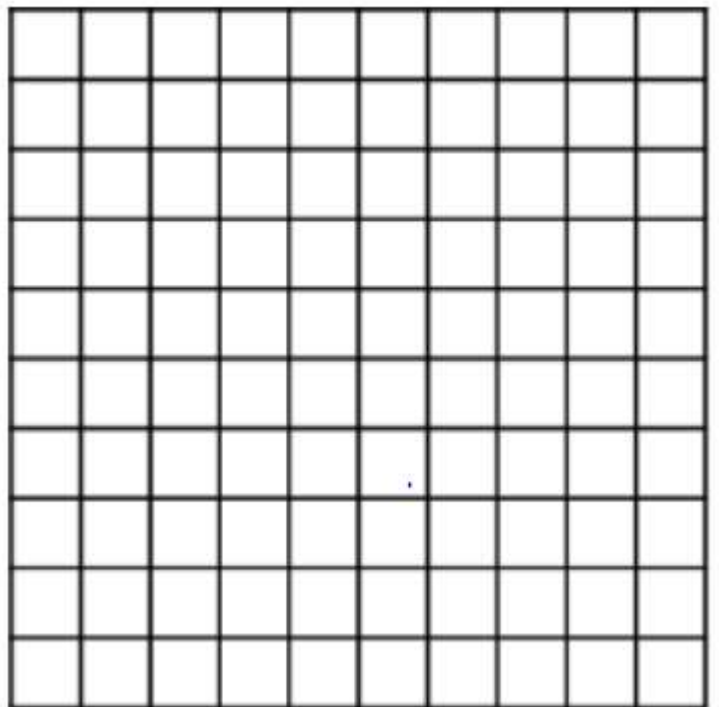
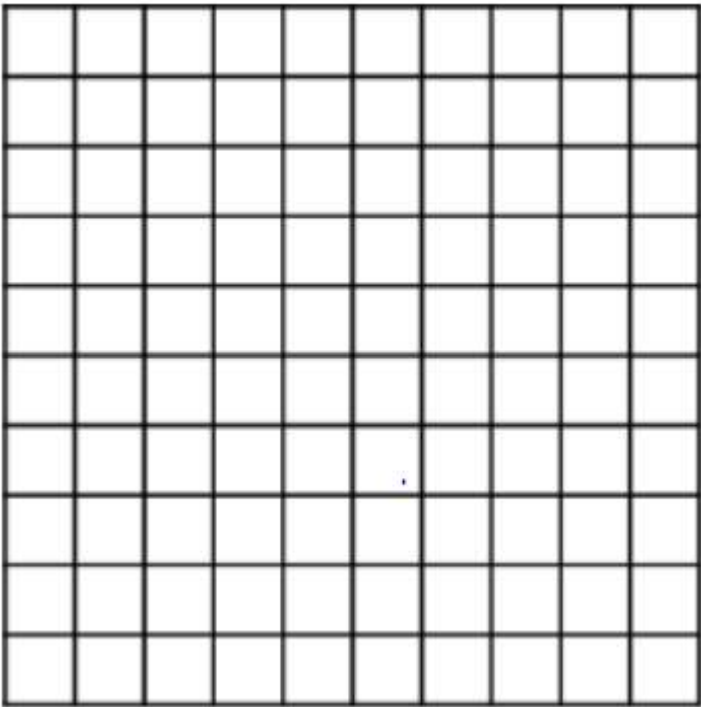
Session Two - Addition with Decimals

In this session you will be using a place value chart and 100 square grid to help you add decimals within 1. Just like when you add whole numbers, you may need to *exchange* tenths, hundredths and thousandths.

1. Use the place value grid to help you solve the questions. You can draw your own place value grid in your book, or use the one below.

Ones	Tenths	Hundredths	Thousandths
			

- a) What decimal is being shown on the place value grid?
 - b) What number is a hundredth more?
 - c) Add 0.3, what number do you have now?
 - d) How many more thousandths can I add before the hundredths digit changes?
 - e) Draw your own place value grid and make the number 0.433.
 - f) How many more hundredths can I add before the tenths digit changes?
2. Each box in the 100 square grid represents a hundredth. By colouring in the squares, use it to solve the following addition calculations. I have provided a square grid for each calculation.
 - a) $0.07 + 0.78 = ?$
 - b) $0.05 + 0.56 = ?$
 - c) $0.09 + 0.78 = ?$



3. Use the column addition method to solve the addition calculations below.

(Top Tip: remember to put the decimal point in before you start adding. This will stop any place value mistakes in its tracks!)

a) $0.07 + 0.78 =$ (double check your answer against your 100 square grid answer)

b) $0.45 + 0.05 =$

c) $0.45 + 0.005 =$

d) $0.76 + 0.07 =$

e) $0.67 + 0.03 =$

Deeper Understanding:

a) How many hundredths can I add before the tenths place changes? Explain why.

b) Why does using column addition help adding decimals?

c) What is the same and what is different?

Session Three - Subtraction with Decimals

In this session you will be subtracting decimals using a place value grid and a number line.

1. Similar to the last session, you will be using this place value chart to solve the subtraction questions. You can draw your own place value chart in your book to help you.

Ones	Tenths	Hundredths	Thousandths

- a) What number is shown on the grid?
 - b) What number is 3 tenths less than the number shown?
 - c) Take-away 0.02. What number do you have now?
 - d) Subtract 5 thousandths. What is the final number?
2. Using a number line (draw it in your book), solve the subtraction by finding the difference. Count up from the smaller decimal to the greater one.

Example:

0.42

0.65

$$0.65 - 0.42 = 0.23$$

a) $0.77 - 0.22 = ?$

b) $0.97 - 0.33 = ?$

c) $0.65 - 0.09 = ?$

3. Deeper Understanding

a) What is one tenth less than one?

b) What is one hundredth less than one?

Show me how you know.


c) I'm taking away tenths, which digit will be affected? Is this always the case?

d) What method do you find the easiest when adding or subtracting with decimals? Why?

Session Four - Reasoning Questions

What mistake has Dora made?

$0.41 + 0.3 = 0.413$



Use at least 2 representations to show why she is incorrect.

Compare the numbers sentences using $<$, $>$ or $=$

$0.7 + 0.03 + 0.001$ $0.07 + 0.3 + 0.1$
 $0.4 + 0.1 + 0.05$ $0.3 + 0.2 + 0.05$

Rosie has some digit cards.

0

1

2

3

4

5

She uses each card once to make a number sentence.

0	.			
0	.			
<div style="text-align: center; margin: 5px 0;">•</div> <div style="text-align: center; border-top: 1px solid black; width: 100%;"></div>				

What is the largest number she can make? What is the smallest?

Here are four calculations.

Which one is the easiest to answer?
Which one is the trickiest to answer?
Explain your choice of order.

$0.45 - 0.3 =$

$0.45 - 0.15 =$

$0.45 - 0.23 =$

$0.45 - 0.18 =$

