Lockdown Learning - DT	
Date	**22.1.21**
Subject/s	**Maths**
Learning Objective	To convert between fractions and decimals

		SA	TA
Success Criteria ✓!▤	I know that the fraction line represents divide by		
	I can use my knowledge of short division (bus stop method)		
	I can convert fractions with different denominators to decimals		
Support	Independent Adult Support ( ) Group Work		

Pre-task

Convert these fractions to decimals

$\frac{3}{4}$ =

$\frac{2}{8}$ =

$\frac{3}{6}$ =

$\frac{7}{12}$ =

$\frac{3}{4}$ = 0.75

$\frac{2}{8}$ = 0.25

$\frac{3}{6}$ = 0.5

$\frac{3}{12}$ = 0.25

Teacher Led

Today we will be converting fractions to decimals, but this time looking at fractions which have a range of denominators.

Because we can't change them to tenths, hundredths or thousandths, we need another method to work them out. We will be using short division (bus stop).

First, let's have a quick reminder of short division without decimals.

Here is 8535 ÷ 3 =   Write the division in the 'bus stop'

I am going to divide each digit in 8535 by 3. First I have done 8 ÷ 3. I know that 2 x 3 = 6, so I write 2 above the 8. There are 2 left over (remainder), so I have exchanged that next to the 5.

Now I need to do 25 ÷ 3. I know that 8 x 3 = 24, so I write 8 above the 5. There is remainder 1, so I exchange that next to the 3.

Now I need to do 13 ÷ 3. I know that 3 x 4 = 12, so I write 4 above the 3. There is 1 remainder, so I exchange that next to the 5.

Finally I need to do 15 ÷ 3 = I know 3 x 5 = 15, so I write 5 above the 5. There is no remainder.

The answer is now on top of the bus stop.

8535 ÷ 3 = 2843

Now, let's try with fractions to decimals.

We need to understand that the fraction line means 'divided by'.

So $\frac{3}{4}$ is the same as 3 ÷ 4.

First, it is important to put the numerator (top number) inside the bus stop. The denominator goes to the left, this is the number we are dividing by.
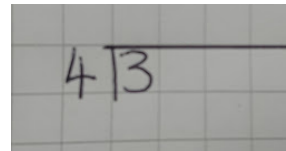
To allow me to do my division, I have written 3 as 3.00. This doesn't change the value at all.

First I will do 3 ÷ 4 = I can't do this, so I write a zero above the 3. I also put a decimal point next to it which lines up with the one inside the bus stop. There is remainder 3, so I exchange this next to the 0.
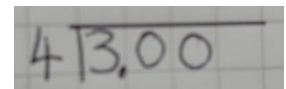
Now I need to do 30 ÷ 4 = I know that 7 x 4 = 28, so I write 7 above the 0. There is remainder 2, so I exchange that with the next 0.

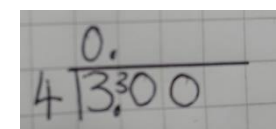Now I need to do 20 ÷ 4 = . I know that 5 x 4 = 20, so I write 5 above the 0.
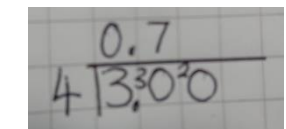
3 ÷ 4 = 0.75 so $\frac{3}{4}$ is equivalent to 0.75
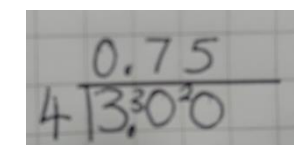
Here's one more example from the pre-task.
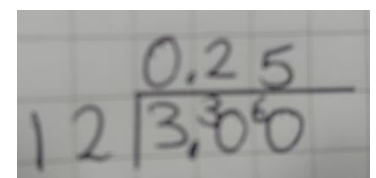
This show's $\frac{3}{12}$ which is the same as 3 ÷ 12.

3 inside the bus stop, 12 to the left.

3 ÷ 12 = can't do it. 3 remainder to exchange.

30 ÷ 12 = 2 r 6. 6 remainder to exchange.

60 ÷ 12 = 5

3 ÷ 12 = 0.25 so $\frac{3}{12}$ is equivalent to 0.25

Fluency

Watch out – some of these will need 3 places after the decimal point.

1. $\frac{4}{10}$
2. $\frac{5}{8}$
3. $\frac{3}{4}$
4. $\frac{1}{5}$
5. $\frac{2}{8}$
6. $\frac{1}{8}$

7. $\frac{9}{12}$
8. $\frac{3}{6}$
9. $\frac{4}{5}$
10. $\frac{1}{4}$
11. $\frac{6}{8}$
12. $\frac{7}{10}$

1) 0.4   2) 0.625   3) 0.75   4) 0.2

5) 0.25   6) 0.125   7) 0.75   8) 0.5

9) 0.8   10) 0.25   11) 0.75   12) 0.7

Problem Solving and Reasoning

Explain it!

True or False?

$$0.3 \text{ is bigger than } \frac{1}{4}$$

Explain your reasoning.

Prove it!

Charlotte and Stephen have both attempted to convert $\frac{2}{8}$ into a decimal.

I converted $\frac{2}{8}$ into 0.25

I converted $\frac{2}{8}$ into 4

Who is correct?
Prove it.

Answers

0.3 is bigger than one quarter because one quarter is equivalent to 0.25	
Charlotte is correct and Stephen is incorrect.

Stephen has divided 8 by 2 rather than 2 divided by 8 to find the answer. | |