Year 6
Maths
Monday 8th June

Lesson Aims

- I can solve calculations involving multiplying and dividing by 10, 100 and 1000.

Fluency Starter

1. 3476 + 1000
2. 5643 + 2000
3. 3234 + 100
4. 7654 + 300
5. 4534 + 400
6. 34563 + 30
7. 56761 + 50
8. 67678 + 300
9. 45676 + 2000
10. 45466 + 4000

Can you explain the easiest way to solve the above calculations?

Fluency Starter Answers

1. 3476 + 1000 = 4476
2. 5643 + 2000 = 7643
3. 3234 + 100 = 3334
4. 7654 + 300 = 7954
5. 4534 + 400 = 4934
6. 34563 + 30 = 34593
7. 56761 + 50 = 56811
8. 67678 + 300 = 67978
9. 45676 + 2000 = 47676
10. 45466 + 4000 = 49466

The easiest way to solve is to think about the value of the digits. In each example only one digit changes. (except 7 where it crosses into the next hundreds)

Main Teaching

We are now going to look at how to multiplying and dividing by 10 , 100 and 1000. Look through the slides and then use the resources to answer the activities.

Main Teaching

Multiplying by 10

To multiply a number by 10 you need to move every digit in the place value chart ONE place to the left. This is because each digit is getting 10 times bigger.

Example : 342 x 10
Write the number in the place value chart as shown below.

M	100^{TH}	10^{TH}	1000	100	10	1	0.1	0.01
				3	4	2		

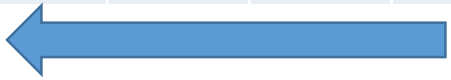
Main Teaching

Multiplying by 10

To multiply a number by 10 you need to move every digit in the place value chart ONE place to the left. This is because each digit is getting 10 times bigger.

Example : 342 x 10
Move each digit 1 place to the left.

M	100TH	10TH	1000	100	10	1	0.1	0.01
				3	4	2		
			3	4	2	0		



Remember the place holder (0) in the final column.
The answer is 3420

Main Teaching

Multiplying by 100

To multiply a number by 100 you need to move every digit in the place value chart TWO places to the left. This is because each digit is getting 100 times bigger.

Example : 342 x 100
Write the number in the place value chart.

M	100^{TH}	10^{TH}	1000	100	10	1	0.1	0.01
				3	4	2		

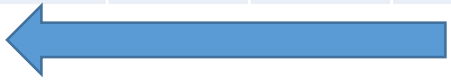
Main Teaching

Multiplying by 100

To multiply a number by 100 you need to move every digit in the place value chart TWO places to the left. This is because each digit is getting 100 times bigger.

Example : 342 x 100
Move each digit 2 place to the left.

M	100^{TH}	10^{TH}	1000	100	10	1	0.1	0.01
				3	4	2		
		3	4	2	0	0		



Remember the place holder (0).
The answer is 34200

Main Teaching

Multiplying by 1000

To multiply a number by 1000 you need to move every digit in the place value chart THREE places to the left. This is because each digit is getting 1000 times bigger.

Example : 342 x 1000
Write the number in the place value chart.

M	100^{TH}	10^{TH}	1000	100	10	1	0.1	0.01
				3	4	2		

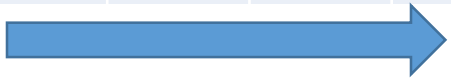
Main Teaching

Dividing by 10

To divide a number by 10 you need to move every digit in the place value chart ONE places to the right. This is because each digit is getting 10 times smaller.

Example : 3420 ÷ 10
Move each digit 1 place to the right.

M	100^{TH}	10^{TH}	1000	100	10	1	0.1	0.01
			3	4	2	0		
				3	4	2	0	



Remember the place holder (0).
The answer is 342.0 or 342

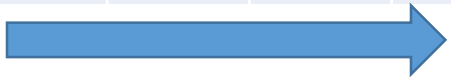
Main Teaching

Dividing by 100

To divide a number by 100 you need to move every digit in the place value chart TWO places to the right. This is because each digit is getting 100 times smaller.

Example : 3420 ÷ 100
Move each digit 2 place to the right.

M	100^{TH}	10^{TH}	1000	100	10	1	0.1	0.01
			3	4	2	0		
					3	4	2	0



Remember the place holder (0).
The answer is 34.20 or 34.2

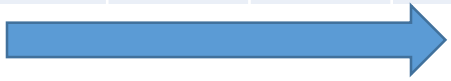
Main Teaching

Dividing by 1000

To divide a number by 1000 you need to move every digit in the place value chart THREE places to the right. This is because each digit is getting 1000 times smaller.

Example : 3420 ÷ 1000
Move each digit 3 place to the right.

M	100^{TH}	10^{TH}	1000	100	10	1	0.1	0.01
			3	4	2	0		
						3	4	2



Remember the place holder (0).
The answer is 3.420 or 3.42

Fluency

Let’s now practice what we have been learning with some simple fluency work. Use the resources on the website to do the fluency work. There is a booklet on multiplication and then one on division.

After you can have a go at the resources attached to this powerpoint if you wish.

Varied Fluency Activity

1a. Circle the correct answer to the following calculation.

34 x 10 =

340 | 3,400

1b. Circle the correct answer to the following calculation.

42 x 10 =

4,200 | 420

2a. Complete the calculation.

☐ = 27 x 1,000

2b. Complete the calculation.

☐ = 81 x 1,000

3a. Look at the number shown below.

Th	H	T	O
	●●	●●	●●

Multiply the number by 10. Draw where the counters will be now.

Th	H	T	O

3b. Look at the number shown below.

Th	H	T	O
		●●●	●

Multiply the number by 10. Draw where the counters will be now.

Th	H	T	O

4a. Complete the calculation.

753 x ☐ = 7,530

4b. Complete the calculation.

194 x ☐ = 19,400

Varied Fluency Activity

5a. Circle the correct answer to the following calculation.

521 x 100 =

5,210	52,100	25,100

5b. Circle the correct answer to the following calculation.

842 x 100 =

8,420	8,240	84,200

6a. Complete the calculation.

☐ = 8,386 x 10

6b. Complete the calculation.

☐ = 4,585 x 10

7a. Look at the number shown below.

Th	H	T	O
	●●●	●●	●

Multiply the number by 10. Draw where the counters will be now.

Th	H	T	O

7b. Look at the number shown below.

Th	H	T	O
	●●	●●●	●●

Multiply the number by 10. Draw where the counters will be now.

Th	H	T	O

8a. Complete the calculation.

3,567 x ☐ = 356,700

8b. Complete the calculation.

8,856 x ☐ = 885,600

Varied Fluency Activity

9a. Circle the correct answer to the following calculation.

7,954 x 10 =

79,540	75,940	7,964

9b. Circle the correct answer to the following calculation.

9,365 x 10 =

93,560	93,650	9,375

10a. Complete the calculation.

☐ = 85,276 x 1,000

10b. Complete the calculation.

☐ = 39,356 x 1,000

11a. Look at the number shown below.

TTh	Th	H	T	O
		●●	●	●●

Multiply the number by 100. Draw where the counters will be now.

TTh	Th	H	T	O

11b. Look at the number shown below.

TTh	Th	H	T	O
		●●●	●●	●

Multiply the number by 100. Draw where the counters will be now.

TTh	Th	H	T	O

12a. Complete the calculation.

93,245 x ☐ = 932,450

12b. Complete the calculation.

26,395 x ☐ = 2,639,500

Varied Fluency Answers

Now mark your work.

1a. 340
1b. 420
2a. 27,000
2b. 81,000
3a. 2,220
3b. 3,010
4a. 10
4b. 100

MILD

5a. 52,100
5b. 84,200
6a. 83,860
6b. 45,850
7a. 3,210
7b. 2,320
8a. 100
8b. 100

MEDIUM

9a. 79,540
9b. 93,650
10a. 85,276,000
10b. 39,356,000
11a. 21,200
11b. 32,100
12a. 10
12b. 100

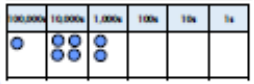
SPICY

Extra Work

5a. Divide the numbers in the place value chart by 100, then match each to the correct answer.

a 

b 

c 

1,420

3,120

142

5b. Divide the numbers in the place value chart by 100, then match each to the correct answer.

a 

b 

c 

1,320

1,132

253

6a. Use a place value chart to calculate the following:

a) 11,430 ÷ 10 =

b) 313,700 ÷ 100 =

6b. Use a place value chart to calculate the following:

a) 237,000 ÷ 1,000 =

b) 52,400 ÷ 100 =

7a. Complete the table.

	÷ 10	÷ 100	÷ 1,000
24,000			
14,000			
19,000			

7b. Complete the table.

	÷ 10	÷ 100	÷ 1,000
73,000			
54,000			
28,000			

8a. True or false? The following calculations both give an answer of 530.

53,000 ÷ 100 =

53,000 ÷ 10 ÷ 10 =

8b. True or false? The following calculations both give an answer of 471.

471,000 ÷ 1000 =

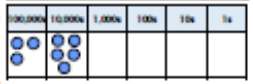
471,000 ÷ 10 ÷ 10 =

Extra Work

9a. Divide the numbers in the place value chart by 1000, then match each to the correct answer.

a 

b 

c 

350

242

531

9b. Divide the numbers in the place value chart by 1000, then match each to the correct answer.

a 

b 

c 

152

403

332

10a. Use a place value chart to calculate the following:

a) 632,200 ÷ 100 =

b) 193,000 ÷ 1000 =

10b. Use a place value chart to calculate the following:

a) 965,000 ÷ 1,000 =

b) 341,800 ÷ 100 =

11a. Complete the table.

	÷ 10	÷ 100	÷ 1,000
1,743,000			
835,000			
2,319,000			

11b. Complete the table.

	÷ 10	÷ 100	÷ 1,000
663,000			
1,471,000			
542,000			

12a. True or false? The following calculations both give an answer of 1,832.

1,832,000 ÷ 1000 =

183,200 ÷ 10 ÷ 10 =

12b. True or false? The following calculations both give an answer of 5,327.

5,327,000 ÷ 100 =

5,327,000 ÷ 100 ÷ 10 =

Review

Expected

5a. A-3,120, B-142, C-1,420

6a. A = 1,143, B = 3,137

7a. 24,000 – 2,400, 240, 24; 14,000 – 1,400, 140, 14; 19,000 – 1,900, 190, 19.

8a. True – 53,000 ÷ 100 = 530, 53,000 ÷ 10 ÷ 10 = 530

Greater Depth

9a. A-531, B-242, C-350

10a. A = 6,322, B = 193

11a. 1,743,000 – 174,300, 17,430, 1,743; 835,000 – 83,500, 8,350, 835; 2,319,000 – 231,900, 23,190, 2,319.

12a. True – 1,832,000 ÷ 1000 = 1,832, 183,200 ÷ 10 ÷ 10 = 1,832

Expected

5b. A-253, B-1,320, C-1,132

6b. A = 237, B = 524

7b. 73,000 – 7,300, 730, 73; 54,000 – 5,400, 540, 54; 28,000 – 2,800, 280, 28.

8b. False – 471,000 ÷ 1000 = 471, 471,000 ÷ 10 ÷ 10 = 4,710

Greater Depth

9b. A-152, B-332, C-403

10b. A = 965, B = 3,418

11b. 663,000 – 66,300, 6,630, 663; 1,471,000 – 147,100, 14,710, 1,471; 542,000 – 54,200, 5,420, 542.

12b. False – 5,327,000 ÷ 100 = 53,270, 5,327,000 ÷ 100 ÷ 10 = 5,327

Review

What have you learnt today?

How do you multiply and divide a number by 10, 100 and 1000?

Explain to someone else.