



# Key Instant Recall Facts (KIRFs)

Year 5 Spring term 2

## I can multiply and divide whole numbers by 10 and 100.

When multiplying and dividing by 10 and 100, it's important that the children understand that the digits move and why, rather than memorising the trick of 'adding or removing zeros' as this trick doesn't work for decimal numbers.

### Multiplying by 10

Each digit moves one column to the left into the column with a greater value. Ones become 10x larger: tens. Tens become 10x larger: hundreds.  $37 \times 10 = 370$

H	T	O
	3	7
3	7	0

### Dividing by 10

Each digit moves one column to the right into the column with a smaller value. Tens become 10x smaller: ones. Ones become 10x smaller: tenths.

$$570 \div 10 = 57$$

$$57 \div 10 = 5.7$$

H	T	O
5	7	0
	5	7

T	O	t
5	7	0
	5	7

### Multiplying by 100

Each digit moves two columns to the left into the column with a greater value. Ones become 100x larger: hundreds. Tens become 100x larger: thousands.

$$37 \times 100 = 3700$$

Th	H	T	O
		3	7
3	7	0	0

### Dividing by 100

Each digit moves two columns to the right into the column with a smaller value. Thousands become 100x smaller: tens. Hundreds become 100x smaller: ones.

$$5700 \div 100 = 57$$

$$57 \div 100 = 0.57$$

Th	H	T	O
5	7	0	0
		5	7

T	O	t	th
5	7	0	0
	0	5	7

### Questions

Where do the digits move to when multiplying by 10? Why?

What happens to the digits when dividing by 100? Why?

Spot the mistakes:

$$56 \times 10 = 506$$

$$89 \div 10 = 8$$

$$3040 \div 100 = 3.4$$