

Concrete

Pictorial

What can this look like?

Use the place value grid to multiply 3.24 by 10, 100 and 1,000

Thousands	Hundreds	Tens	Ones	Tenths	Hundredths
			3	2	4

When you multiply by ____, you move the counters ____ places to the left.

Abstract

	$\times 10$	$\times 100$	$\times 1000$
5.7	57	570	5700
23.02	230.2	2302	23 020
0.92	9.2	92	920
0.306	3.06	30.6	306
24.67	246.7	2467	24 670

Pictorial

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			2	0	8	
		2	0	8		
			2	0	8	

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
4	3	5	0			
		4	3	5		

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			1	3	5	1
1	3	5	1			
			1	3	5	1

Top tips

When multiplying move ALL the digits to the left, $\times 10$ by 1 space, $\times 100$ 2 spaces, $\times 1000$ 3 spaces. We NEVER just add a zero!

When dividing move ALL the digits to the right. When $\div 10$, 1 space, when $\div 100$, 2 spaces, when $\div 1000$, 3 spaces.

Fill any place holder gaps with a zero!

Things to try

<https://mathsframe.co.uk/en/resources/category/372/identify-the-value-of-each-digit-to-three-decimal-places-and-multiply-and-divide-numbers-by-10-100-and-1000-where-the-answers-are-up-to-three-decimal-places>

<https://mathsbot.com/tools/placeValue>

<https://wordwall.net/resource/43841/maths/multiply-by-10-100-1000-tiles-2>

Key vocabulary

Decimal place

Tenths

Hundredths

Thousandths

Place holder