

# M1h: Can use place value to divide decimal numbers by 10, 100 or 1000

Commissioned by The PiXL Club Ltd.  
July 2018

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# Vocabulary: dividing decimal numbers

place value  
columns  
divide  
place holder  
times as small



Teacher's Note:  
See 'Vocabulary Shorts' resource below for  
ideas and games to develop and embed  
vocabulary.

[Vocabulary Shorts](#)

# Can use place value to divide decimal numbers by 10, 100 or 1000

Remember the **place value** of digits in whole numbers and decimals:-

Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
			0	.	0	0	7
			0	.	0	3	7
			0	.	4	3	7
			3	.	4	3	7
		6	3	.	4	3	7
	9	6	3	.	4	3	7
8	9	6	3	.	4	3	7



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Let's remind ourselves of the rules for  
dividing whole numbers....

Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths

# Can use place value to divide decimal numbers by 10, 100 or 1000

When we divide **whole numbers** by 10, 100 and 1000, we move each digit to the **right** to **reduce the value**.



Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
2	4	0	0	.			
	2	4	0	.			
		2	4	.			
			2	.	4		

When we divide by **10**, each digit moves **one** place to the **right**.

When we are dividing by **100**, each digit moves **two** places to the **right**.

When we are dividing by **1000**, each digit moves **three** places to the right.



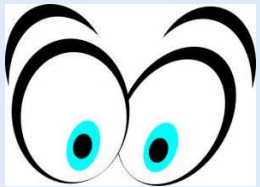




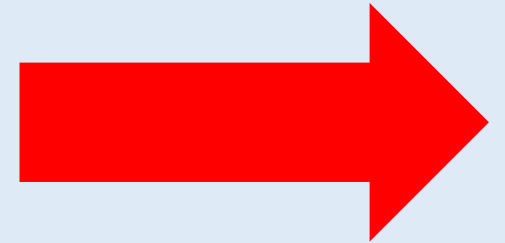


# Can use place value to divide decimal numbers by 10, 100 or 1000

## Dividing decimal numbers



What is 27.4 divided by 10, 100 and 1000?



Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths	Ten Thousandths
	2	7	.	4			
		2	.	7	4		
		0	.	2	7	4	
		0	.	0	2	7	4

$$27.4 \div 10 = 2.74$$

$$27.4 \div 100 = 0.274$$

$$27.4 \div 1000 = 0.0274$$

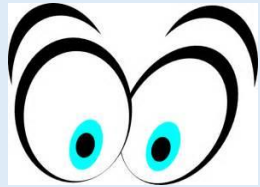
# Reasoning

Show me a number that when divided by 100 gives an answer less than 2.5.



# Can use place value to divide decimal numbers by 10, 100 or 1000

## Dividing decimal numbers



What is 615.3 divided by 10, 100 and 1000?



Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths	Ten Thousandths
6	1	5	.	3			
	6	1	.	5	3		
		6	.	1	5	3	
		0	.	6	1	5	3

$$615.3 \div 10 = 61.53$$

$$615.3 \div 100 = 6.153$$

$$615.3 \div 1000 = 0.6153$$

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## Top Tip

Remember:-

- Dividing by 100 is the same as dividing by 10 and 10 again.
- Dividing by 1000 is the same as dividing by 10, 10 and 10 again or 100 and 10.

Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths



# Problem Solving

I divide a number by 10 and then again by 10. My answer is 0.3. What was my starting number?



# Reasoning

Explain how you would multiply a decimal by 10 and divide a decimal by 100.



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Further links:

M1a, M1b, M1g, Interactive resources – Multiplying and  
Dividing by 10, 100