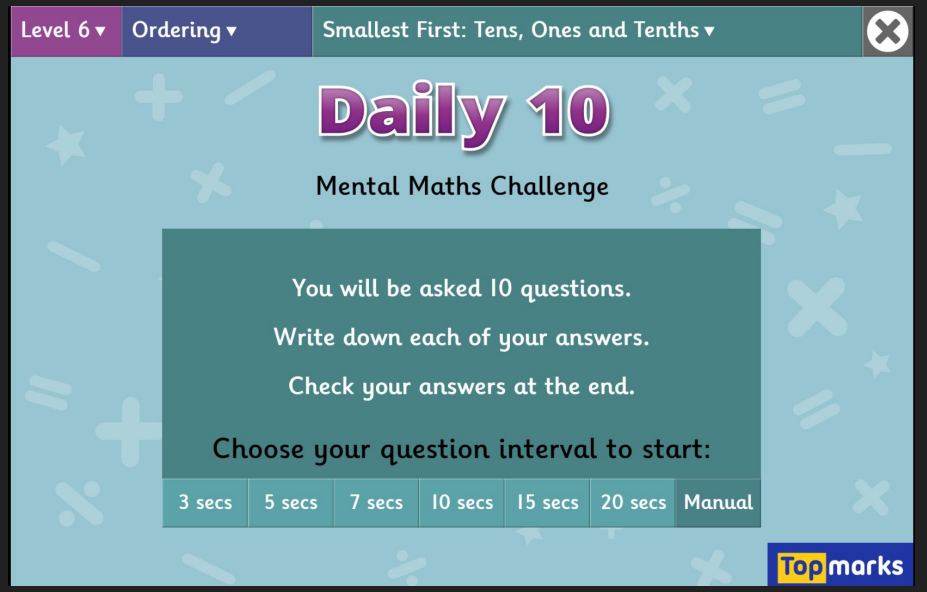
LO: multiply by 10, 100 and 1000.

7.01.21

Daily 10

Level 6
Ordering
Smallest First: Tens, Ones and Tenths.



Place value chart

H	T	O	Tth	Hth	Thth

Use this place value chart to help you work out your answers.

Warm up

1) $32 \times 10 =$

$32 \times 100 =$

$32 \times 1{,}000 =$

2) 

$\times \quad 100 \quad =$

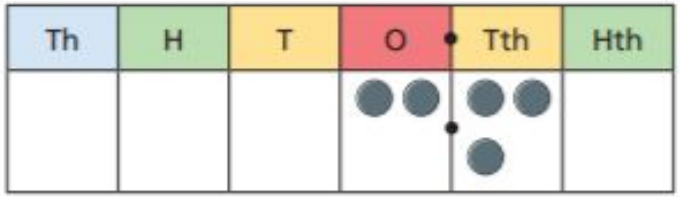
3)

?									
97	97	97	97	97	97	97	97	97	97

Warm up

1 Complete the calculations and sentences.

Use place value counters to help you.



a) 2.3 × 10 = ☐

When the number is multiplied by 10 the counters move ☐ place to the left.

b) 2.3 × 100 = ☐

When the number is multiplied by 100 the counters move ☐ places to the left.

c) 2.3 × 1,000 = ☐

When the number is multiplied by 1,000 the counters move ☐ places to the left.

Warm up

4.4 × 1

Th	H	T	O	Tth	Hth

4.4 × 10

Th	H	T	O	Tth	Hth

4.4 × 100

Th	H	T	O	Tth	Hth

4.4 × 1,000

Th	H	T	O	Tth	Hth

b) Complete the calculations.

4.4 × 1 = ☐

4.4 × 10 = ☐

4.4 × 100 = ☐

4.4 × 1,000 = ☐

What do you notice?

You will have discovered the rules by now for multiplying by 10, 100 and 1000. Read the sentence stems and learn them off by heart. They will help you answer your questions today.

$2.3 \times \square = 230$ Have a think

Th	H	T	O	tth	hth
			●●	●●●	
			2	3	

When the number is multiplied by 10 the counters move
__1__ place to the __left__.

When the number is multiplied by 100 the counters move
__2__ places to the __left__.

When the number is multiplied by 1,000 the counters move
__3__ places to the __left__.

Our task

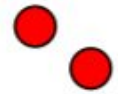
Have a go at answering the questions.

Remember to use your place value chart to help you.

H	T	O	Tth	Hth	Thth

Varied Fluency

Identify the number represented on the place value chart.

Thousands	Hundreds	Tens	Ones	Tenths	Hundredths
					

Multiply it by 10, 100 and 1,000 and complete the sentence stem for each.

When multiplied by ____ the counters move ____ places to the _____.

Use a place value chart to multiply the following decimals by 10, 100 and 1,000

6.4 6.04 6.004

Fill in the missing numbers in these calculations

$32.4 \times \square = 324$ $1.562 \times 1{,}000 = \square$

$\square \times 100 = 208$ $4.3 \times \square = 86$

15

Your task

Multiply by 10.

1) 0.4
2) 3.9
3) 21.6
4) 0.2
5) 10.7
6) 9.5
7) 0.12
8) 35.8
9) 4.35
10) 0.6
11) 17.41
12) 40.9

Multiply by 100.

1) 0.9
2) 5.38
3) 71.6
4) 0.44
5) 2.1
6) 0.05
7) 4.76
8) 9.032
9) 0.5
10) 10.891
11) 23.07
12) 0.255

Multiply by 1000.

1) 0.06
2) 0.309
3) 2.8
4) 1.43
5) 0.071
6) 0.02
7) 10.5
8) 6.7
9) 0.14
10) 0.558
11) 2.06
12) 0.009

Problem solving

There are two problems to solve.
You need to answer one of them. You can choose which problem you would like to have a go at.

Problem solving

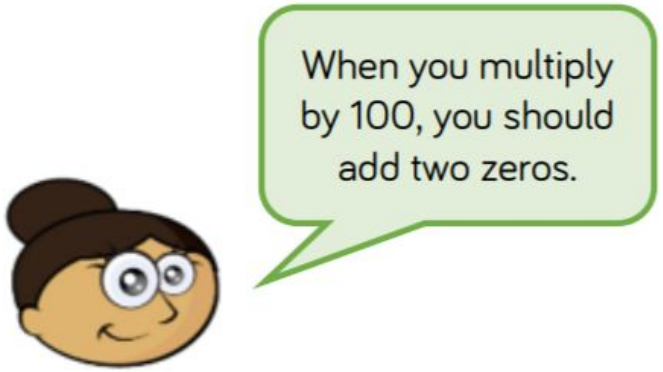
Dora says,

When you multiply by 100, you should add two zeros.

Do you agree?
Explain your thinking.

Problem solving

Dora says,



Do you agree?
Explain your thinking.

Children should explain that when you multiply by 100 the digits move two places to the left.

For example:
$0.34 \times 100 =$ 0.3400 is incorrect as 0.34 is the same as 0.3400
Also:
$0.34 + 0 + 0 =$ 0.34

Children show $0.34 \times 100 = 34$

Problem solving

Using the digit cards 0-9 create a number with up to 3 decimal places e.g. 3.451

Cover the number using counters on your Gattegno chart.

10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000
1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009

Explore what happens when you multiply your number by 10, then 100, then 1,000

What patterns do you notice?

In the video it explained what a Gattegno chart is. You may find it useful to watch the video again before you start this problem.

Using the digit cards 0-9 create a number with up to 3 decimal places e.g. 3.451

Cover the number using counters on your Gattegno chart.

10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000
1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009

Explore what happens when you multiply your number by 10, then 100, then 1,000

What patterns do you notice?

Children will be able to see how the counter will move up a row for multiplying by 10, two rows for 100 and three rows for 1,000. They can see that this happens to each digit regardless of the value.

For example, 3.451×10 becomes 34.51

Each counter moves up a row but stays in the same column.

Plenary

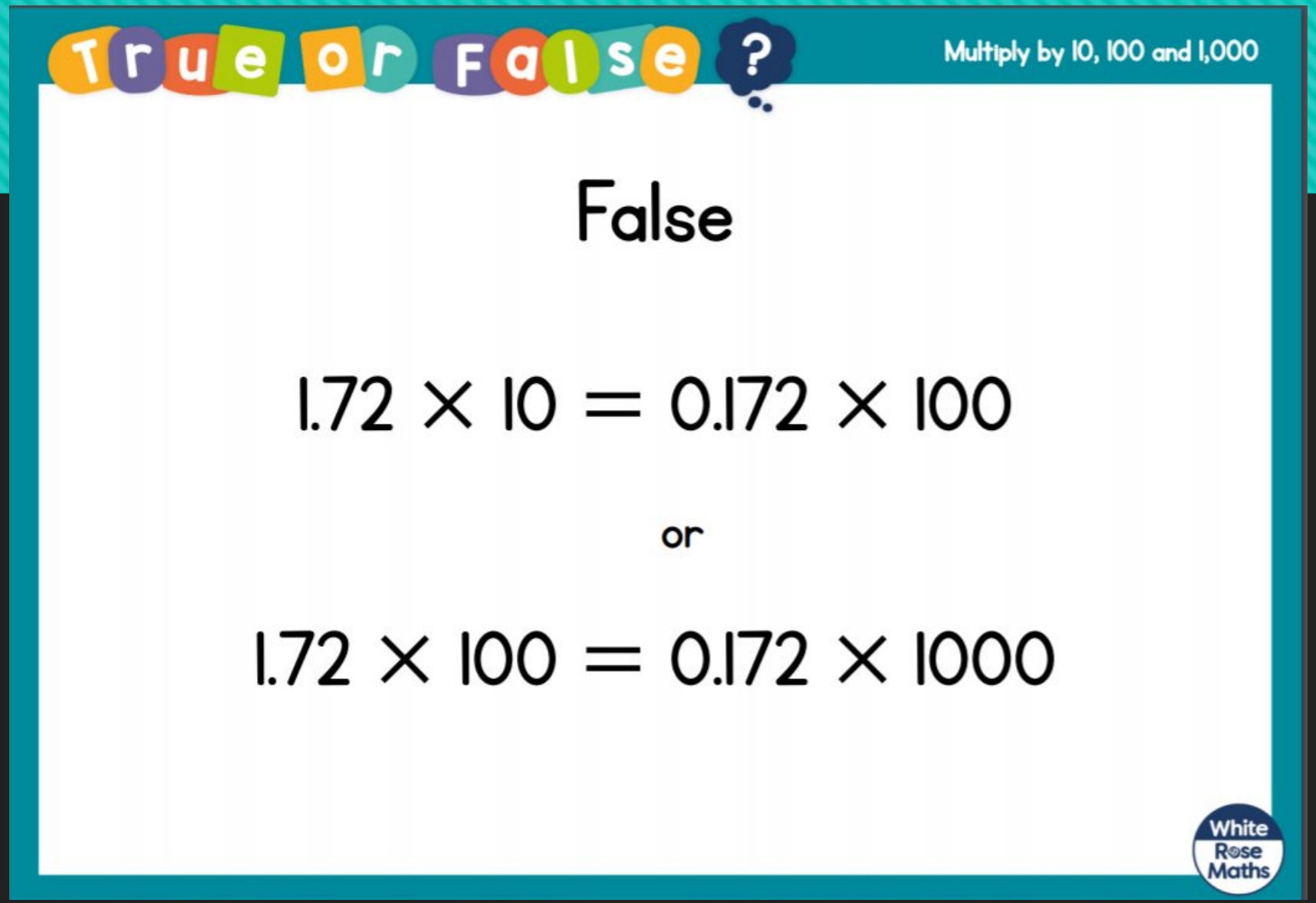
True or False?

Multiply by 10, 100 and 1,000

$$1.72 \times 10 = 0.172 \times 1000$$

White Rose Maths

Plenary


True or False ?
Multiply by 10, 100 and 1,000
False
1.72 × 10 = 0.172 × 100
or
1.72 × 100 = 0.172 × 1000
White Rose Maths