Slide 1

To be able to multiply numbers with up to three decimal places by 10, 100 and 1,000

MathShed

Starter:

If the following are the second and third steps in a sequence, what would the first and fourth steps be? Write each representation as a number too!

thousands	hundreds	tens	ones	tenths	hundredths	thousandths
		⬤ ⬤	⬤			
	⬤ ⬤	⬤				

Slide 2

To be able to multiply numbers with up to three decimal places by 10, 100 and 1,000

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Activity 1:

Multiply the number below by 10, 100 and 1,000. Complete the sentences below:

thousands	hundreds	tens	ones	tenths	hundredths	thousandths
			⬤ ⬤ ⬤ ⬤	⬤ ⬤		

- The number shown in the place value chart at the start is _
- When multiplying by 10, the counters move _ places to the left to make _
- When multiplying by 100, the counters move _ places to the left to make _
- When multiplying by 1,000, the counters move _ places to the left to make _

Slide 3

To be able to multiply numbers with up to three decimal places by 10, 100 and 1,000

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Activity 2:

Use a place value chart to calculate the following:

a) 3.5 x 100 =
b) 3.5 x 10 =
c) 3.5 x 1,000 =
d) 5.03 x 10 =
e) 5.03 x 1,000 =
f) 5.03 x 100 =
g) 7.005 x 1,000 =
h) 7.005 x 10 =
i) 7.005 x 100 =

thousands	hundreds	tens	ones	tenths	hundredths	thousandths
			⬤ ⬤		⬤	
		⬤ ⬤		⬤		
		⬤ ⬤		⬤		
⬤ ⬤		⬤				

thousands	hundreds	tens	ones	tenths	hundredths	thousandths
			2	0	1	
		2	0	1		
2	0	1	0			

Slide 4

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Activity 3:

Fill in the blank within the number sentence below:

6.3 x ___ = 630	53.07 x 10 = ___	___ x 100 = 4,060
4.03 x 10 = ___	___ x 1,000 = 3,050	___ x 100 = 500.7
5.03 x ___ = 5,030	8.04 x 1,000 = ___	9.705 x ___ = 9,705
___ x 100 = 530.01	0.12 x 40 = ___	___ x 30 = 63

Slide 5

To be able to multiply numbers with up to three decimal places by 10, 100 and 1,000
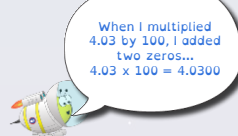
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Activity 4:

Use the Gattegno chart below (by covering the spaces representing each digit) to create numbers with three decimal places, then multiply them by 10, 100 and 1,000. What do you notice? Discuss with your partner!

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

Slide 6

To be able to multiply numbers with up to three decimal places by 10, 100 and 1,000

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Evaluation:

When I multiplied 4.03 by 100, I added two zeros...
4.03 x 100 = 4.0300

Do you agree?
Explain your answer.