Multiply by 10, 100 and 1,000

1 Complete the calculations and sentences.

Use place value counters to help you.

Th	H	T	O	Tth	Hth

a) $2.3 \times 10 =$ ⬜

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

b) $2.3 \times 100 =$ ⬜

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

c) $2.3 \times 1,000 =$ ⬜

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

2 Complete the diagram.

3.06 → × 10 → ⬜ → × 10 → ⬜

3 a) Draw counters on the place value charts to represent each calculation.

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

$4.4 \times 1,000$

Th	H	T	O	Tth	Hth

b) Complete the calculations.

$4.4 \times 1 =$ ⬜

$4.4 \times 10 =$ ⬜

$4.4 \times 100 =$ ⬜

$4.4 \times 1,000 =$ ⬜

What do you notice?

4 Complete the calculations.

a) $13.44 \times 10 = \boxed{}$

d) $4.4 \times \boxed{} = 4{,}400$

b) $41.4 \times 100 = \boxed{}$

e) $\boxed{} = 1.03 \times 100$

c) $0.415 \times 1{,}000 = \boxed{}$

f) $30.44 = \boxed{} \times 10$

5 Complete the diagrams.

$\boxed{7.039} \xrightarrow{\times 10} \boxed{} \xrightarrow{\times 10} \boxed{} \xrightarrow{\times 10} \boxed{}$

$\boxed{7.039} \xrightarrow{\times 100} \boxed{} \xrightarrow{\times 10} \boxed{}$

$\boxed{7.039} \xrightarrow{\times 1{,}000} \boxed{}$
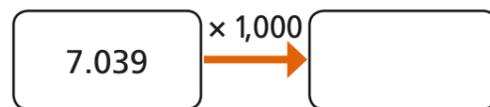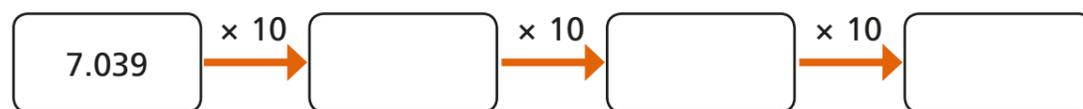
What do you notice? Why does this happen?

_____

_____

_____

_____

6 Write >, < or = to compare the number sentences.

$1.4 \times 10 \times 10 \times 10$ ◯ $1.4 \times 1{,}000$

$1.4 \times 10 \times 100$ ◯ $1.4 \times 1{,}000$

$1.4 \times 10 \times 10$ ◯ $1.4 \times 1{,}000$

$1.4 \times 10 \times 2$ ◯ 1.4×100

7 Kim is calculating 14.3×200

She writes this as her answer.

$$14.3 \times 200 = 28.600$$

Explain Kim's mistake.

_____

_____

_____

8 Use the cards to complete the calculation.

You can use each card more than once.

$\boxed{\times 1}$ $\boxed{\times 10}$ $\boxed{\times 100}$ $\boxed{\times 1{,}000}$

$0.002 \boxed{} \boxed{} \boxed{} = 2{,}000$

How many ways is it possible to complete this calculation?

Talk about it with a partner.