



Week 2

Key Instant Recall Facts

Year 6 – Spring 1

I can convert between decimals, fractions and percentages.

$$\frac{1}{2} = 0.5$$

$$\frac{1}{4} = 0.25$$

$$\frac{3}{4} = 0.75$$

$$\frac{1}{10} = 0.1$$

$$\frac{1}{5} = 0.2$$

$$\frac{3}{5} = 0.6$$

$$\frac{9}{10} = 0.9$$

$$\frac{1}{100} = 0.01$$

$$\frac{7}{100} = 0.07$$

$$\frac{21}{100} = 0.21$$

$$\frac{75}{100} = 0.75$$

$$\frac{99}{100} = 0.99$$

Key Vocabulary

How many **tenths** is 0.8?

How many **hundredths** is 0.12?

Write 0.75 as a **fraction**?

Write $\frac{1}{4}$ as a **decimal**?

Mon

Match the following decimal numbers, percentages and fractions.

0.3	50%	$\frac{2}{5}$	0.25	$\frac{1}{2}$	12.5%
0.5	40%	$\frac{1}{5}$	0.375	$\frac{1}{8}$	50%
0.4	70%	$\frac{7}{10}$	0.75	$\frac{7}{8}$	87.5%
0.7	20%	$\frac{1}{2}$	0.5	$\frac{3}{8}$	25%
0.9	30%	$\frac{9}{10}$	0.125	$\frac{1}{4}$	75%
0.2	90%	$\frac{3}{10}$	0.875	$\frac{3}{4}$	37.5%

RECALL

1) $35 \times 10 =$

2) $0.54 \times 100 =$

3) $1.403 \times 1000 =$

4) $29.02 \times 100 =$

5) $350 \div 10 =$

1) $473 \div 1000 =$

2) $0.036 \times 10 =$

3) $32.5 \div 100 =$

4) $203 \div 1000 =$

5) $102.02 \times 1000 =$

RECALL

1) $35 \times 10 = 350$

2) $0.54 \times 100 = 54$

3) $1.403 \times 1000 = 1403$

4) $29.02 \times 100 = 2902$

5) $350 \div 10 = 35$

1) $473 \div 1000 = 0.473$

2) $0.036 \times 10 = 0.36$

3) $32.5 \div 100 = 0.325$

4) $203 \div 1000 = 0.203$

5) $102.02 \times 1000 = 102,020$

L.O. - TO MULTIPLY DECIMALS BY INTEGERS

- **Some will even** be able to multiply decimals by decimals and explain how it works
- **Some will** be able to predict and explain what will happen to the answer
- **Most will** be able to use long multiplication to answer calculations
- **All will** be able to use a place value chart to answer multiplying decimals by integers

GUIDED PRACTICE – MY TURN



One can has the volume 0.35 litres.

1) What is the total volume of the 4 drinks cans?

2) What is the total volume of 50 cans?



help

Use a written method of place value chart to help you calculate.



How many different ways can you calculate part 2)?

GUIDED PRACTICE – OUR TURN



One can has the volume 0.35 litres.

1) What is the total volume of the 4 drinks cans?

2) What is the total volume of 50 cans?



help

Use a written method of place value chart to help you calculate.



How many different ways can you calculate part 2)?

GUIDED PRACTICE – YOUR TURN



One can has the volume 0.45 litres.

- 1) What is the total volume of the 4 drinks cans?
- 2) What is the total volume of 30 cans?



help

Use a written method of place value chart to help you calculate.



How many different ways can you calculate part 2)?

$32 \times 2 =$

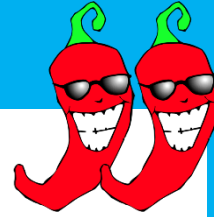


$3.2 \times 2 =$

$0.32 \times 2 =$

$0.032 \times 2 =$

$2.1 \times 5 =$

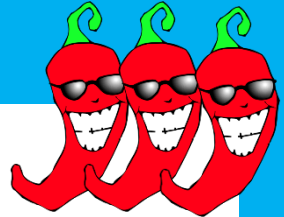


$3.4 \times 5 =$

$3.2 \times 5 =$

$0.06 \times 5 =$

$8.1 \times 2 =$



$8.1 \times 4 =$

$8.1 \times 8 =$

$8.1 \times 6 =$



$1) 10.8 \times 6 =$

$2) 0.075 \times 8 =$

$3) 12.3 \times 1.7 =$



$$32 \times 2 = 64$$

$$3.2 \times 2 = 6.4$$

$$0.32 \times 2 = 0.64$$

$$0.032 \times 2 = 0.064$$



$$2.1 \times 5 = 10.5$$

$$3.4 \times 5 = 17$$

$$3.2 \times 5 = 16$$

$$0.06 \times 5 = 0.3$$



$$8.1 \times 2 = 16.2$$

$$8.1 \times 4 = 32.4$$

$$8.1 \times 8 = 64.8$$

$$8.1 \times 6 = 48.6$$



- 1) $10.8 \times 6 = 60 + 4.8 = 64.8$
- 2) $0.075 \times 8 = 0.56 + 0.04 = 0.6$
- 3) $12.3 \times 1.7 = 123 \times 17 = 1700 + 340 + 51 = 20.91$



DIVE DEEPER 1

1) Use the place value counters shown to solve these calculations.

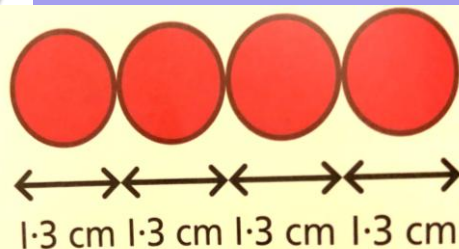
$$3.2 \times 3 =$$

Ones	Tenths
1 1 1	0.1 0.1
1 1 1	0.1 0.1
1 1 1	0.1 0.1

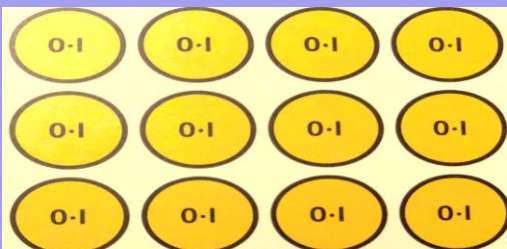
$$4.6 \times 2 =$$

Ones	Tenths
1 1 1 1	0.1 0.1 0.1 0.1 0.1
1 1 1 1	0.1 0.1 0.1 0.1 0.1

3)



$$\square \times \square = \square$$



$$\square \times \square = \square$$

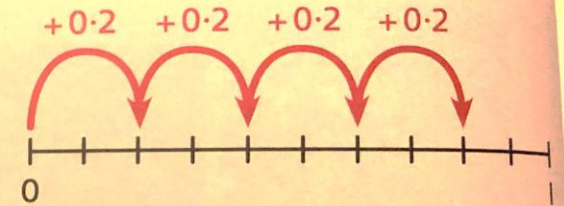
2)

Write and complete a multiplication for each model.

a)

T	O	.	Tth
			0.1 0.1 0.1
			0.1 0.1 0.1

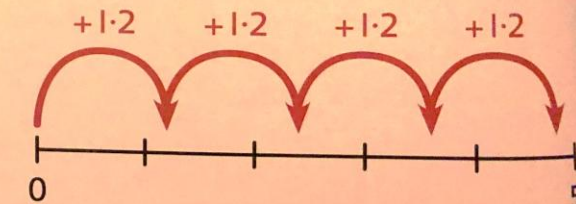
c)



b)

T	O	.	Tth	Hth
				0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01

d)



4)

a) Complete these sets of multiplications.

$$2 \times 3 = 6$$

$$0.2 \times 3 = 0.6$$

$$0.02 \times 3 = \square$$

$$2 \times 0.3 = \square$$

$$2 \times 0.03 = \square$$

$$20 \times 3 = \square$$

$$20 \times 0.3 = \square$$

$$20 \times 0.03 = \square$$

$$200 \times 0.3 = \square$$

$$2,000 \times 0.03 = \square$$

CHALLENGE

b) Explain how the answers are related.

c) Explain why some of the calculations have the same answer.



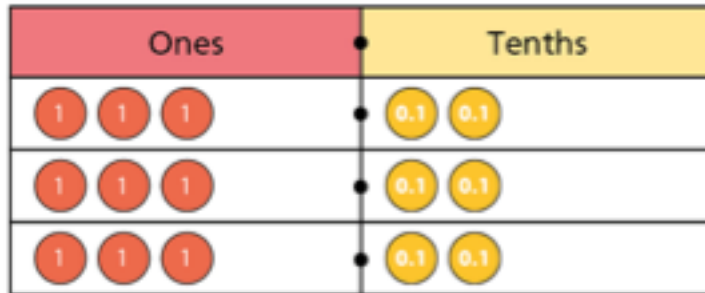
DIVE DEEPER 1



1) Use the place value counters shown to solve these calculations.

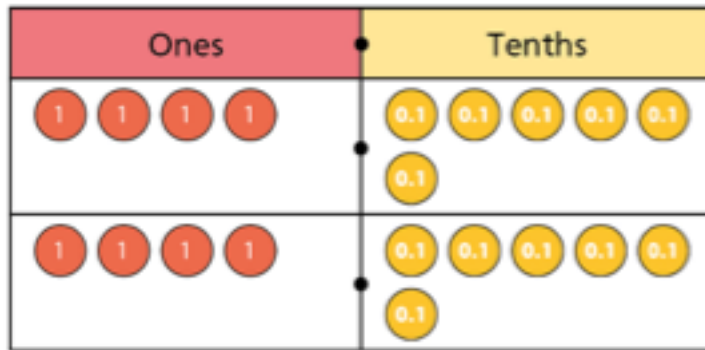
$$3.2 \times 3 =$$

$$9.6$$

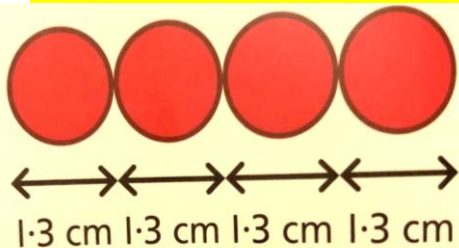


$$4.6 \times 2 =$$

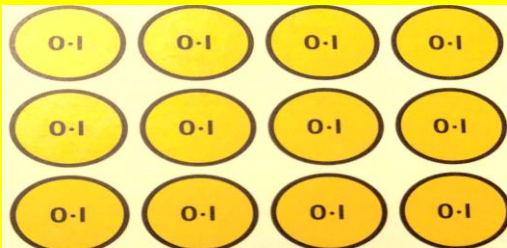
$$9.2$$



3)



$$1.3 \times 4 = 5.2$$

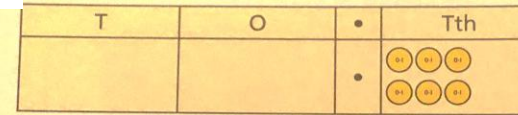


$$0.1 \times 12 = 1.2$$

2)

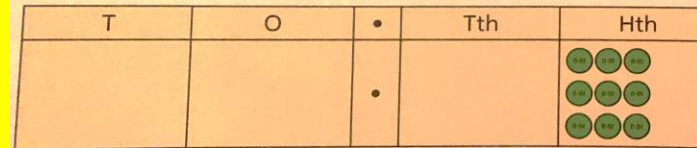
Write and complete a multiplication for each model.

a)



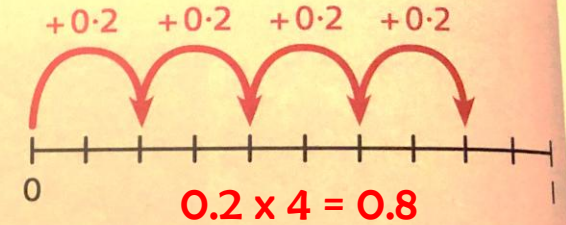
$$0.3 \times 2 = 0.6$$

b)

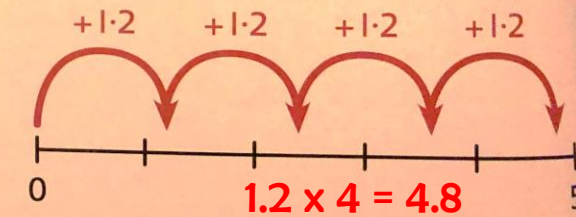


$$0.03 \times 3 = 0.09$$

c)



d)



4)

a) Complete these sets of multiplications.

$$2 \times 3 = 6$$

$$20 \times 3 = \boxed{60}$$

$$0.2 \times 3 = 0.6$$

$$20 \times 0.3 = \boxed{6.0}$$

$$0.02 \times 3 = \boxed{0.06}$$

$$20 \times 0.03 = \boxed{0.6}$$

$$2 \times 0.3 = \boxed{0.6}$$

$$200 \times 0.3 = \boxed{60}$$

$$2 \times 0.03 = \boxed{0.06}$$

$$2,000 \times 0.03 = \boxed{60}$$



b) Explain how the answers are related.

c) Explain why some of the calculations have the same answer.

5)

Predict which multiplication will give the greatest and the smallest **products**.

Complete each calculation to check.

The answer to a multiplication is called the **product**.

12×0.3

0.02×32

21×0.04



7) Use the digits 1, 2, 3 and 4 once each to create a calculation.

___ . ___ x ___

- How many different products can you make?
- What is the greatest possible product?

- How tall is each fence panel?
- The panel is 1.2m wide. The whole fence will be made up of 16 panels. How long will the whole fence be?
- What is the area of one fence panel?
- What is the total area of the fence?

DIVE DEEPER 2



6)

Use the known fact to calculate the other multiplications.

$a) 1.8 \times 4 = \square$

$c) 180 \times 0.4 = \square$

$b) 18 \times 0.4 = \square$

$d) 18 \times 0.04 = \square$

$18 \times 4 = 72$



5)

Predict which multiplication will give the greatest and the smallest products.

Complete each calculation to check.

The answer to a multiplication is called the product.

12×0.3

0.02×32

3.6

0.64

0.84

21×0.04



7) Use the digits 1, 2, 3 and 4 once each to create a calculation.

___ . ___ x ___

- How many different products can you make?
- What is the greatest possible product?

- 1.8m
- 7.2m
- 0.36m²
- 2.16m²

- How tall is each fence panel?
- The panel is 1.2m wide. The whole fence will be made up of 16 panels. How long will the whole fence be?
- What is the area of one fence panel?
- What is the total area of the fence?



DIVE DEEPER 2



6)

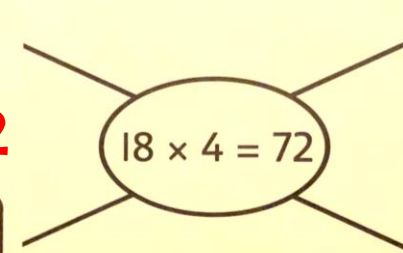
Use the known fact to calculate the other multiplications.

$1.8 \times 4 = \square$

7.2

$18 \times 0.4 = \square$

7.2



$180 \times 0.4 = \square$

72

$18 \times 0.04 = \square$

0.72



1.



Make up a food bank hamper and work out the cost of it. Could you round down to give a bit of a discount?

1. I buy 2 loaves of bread and 3 juices. How much change from €10?
2. The shopkeeper needs 25 loaves of bread. What will it cost?
3. A list has been sent to them. Can you add up the final total cost?
 - 33 loaves of bread
 - 22 Orange juice
 - 12 butter
 - 5 jam

Would an estimated cost of £72 be accurate?

