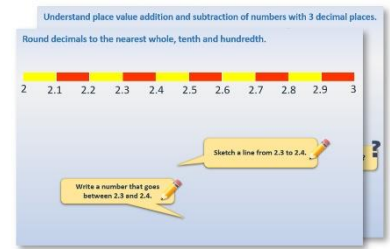


Week 11, Day 1

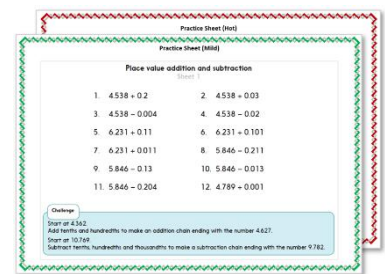
Multiply and divide decimals by whole numbers

Each day covers one maths topic. It should take you about 1 hour or just a little more.

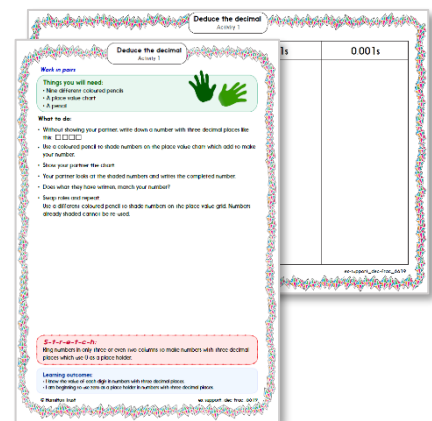
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



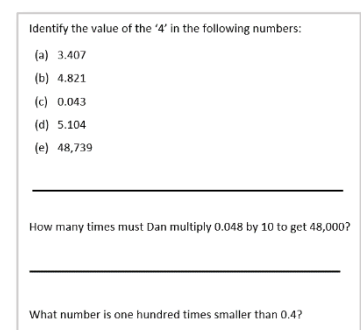
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**




4. Have I mastered the topic? A few questions to **Check your understanding**. Fold the page to hide the answers!



Learning Reminders

Multiply and divide decimals by whole numbers.

List ALL the pairs of factors of 42. 

Pair of factors: 6 and 7

$$6 \times 7 = 42$$


$$6 \times 0.7 = 4.2$$


$$6 \times 0.07 = 0.42$$


$$42 \div 6 = 7$$

$$4.2 \div 6 = 0.7$$

$$0.42 \div 6 = 0.07$$

If we know $6 \times 7 = 42$,
what is 6×0.7 ?
 6×0.07 ? 

What is $42 \div 6$?
So what is $4.2 \div 6$?
 $0.42 \div 6$? 

Use factors 3 and 12 to
generate a similar list of
facts using place value,
beginning $3 \times 12 = 36$... 

$$0.36 \div 3 = 0.12$$
$$3.6 \div 3 = 1.2$$
$$36 \div 3 = 12$$

$$3 \times 0.12 = 0.36$$
$$3 \times 1.2 = 3.6$$
$$3 \times 12 = 36$$

Pair of factors: 3 and 12

Learning Reminders

Multiply and divide decimals by whole numbers.

Find 3×425 , and then use this to work out 3×42.5 and 3×4.25 .

Find $126 \div 6$ and then use to work out $12.6 \div 6$ and $1.26 \div 6$.

$$4 \times 2.27 = 90.8$$

? Do you think this answer is correct?

The digits are not in the correct place around the decimal point.

What clue told you it was wrong? ?

Today's tip is round to estimate when multiplying decimals as this will help you to put the digits in the correct place around the decimal point.

$$126 \div 6 = 21$$

$$12.6 \div 6 = 2.1$$

$$1.26 \div 6 = 0.21$$

$$3 \times 425 = 1275$$

$$3 \times 42.5 = 127.5$$

$$3 \times 4.25 = 12.75$$

Find $126 \div 6$ and then use to work out $12.6 \div 6$ and $1.26 \div 6$.

Find 3×425 , and then use this to work out 3×42.5 and 3×4.25 .

Practice Sheet Mild

Multiplying and dividing decimals by whole numbers

1. 8×0.7

2. 0.6×9

3. 4×0.8

4. 0.6×5

5. $7 \times \square = 2.8$

6. $\square \times 3 = 2.4$

7. 8×0.04

8. 0.03×3

9. 7×0.04

10. $0.08 \times \square = 0.32$

Challenge

$$7 \times 8 = 56$$

Use this to write some related multiplications and divisions of decimals.

Practice Sheet Hot

Multiplying and dividing decimals by whole numbers

1. $0.81 \div 9$

2. $0.45 \div \square = 0.09$

3. $\square \times 0.5 = 3.5$

4. $7.2 \div 6$

5. 3×1.5

6. 5.4×3

7. 7×12.4

8. 11.3×6

9. 4×2.35

Challenge

$$3 \times 325 = 975$$

Use this to write some related multiplications and divisions of decimals.

Practice Sheets Answers

Multiplying and dividing decimals by whole numbers (mild)

1. $8 \times 0.7 = 5.6$
2. $0.6 \times 9 = 5.4$
3. $4 \times 0.8 = 3.2$
4. $0.6 \times 5 = 3.0$
5. $7 \times 0.4 = 2.8$
6. $0.8 \times 3 = 2.4$
7. $8 \times 0.04 = 0.32$
8. $0.03 \times 3 = 0.09$
9. $7 \times 0.04 = 0.28$
10. $0.08 \times 4 = 0.32$

Challenge

e.g. $0.7 \times 8 = 5.6$ $7 \times 0.8 = 5.6$ $7 \times 0.08 = 0.56$ $560 \div 700 = 0.8$

Multiplying and dividing decimals by whole numbers (hot)

1. $0.81 \div 9 = 0.09$
2. $0.45 \div 5 = 0.09$
3. $7 \times 0.5 = 3.5$
4. $7.2 \div 6 = 1.2$
5. $3 \times 1.5 = 4.5$
6. $5.4 \times 3 = 16.2$
7. $7 \times 12.4 = 86.8$
8. $11.3 \times 6 = 67.8$
9. $4 \times 2.35 = 9.4$

Challenge

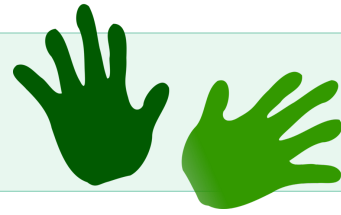
e.g. $325 \times 0.3 = 97.5$ $32.5 \times 0.3 = 9.75$ $97.5 \div 3 = 32.5$

A Bit Stuck? Mini multiplications

Work in pairs

Things you will need:

- A pencil
- A large piece of paper



What to do:

- Write out the 4 times table on the left of your piece of paper.
- Next to this, write out the 0.4 times table. Remember - you can divide by 10 to get the answers.
- Now write out the 0.04 times table!

	$1 \times 4 = 4$	$1 \times 0.4 = 0.4$	$1 \times 0.04 = 0.04$
	$2 \times 4 = 8$	$2 \times 0.4 = 0.8$	$2 \times 0.04 = 0.08$
	$3 \times 4 = 12$	$3 \times 0.4 = \dots$	
	$4 \times 4 = \dots$		

S-t-r-e-t-c-h:

Work out the missing numbers.

$3 \times \square = 15$

$4 \times \square = 24$

$3 \times \square = 1.5$

$4 \times \square = 2.4$

$3 \times \square = 0.15$

$4 \times \square = 0.24$

Check your understanding

Questions

$$4 \times \square = 8.8$$

$$\square \times 0.6 = 4.2$$

$$\square \times 0.03 = 0.21$$

$$6 \times \square = 0.48$$

Kate knows that $136 \times 31 = 4216$.

Explain how she can use this information to solve these calculations:

$$137 \times 31$$

$$136 \times 3.1$$

$$1.36 \times 31$$

$$421.6 \div 136$$

Steph saves £1.20 per week. How many weeks before she can buy a pair of trainers costing £48?

Fold here to hide answers

Check your understanding

Answers

$$4 \times 2.2 = 8.8$$

$$7 \times 0.6 = 4.2$$

$$8 \times 0.03 = 0.24$$

$$6 \times 0.08 = 0.48$$

Kate knows that $136 \times 31 = 4216$.

Explain how she can use this information to solve these calculations:

$$137 \times 31 \quad 4247 \text{ (add 31 to 4216, answer is 31 more).}$$

$$136 \times 3.1 \quad 421.6 \text{ (divide 4216 by 10, answer is 10 times smaller).}$$

$$1.36 \times 31 \quad 42.16 \text{ (divide 4216 by 100, answer is 100 times smaller).}$$

$$421.6 \div 136 \quad 3.1 \text{ (inverse of } 136 \times 3.1\text{).}$$

Steph saves £1.20 per week. How many weeks before she can buy a pair of trainers costing £48? **40 weeks. Do children recognise the multiplication fact $12 \times 4 = 48$ here?**