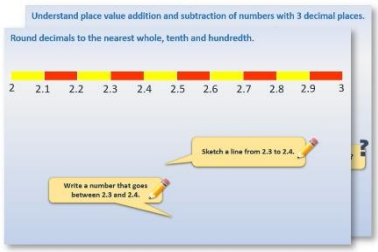
Week 11, Day 1

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.



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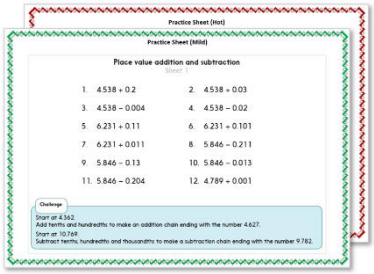
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either Mild (easier) or Hot (harder)! Check the answers.



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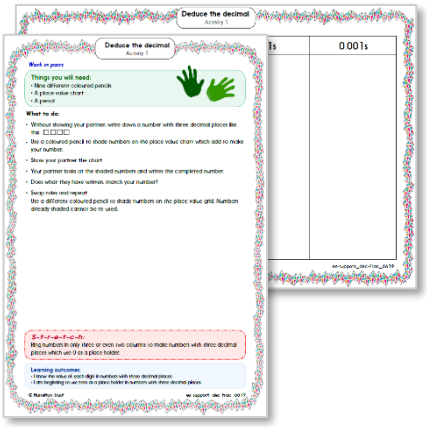
3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**



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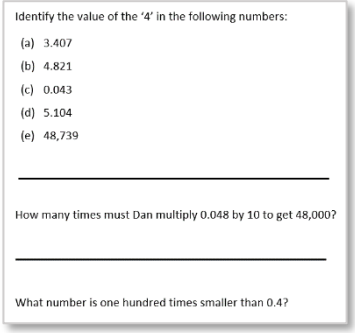
4. Have I mastered the topic? A few questions to **Check your understanding**. Fold the page to hide the answers!



Learning Reminders

Multiply and divide decimals by whole numbers.

List ALL the pairs of factors of 42.

Pair of factors: 6 and 7

6 x 7 = 42
6 x 0.7 = 4.2
6 x 0.07 = 0.42

42 ÷ 6 = 7
4.2 ÷ 6 = 0.7
0.42 ÷ 6 = 0.07

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

What is 42 ÷ 6? So what is 4.2 ÷ 6? 0.42 ÷ 6?

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

Pair of factors: 3 and 12

3 x 12 = 36
3 x 1.2 = 3.6
3 x 0.12 = 0.36

36 ÷ 3 = 12
3.6 ÷ 3 = 1.2
0.36 ÷ 3 = 0.12

Learning Reminders

Multiply and divide decimals by whole numbers.

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

Find 126 ÷ 6 and then use to work out 12.6 ÷ 6 and 1.26 ÷ 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.

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 x 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 x 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 x 4 = 4	1 x 0.4 = 0.4	1 x 0.04 = 0.04
2 x 4 = 8	2 x 0.4 = 0.8	2 x 0.04 = 0.08
3 x 4 = 12	3 x 0.4 = ...	
4 x 4 = …		

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

Work out the missing numbers.

3 x □ = 15	4 x □ = 24
3 x □ = 1.5	4 x □ = 2.4
3 x □ = 0.15	4 x □ = 0.24

Check your understanding

Questions

4 x □ = 8.8

□ x 0.6 = 4.2

□ x 0.03 = 0.21

6 x □ = 0.48

Kate knows that 136 × 31 = 4216.

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

137 × 31

136 x 3.1

1.36 x 31

421.6 ÷ 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 x 2.2 = 8.8

7 x 0.6 = 4.2

8 x 0.03 = 0.24

6 x 0.08 = 0.48

Kate knows that 136 × 31 = 4216.

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

137 × 31 4247 (add 31 to 4216, answer is 31 more).

136 x 3.1 421.6 (divide 4216 by 10, answer is 10 times smaller).

1.36 x 31 42.16 (divide 4216 by 100, answer is 100 times smaller).

421.6 ÷ 136 3.1 (inverse of 136 x 3.1).

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 x 4 = 48* here?