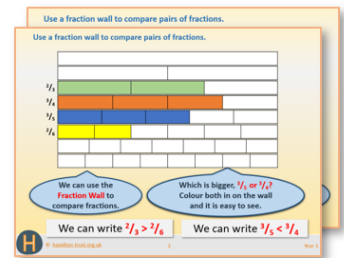


Year 3: Week 4, Day 1

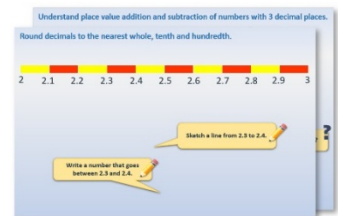
Multiply and divide by 10 and 100

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

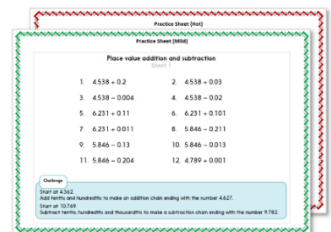
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



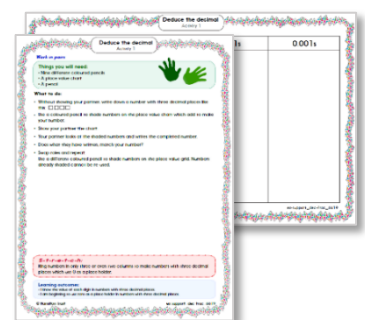
OR start by carefully reading through the **Learning Reminders**.



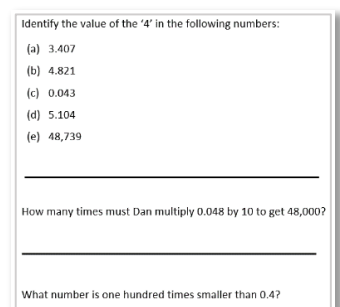
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



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 by 10 and 100.

Let's write the number **4** in the **place value** grid. 

100s	10s	1s
		4
	4	0
4	0	0

What is 4×10 ?

What is 4×100 ?

What happens to the digits when we multiply by 10?

What happens to the digits when we multiply by 100?

The digits move 2 place value columns to the **left** when we multiply by 100...

... and we put in 0s as placeholders.

Learning Reminders

Multiply and divide by 10 and 100.

What is $700 \div 100$?



When we multiplied by 100 the digits moved 2 places to the left, what do you think will happen when we divide by 100?

100s	10s	1s
7	0	0
		7

The **7** moved
2 places to the right...

.... and we don't need
the final two **0s**.

Practice Sheet Mild

Multiplication practice

Copy and complete the number sentences.

Section 1

$6 \times ? = 600$

$? \times 10 = 370$

$550 = 55 \times ?$

$2 \times ? = 200$

$? \times 10 = 230$

$? \times 100 = 300$

$900 = 90 \times ?$

$300 = 3 \times ?$

$? \times 100 = 700$

$? \times 10 = 250$

$420 = 42 \times ?$

$100 = ? \times 100$

Section 2

$340 \div ? = 34$

$3 = ? \div 10$

$780 \div ? = 78$

$22 = 220 \div ?$

$200 \div ? = 2$

$? \div 100 = 1$

$4 = ? \div 100$

$390 \div ? = 39$

Section 3

$600 = 6 \ ? \ 100$

$990 \ ? \ 10 = 99$

$340 \ ? \ 10 = 34$

$78 \ ? \ 10 = 780$

$8 = 800 \ ? \ 100 =$

$320 \ ? \ 10 = 32$

Practice Sheet Hot

Multiplication practice

Copy and complete the number sentences.

Section 1

$340 \div ? = 34$

$3 = ? \div 10$

$780 \div ? = 78$

$220 \div ? = 22$

$200 \div ? = 2$

$? \div 100 = 1$

$? \div 100 = 4$

$39 = 390 \div ?$

Section 2

$600 = 6 ? 100$

$99 = ? 10$

$340 ? 10 = 34$

$78 ? 10 = 780$

$8 = 800 ? 100$

$320 ? 10 = 32$

Section 3

$? \times 100 = 6200$

$854 \times ? = 8540$

$775 = 7750 \div ?$

$? \div 100 = 55$

$99 = 9900 ? 100$

$460 ? 10 = 4600$

Challenge

Find a way from 8 to 100.
 Colour the boxes to show your route.
 Be careful though as you can only go across or down!
 There are two routes available.
 Can you find both?

8	x100	x10	÷10
x100	÷10	÷100	+20
÷100	+10	+10	100

Practice Sheet Answers

Multiplication practice (Mild)

Section 1

$6 \times 100 = 600$

$37 \times 10 = 370$

$550 = 55 \times 10$

$2 \times 100 = 200$

$23 \times 10 = 230$

$3 \times 100 = 300$

$900 = 90 \times 10$

$300 = 3 \times 100$

$7 \times 100 = 700$

$25 \times 10 = 250$

$420 = 42 \times 10$

$100 = 1 \times 100$

Section 2

$340 \div 10 = 34$

$3 = 30 \div 10$

$780 \div 10 = 78$

$22 = 220 \div 10$

$200 \div 100 = 2$

$100 \div 100 = 1$

$4 = 400 \div 100$

$390 \div 10 = 39$

Section 3

$600 = 6 \times 100$

$990 \div 10 = 99$

$340 \div 10 = 34$

$78 \times 10 = 780$

$8 = 800 \div 100$

$320 \div 10 = 32$

Multiplication practice (Hot)

Section 1

$340 \div 10 = 34$

$3 = 30 \div 10$

$780 \div 10 = 78$

$220 \div 10 = 22$

$200 \div 100 = 2$

$100 \div 100 = 1$

$400 \div 100 = 4$

$39 = 390 \div 10$

Section 2

$600 = 6 \times 100$

$99 = 990 \div 10$

$340 \div 10 = 34$

$78 \times 10 = 780$

$8 = 800 \div 100$

$320 \div 10 = 32$

Section 3

$62 \times 100 = 6200$

$854 \times 10 = 8540$

$775 = 7750 \div 10$

$5500 \div 100 = 55$

$99 = 9900 \div 100$

$460 \times 10 = 4600$

Challenge

8	$\times 100$		
$\times 100$			
$\div 100$	$+10$	$+10$	100

A Bit Stuck? Treasure or trap

Work in pairs

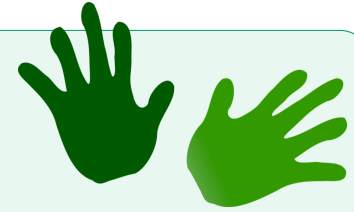
What to do:

- Look at the tables below. Work out each player's new score.
 - If a player finds a treasure chest, multiply their score by 10.
 - If they step on a trap door, divide their score by 10.
 - Use your place value grid and digit cards to help you.

If you get stuck, use a calculator and watch which way the digits move.

Things you will need:

- A 100s, 10s and 1s place value grid
- 0 to 9 cards
- A calculator

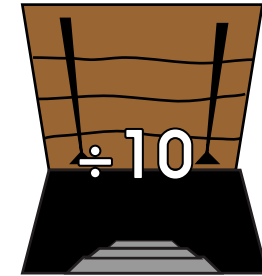


Players 1 to 4 find a treasure chest 😊



	Score	New score
Player 1	28	
Player 2	37	
Player 3	15	
Player 4	94	

Players 5 to 8 step on a trap door 😞



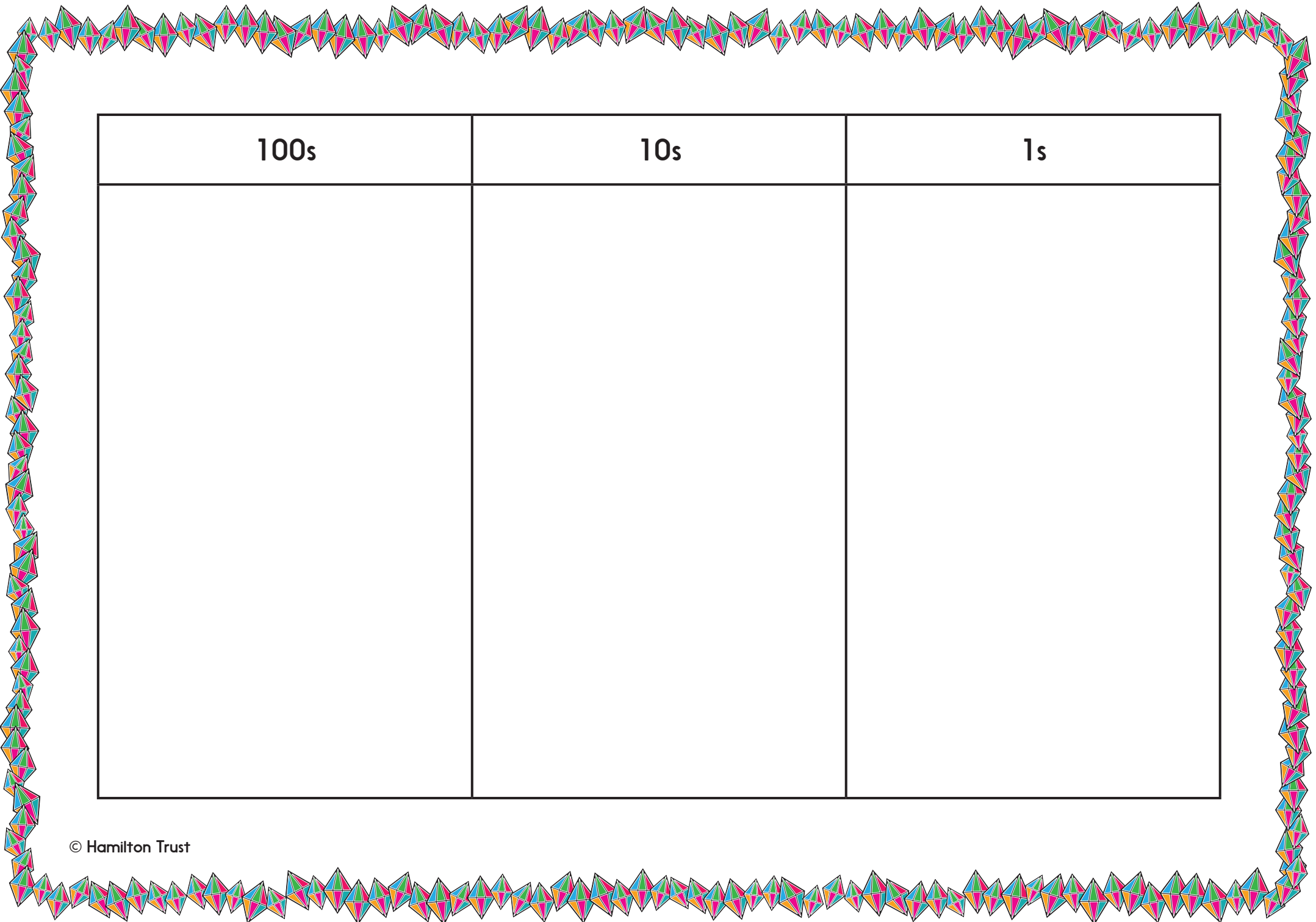
	Score	New score
Player 5	850	
Player 6	490	
Player 7	320	
Player 8	560	

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

Player 9 has found a treasure chest! Her score is now 250. Work out what her score was just before she found the treasure chest. Test out your idea using a calculator.

Learning outcomes:

- I can multiply 2-digit numbers by 10, e.g. 28×10 .
- I can divide 3-digit multiples of 10 by 10, e.g. $850 \div 10$.
- I am beginning to work out missing numbers in place value multiplications.



100s	10s	1s

Check your understanding: Questions

Describe in words what happens to a number when we multiply by 10.

Now explain WHY it happens – you may draw a picture if it helps.

Write the missing numbers:

(a) x 10 = 550

(b) 100 x 39 =

(c) ÷ 10 = 60

(d) 17 x = 170

(e) 500 ÷ = 5

(f) x 10 = 990

Write the result number in each chain:

$5 \times 100 \div 10 \times 10 \div 100 =$

$300 \div 10 \div 10 \times 10 \times 10 =$

$40 \times 10 \div 100 \times 10 =$

Invent your own chain where you end up back at your starting number.

Fold here to hide answers:

Check your understanding: Answers

Describe in words what happens to a number when we multiply by 10. The digits each move one place to the left and a zero is put in the 1s place as a place holder for the other digits.

Now explain WHY it happens – you may draw a picture if it helps.

Each digit becomes ten times greater, so multiplying 73 by 10 the '7' increases in value from 70 to 700 and the '3' from 3 to 30. This can be seen by moving digits on a place grid:

100s	10s	1s
	7	3
7	3	0

Write the missing numbers:

(a) x 10 = 550

(b) 100 x 39 =

(c) ÷ 10 = 60

(d) 17 x = 170

(e) 500 ÷ = 5

(f) x 10 = 990

Write the result number in each chain:

$5 \times 100 \div 10 \times 10 \div 100 =$

$300 \div 10 \div 10 \times 10 \times 10 =$

$40 \times 10 \div 100 \times 10 =$

In each case, the initial number has been multiplied and divided by the same number.

Do children's own chains 'work', by ending back at their chosen starting number? Use a calculator to check if unsure...