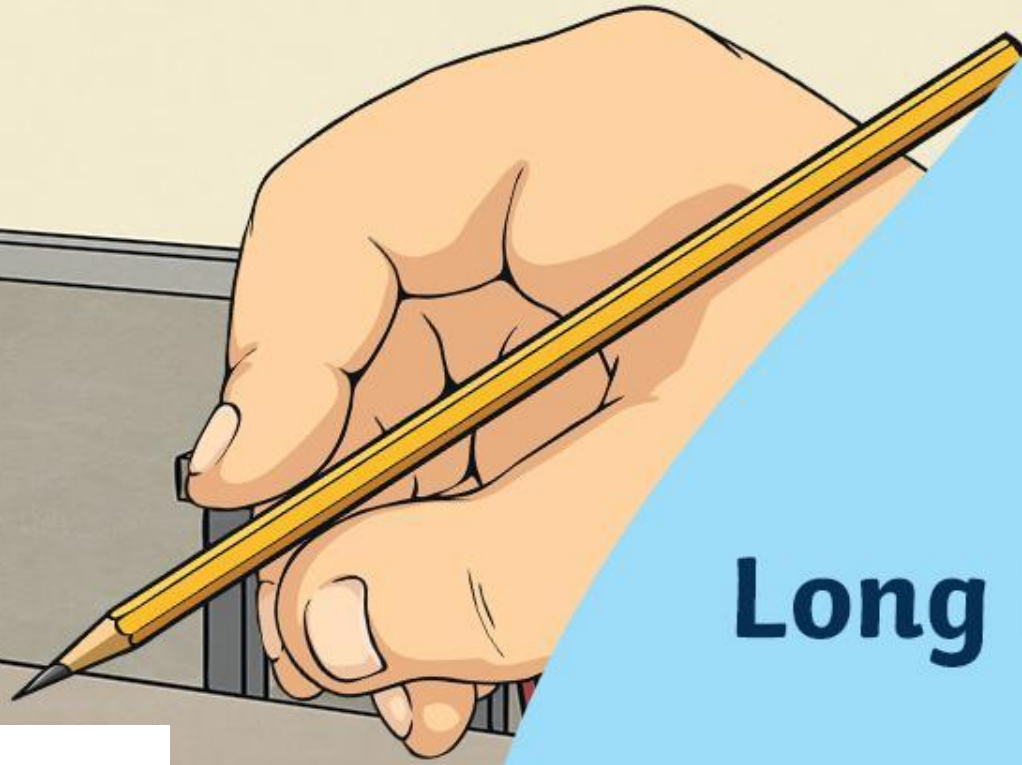


Diving into Mastery



Long Division

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



Diving



Deeper



Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

Aim

- Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

Long Division 1

Diving



Write down the next four multiples of the divisor and use the multiples to help you solve the long division calculation.



		0	3	5
1	3	4	5	5



Long Division 1

Diving



Write down the next four multiples of the divisor and use the multiples to help you solve the long division calculation.



		0	5	2
1	9	9	8	8



Long Division 1

Diving



A teacher is buying new pencils for his class.

He needs to buy 384 pencils.

The pencils come packed in boxes of 16.

How many boxes of pencils will he need to buy?



		0	2	4
1	6	3	8	4



The teacher accidentally orders the wrong pencils.

He receives 432 pencils in 24 boxes.

How many pencils were in each of the boxes that he accidentally ordered?



		0	1	8
2	4	4	3	2

Long Division 1

Deeper



A school uniform factory have been asked to make 868 jumpers for Twinkl Academy. They plan to make all of the jumpers in 2 weeks.

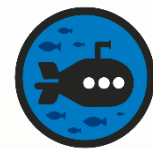
To fulfil its order, Miss Sweater calculates how many jumpers they will need to make each day using this calculation:



		0	6	0
1	4	8	6	8

Explain why Miss Sweater is incorrect.
How would you correct her mistake?

Miss Sweater is incorrect because she has either incorrectly divided the hundreds and tens by fourteen, or she has carried the 8 ones down, which cannot be divided by fourteen to give a whole number. The correct calculation and answer would be 62 jumpers each day.



Two children are solving this long division calculation: $109 \div 17$

I think that listing the multiples and then using these multiples to divide the number is the best way to solve this problem.

Jessie

I think that the best way to solve this is to use repeated subtraction until I have no remainders left.

Liam

Do you agree with either child's method?

What is the most efficient way to solve the problem?

Both methods will work but Jessie's method is more efficient as she should be able to solve the problem in fewer steps.



Can you work out the missing numbers in this calculation using the clues?

$$\text{A} \div \text{B} = 14$$

A is between 350 and 400.

B is a two-digit number.

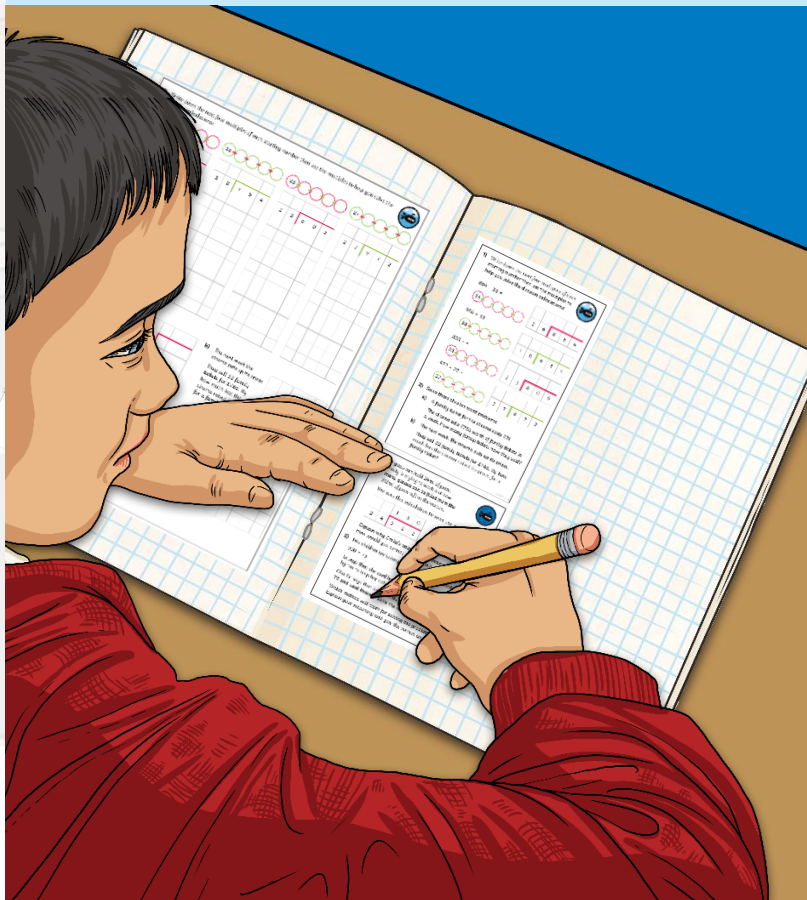
A	B
350	25
364	26
378	27
392	28

Hint...

Why not start by thinking about which multiples of 14 will be close to 350?

Long Division 1

Dive in by completing your own activity!



1) Write down the next four multiples of each starting number then use the multiples to help you solve the division calculation.

$864 \div 16 =$



$954 \div 18 =$



$805 \div 23 =$



$972 \div 27 =$



2) Solve these division word problems:

- a) A family ticket for the cinema costs £21. The cinema sells £756 worth of family tickets in a week. How many family tickets did they sell?
- b) The next week, the cinema put its prices up. They sell 32 family tickets for £768. By how much has the cinema raised its price for a family ticket?

1) A glass can hold 26ml of juice. Emily is trying to work out how many glasses can be filled from the 312ml of juice left in the carton. She uses this calculation to solve it:

	1	3	0
2	4	3	1
			2

Explain why Emily's calculation is wrong. How would you correct her mistake?

2) Two children are solving this long division: $900 \div 75$

Li says that she used her knowledge of tens to help her solve this problem. Charlie says that he wrote the first 75 and used these to solve the calculation. Which method will work for solving the problem? Explain your reasoning and give the answer.

1) Write down the next four multiples of each starting number then use the multiples to help you solve the division calculation.



2) Solve these division word problems:

- a) A family ticket for the cinema costs £21. The cinema sells £756 worth of family tickets in a week. How many family tickets did they sell?
- b) The next week the cinema puts up its prices. They sell 32 family tickets for £768. By how much has the cinema raised its price for a family ticket?



Need Planning to Complement this Resource?

National Curriculum Aim

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

For more planning resources to support this aim, [click here](#)

This screenshot shows a lesson plan for 'Jungle Division'. It includes a video thumbnail titled 'Jungle Division' with a play button icon. Below the video are three worksheets: 'Long Vines' (with a diagram of a vine and a division problem), 'Slithering Snake' (with an illustration of a snake and a division problem), and three 'Jungle Division' worksheets. The worksheets contain various division problems and a grid for recording answers.

This screenshot shows a lesson plan for 'Tic-Tac-Toe Problem Solving'. It includes a video thumbnail titled 'Tic-Tac-Toe Problem Solving' with a play button icon. Below the video are two worksheets: 'Searching For Clues (1)' and 'Searching For Clues (2)'. The worksheets contain word problems related to searching for clues and a tic-tac-toe grid for recording answers.

