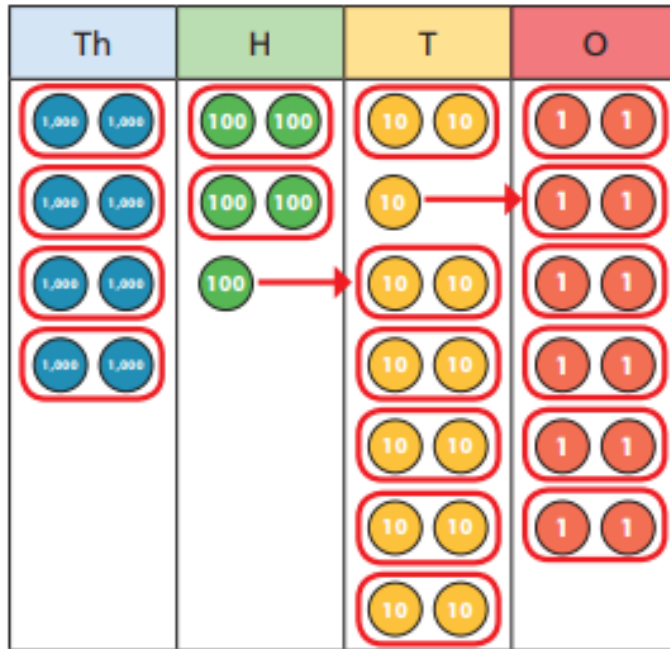


## Skill: Divide 4-digits by 1-digit (grouping)

Year: 5



	4	2	6	6
2	8	5	<sup>1</sup> 3	<sup>1</sup> 2

$$8,532 \div 2 = 4,266$$

Place value counters or plain counters can be used on a place value grid to support children to divide 4-digits by 1-digit. Children can also draw their own counters and group them through a more pictorial method.

Children should be encouraged to move away from the concrete and pictorial when dividing numbers with multiple exchanges.

## Skill: Divide multi digits by 2-digits (short division)

Year: 6

		0	3	6
	12	4	<sup>4</sup> 3	<sup>7</sup> 2

$$432 \div 12 = 36$$

$$7,335 \div 15 = 489$$

		0	4	8	9
	15	7	<sup>7</sup> 3	<sup>13</sup> 3	<sup>13</sup> 5

15	30	45	60	75	90	105	120	135	150
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When children begin to divide up to 4-digits by 2-digits, written methods become the most accurate as concrete and pictorial representations become less effective. Children can write out multiples to support their calculations with larger remainders. Children will also solve problems with remainders where the quotient can be rounded as appropriate.

## Skill: Divide multi-digits by 2-digits (long division)

Year: 6

		0	3	6
1	2	4	3	2
	-	3	6	0
			7	2
	-		7	2
				0

(x30)

$$\begin{aligned} 12 \times 1 &= 12 \\ 12 \times 2 &= 24 \\ 12 \times 3 &= 36 \\ 12 \times 4 &= 48 \\ 12 \times 5 &= 60 \\ 12 \times 6 &= 72 \\ 12 \times 7 &= 84 \\ 12 \times 8 &= 96 \\ 12 \times 7 &= 108 \\ 12 \times 10 &= 120 \end{aligned}$$

$$432 \div 12 = 36$$

$$7,335 \div 15 = 489$$

		0	4	8	9
15	7	3	3	5	
-	6	0	0	0	
	1	3	3	5	
-	1	2	0	0	
		1	3	5	
-		1	3	5	
				0	

(x400)

$$\begin{aligned} 1 \times 15 &= 15 \\ 2 \times 15 &= 30 \\ 3 \times 15 &= 45 \\ 4 \times 15 &= 60 \\ 5 \times 15 &= 75 \\ 10 \times 15 &= 150 \end{aligned}$$

(x80)

(x9)

Children can also divide by 2-digit numbers using long division.

Children can write out multiples to support their calculations with larger remainders.

Children will also solve problems with remainders where the quotient can be rounded as appropriate.

Skill: Divide multi digits by 2-digits (long division)

Year: 6

$$372 \div 15 = 24 \text{ r}12$$

			2	4	r	1	2
1	5	3	7	2			
	-	3	0	0			
			7	2			
	-		6	0			
			1	2			

- $1 \times 15 = 15$
- $2 \times 15 = 30$
- $3 \times 15 = 45$
- $4 \times 15 = 60$
- $5 \times 15 = 75$
- $10 \times 15 = 150$

When a remainder is left at the end of a calculation, children can either leave it as a remainder or convert it to a fraction. This will depend on the context of the question.

Children can also answer questions where the quotient needs to be rounded according to the context.

			2	4	$\frac{4}{5}$
1	5	3	7	2	
	-	3	0	0	
			7	2	
	-		6	0	
			1	2	

$$372 \div 15 = 24 \frac{4}{5}$$

# Glossary

**Array** – An ordered collection of counters, cubes or other item in rows and columns.

**Commutative** – Numbers can be multiplied in any order.

**Dividend** – In division, the number that is divided.

**Divisor** – In division, the number by which another is divided.

**Exchange** – Change a number or expression for another of an equal value.

**Factor** – A number that multiplies with another to make a product.

**Multiplicand** – In multiplication, a number to be multiplied by another.

**Partitioning** – Splitting a number into its component parts.

**Product** – The result of multiplying one number by another.

**Quotient** – The result of a division

**Remainder** – The amount left over after a division when the divisor is not a factor of the dividend.

**Scaling** – Enlarging or reducing a number by a given amount, called the scale factor