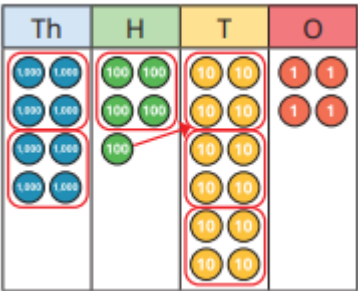


YEAR 6		Division
Vocabulary: common factors, prime number, prime factors, composite numbers, short division, square number, cube number, inverse, power of. (See previous year groups)		
Concrete	Pictorial	Abstract
Divide numbers up to 4 digits by two-digit numbers Divide numbers up to 4 -digits by a 2-digit number using a formal written method (short division) and interpret remainders appropriately for the context $8524 \div 4 = 2131$ 	Divide numbers up to 4 digits by two-digit numbers	Divide numbers up to 4 digits by two-digit numbers See below for written methods
<u>Short Division</u> $496 \div 11$ becomes $\begin{array}{r} 45 \text{ r}1 \\ 11 \overline{) 496} \\ \underline{44} \\ 56 \\ \underline{55} \\ 1 \end{array}$ Answer: $45 \frac{1}{11}$	<u>Long Division with remainders as fractions</u> $432 \div 15$ becomes $\begin{array}{r} 28 \text{ r}12 \\ 15 \overline{) 432} \\ \underline{30} \\ 132 \\ \underline{120} \\ 12 \end{array}$ Answer: $28 \frac{12}{15}$	<u>Long Division with remainders as decimals</u> $432 \div 15$ becomes $\begin{array}{r} 28.8 \\ 15 \overline{) 432.0} \\ \underline{30} \\ 132 \\ \underline{120} \\ 120 \\ \underline{120} \\ 0 \end{array}$ Answer: 28.8

Divide whole numbers and those involving decimals by 10, 100 and 1000

$$36.2 \div 10 = 3.62$$

Tens	Ones	tenths	hundredths
			
			

Use of manipulatives (numicon or place value counter) to show movement of digits across the columns.

Divide whole numbers and those involving decimals by 10, 100 and 1000

$$36.2 \div 10 = 3.62$$

Tens	Ones	tenths	hundredths
3	6	2	
	3	6	2

Divide whole numbers and those involving decimals by 10, 100 and 1000

No written method - mental method only.

Mental Methods (as with Year 5)

Number facts

Use knowledge of counting in multiples to counting in decimal steps (two decimal places).

0.09 0.18 0.27 0.36 ...

Continue to recall division facts for multiplication tables to 12 x 12 fluently and derive and use related facts:

3000 divided by 60 divide 0.12 by 6

5800 ÷ 6, what is the quotient?

0.64 divided by 8

Using known facts and place value:

0.99 ÷ 11 (multiply dividend by 100, then divide quotient by 100)

99 ÷ 11 = 9, 9 ÷ 100 = 0.09

Mental methods and jottings

Divide mentally drawing upon known number facts.

Use factors to construct equivalence statements.

Begin to divide hundredths, tenths and 1-digit whole numbers and tenths by 1 and 2-digit whole numbers.

Partitioning

Using distributive law:

5466 ÷ 6

(5400 ÷ 6 = 900; 60 ÷ 6 = 10; 6 ÷ 6 = 1
so 900 + 10 + 1 = 911)

Halving:

Factors

84 ÷ 20 (halve and divide by 10)

84 ÷ 2 = 42 then 42 ÷ 10 = 4.2

With jottings

888 ÷ 24 = 888 ÷ 8 ÷ 3

Estimating

Use rounding to check answers to calculation and determine, in the context of a problem, levels of accuracy:

4560 ÷ 19 is almost 4560 ÷ 20

Continue to use appropriate strategies to check answers:

Inverse

Check by using the inverse.

Identify multiples and factors and common factors of two numbers and primes. Use tests of divisibility to decide whether the answer will have a remainder	Derive corresponding halves of decimals (to 2 places) using knowledge of place value. Half of 0.48 is $0.74 \div 2 =$	If $4560 \div 19 = 240$ then $240 \times 19 = 4560$
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