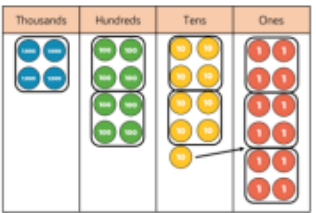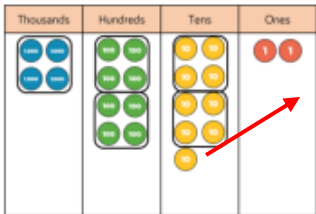| YEAR 5	Division

Vocabulary: common factors, prime number, prime factors, composite numbers, short division, square number, cube number, inverse, power of. (see previous year groups)

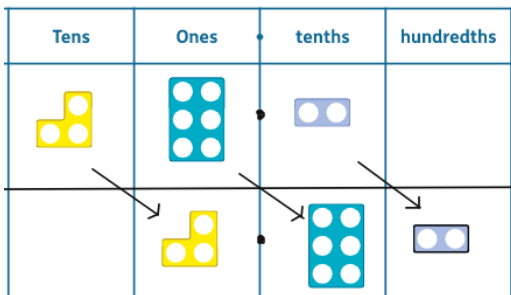| Concrete	Pictorial	Abstract
Divide numbers up to 4 digits by a one-digit number (no remainders) (start with 4d ÷ 1d no exchanging e.g. 4848 ÷ 4) 4892 ÷ 4 = 1223 **1 2 2 3**	**Divide numbers up to 4 digits by a one-digit number (no remainders)**	**Divide numbers up to 4 digits by a one-digit number (no remainders)** 4892 ÷ 4
Divide numbers up to 4 digits by a one-digit number (with remainders) Display remainder in different ways e.g. r 4 or $\frac{4}{5}$ In some examples, recognise some simple decimals e.g. if quotient is $23\frac{3}{4}$, recognise it can also be expressed as 23.75 4892 ÷ 4 = 1223	**Divide numbers up to 4 digits by a one-digit number (with remainders)**	**Divide numbers up to 4 digits by a one-digit number (with remainders)** Divide numbers up to 4 -digits by a 1-digit number using a formal written method (short division) and interpret remainders appropriately for the context 4892 ÷ 4 = 1223
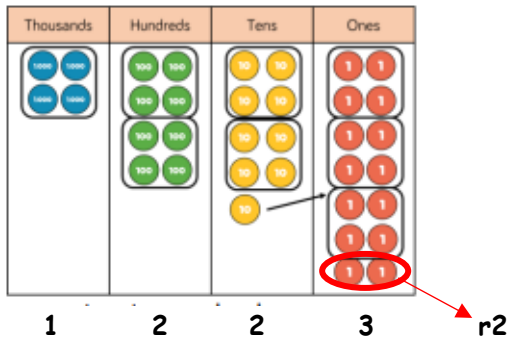
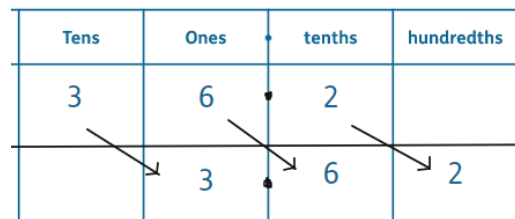|		
1 2 2 3 r2		
Divide whole numbers and those involving decimals by 10, 100 and 1000 Numicon/place value counters: 36.2 ÷ 10 = 3.62 	Divide whole numbers and those involving decimals by 10, 100 and 1000 36.2 ÷ 10 = 3.62 	Divide whole numbers and those involving decimals by 10, 100 and 1000 No written method – mental method only.

Mental Methods

Number facts

Count regularly using a range of multiples, and powers of 10, 100 and 1000, building fluency.

Practice and apply the multiplication facts to 12 x 12.
Use knowledge of counting in multiples to counting in decimal steps (one decimal place).
0.6   1.2   1.8   2.4   ….

Derive corresponding halves of doubles of decimals (to 1 place) using knowledge of place value.
Half of 0.4 = 0.2   3.6 ÷ 2 = 1.8

Continue to recall division facts for multiplication tables to 12 x 12 fluently and derive and use related facts:
560 divided by 7   divide 2.1 by 7
4500 ÷ 5, what is the quotient?
3.2 divided by 4

Identify multiples and factors and common factors of two numbers and primes.
list the multiples of 9 between 150 and 180 (using tests of divisibility)

Using known facts and place value
8.4 ÷ 7 (multiply dividend by 10, then divide quotient by 10) 84÷7 =12, 12÷0=1.2

Mental methods and jottings

Divide mentally drawing upon known number facts.
Use factors to construct equivalence statements.
Begin to divide tenths and 1-digit whole numbers and tenths by 1-digit whole numbers.

Partitioning
Using distributive law:
546 ÷ 6
(540 ÷ 6 = **90**; 6 ÷ 6 = **1** so **90** + **1** = **91**)
With Jottings
24.5 ÷ 7
21 ÷ 7 = **3**; 3.5 ÷ 7 = **0.5**
so **3** + **0.5** = **3.5**
Continue to partition number in different ways:
762 = 700 + 60 + 2;
762 = 600 + 120 + 42 etc

Doubling and halving
14.8 ÷ 4 (halve and halve again)
Half of 14.8 = 7.4; half of 7.4 = 3.7
With jottings:
3800 ÷ 50 (divide by 100 then double)
3800 ÷ 100 = 38; double 38 = 76.

Factors
84 ÷ 20 (halve and divide by 10)
84 ÷2 = 42 then 42 ÷ 10 = 4.2
With jottings
150 ÷ 6
(150 ÷ 3 = 50 then 50 ÷ 2 = 25).

Estimating
Use rounding to check answers to calculation and determine, in the context of a problem, levels of accuracy:
256 ÷ 12 is approximately 2560 ÷ 10.

Continue to use appropriate strategies to check answers:
Check 860 ÷ 9 by using the inverse.