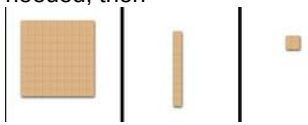
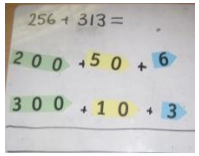
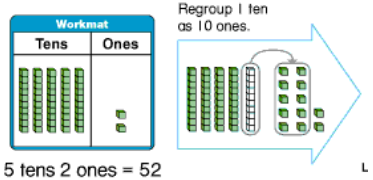
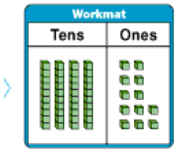
<table>
<tr><th>3</th><th>Addition</th><th>Subtraction</th><th>Multiplication</th><th>Division</th></tr>
<tr><td>Year 3</td><td colspan="2">add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
estimate the answer to a calculation and use inverse operations to check answers
solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</td><td colspan="2">write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</td></tr>
<tr><td>Written Calculation Strategies</td><td>Use place value resources where needed, then
 
And/or
 

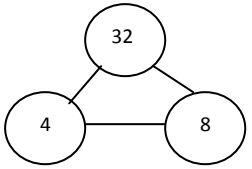
Moving to, most significant digit first
36
+48
70
14
84

Moving to,
36
+48
14
70
84

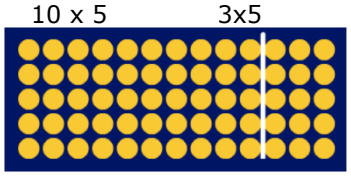
116
+128
140
200
244</td><td>Subtract numbers withup to three digits, moving to formal written methods of column subtraction when ready.

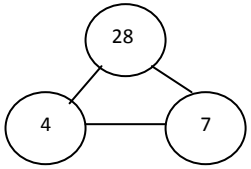
E.g. 52 – 18 =
 

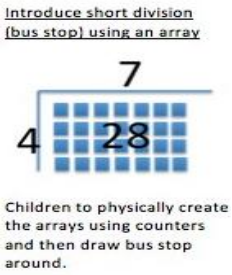
5 tens 2 ones = 52
 

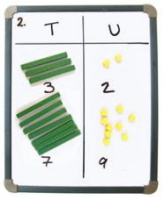
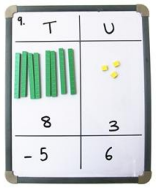
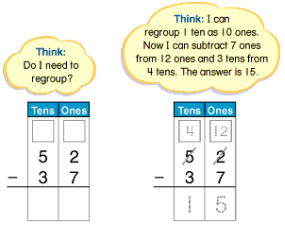
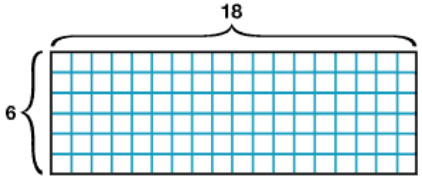
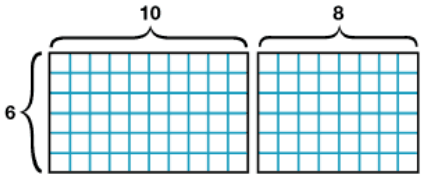
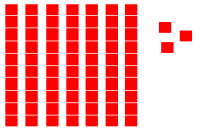
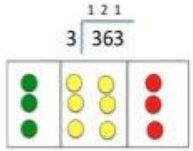
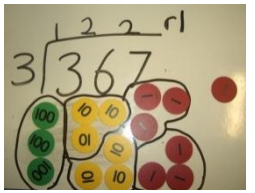
4 tens 12 ones = 52</td><td>Use number bugs when within multiplication facts with familiar numbers
 

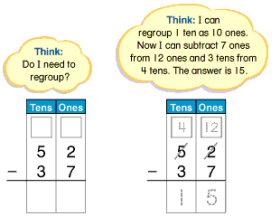
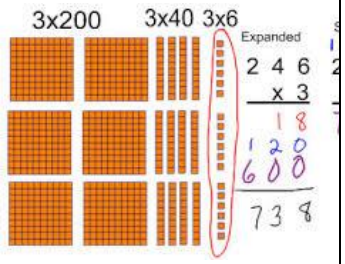
Use their knowledge of arrays from Year 2 to represent two digit x one digit calculations

Here 13 x 5 = (10 x 5) + (3 x 5)
 

Move to
<table><tr><td>X</td><td>10</td><td>3</td><td></td></tr><tr><td>5</td><td>50</td><td>15</td><td>=65</td></tr></table></td><td>Use number bugs when within multiplication facts with familiar numbers to generate division facts
 

In conjunction with this,
 
</td></tr>
<tr><td colspan="5">Key Techniques: Model abstract number alongside concrete and pictorial representations</td></tr>
</table>

4	Addition	Subtraction	Multiplication	Division
Year 4	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate estimate and use inverse operations to check answers to a calculation solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.		solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit. Solve integer scaling problems and harder correspondence problems such as n objects are connected to m objects. multiply two-digit and three-digit numbers by a one-digit number using formal written layout	
Written Calculation Strategies	Continue to use the expanded method for adding larger numbers 30 + 2 + 70 + 9 100+11 = 111 Move to a more compact method when ready supported by place value manipulatives  32 + 79 111 11	Continue to use the expanded method for larger numbers, supported with place value manipulatives, E.g. 83- 56 = 80 + 3 70 + 13 - 50 + 6 -50 + 6 20 + 7 83 -56 27  Move to compact method when ready 	Use distributive law to multiply (grid method)  6 × 18 = 108  6 × (10 + 8) = (6 × 10) + (6 × 8) = 60 + 48 = 108 Moving to, X 10 8 6 160 48 =208	Long Division Basics 3)73 or 73÷3 Use Base 10 Blocks to Show 73:  There are now 7 tens and 3 1's which represent 73 Always start with a 2 digit number to be divided by a 1 digit number. The child should always represent the number. Use dienes or place value counters to divide a three-digit number by a one digit number  
Key Techniques: Support calculations with larger numbers with consistent pictorial representations. Use concrete materials for those who need it.				

5	Addition	Subtraction	Multiplication	Division
Year 5	• add and subtract whole numbers with more than 4 digits, including using formal written methods (column addition and subtraction) • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.		▪ identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers ▪ know and use the vocabulary of prime numbers, prime factors and composite (non- prime) numbers ▪ establish whether a number up to 100 is prime and recall prime numbers up to 19 ▪ multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers ▪ divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context ▪ multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	
Written Calculation Strategies	Add whole numbers with more than 4 digits, including decimals in the form of money, where appropriate 1368 +6493 11 +150 +700 +7000 7861 Move to formal written method once secure 1368 +6491 7859 1 528 + 7.49 Line up the decimal points... 528.00 + 7.49 535.49	Add whole numbers with more than 4 digits, including decimals in the form of money, where appropriate 874 – 523 becomes 8 7 4 – 5 2 3 3 5 1 Answer: 351  932 – 457 becomes 1 1 9 3 2 – 4 5 7 5 6 4 7 5 Answer: 475	multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.  Long multiplication 2 4 1 6 1 4 4 (6 x 24) 2 4 0 (10 x 24) 3 8 4 Short multiplication 3 4 2 x 7 2 1 2 3 9 4	divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context Supported by place value materials, 0 3 6 4 7 ⟌ 2² 5⁴ 4² 8 Remainders as whole numbers 1 3 7 r 5 7 ⟌ 9 2² 6⁵ 4 Remainders as decimals 0 7 8 . 3 3 3 ⟌ 2² 3² 5.¹ 0¹ 0

Key Techniques: Support calculations with larger numbers with consistent pictorial representations. Use concrete materials for those who need it.

6	Addition	Subtraction	Multiplication	Division
Year 6	▪ use their knowledge of the order of operations to carry out calculations involving the four operations □ solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why		▪ multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication ▪ 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 ▪ divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context	

Written Calculation Strategies

Add numbers with up to 3 decimal places

528 + 7.49

Line up the decimal points...

```
  1
528.00
+  7.49
------
535.49
```

Subtract numbers with up to 3 decimal places

3.8 − 1.26

```
3.80
- 1.26
```

Stick a zero in there so you can do your ~~borrowing~~ (regrouping)!

Long Multiplication

This is approximately 20 x 20 = 400

24 × 16 becomes

```
  2
  2 4
×   1 6
-------
  2 4 0
1 4 4
-------
3 8 4
```

Answer: 384

This moves to,

124 × 26 becomes

```
    1 2
  1 2 4
×   2 6
-------
2 4 8 0
  7 4 4
-------
3 2 2 4
1 1
```

Answer: 3224

124 × 26 becomes

```
  1 2
  1 2 4
×   2 6
-------
  7 4 4
2 4 8 0
-------
3 2 2 4
1 1
```

Answer: 3224

This is approximately 100 x 30 = 3000

Divide numbers with up to 4 digits by a 2-digit number

432 ÷ 15 becomes

```
      2 8 r 12
1 5 | 4 3 2
      3 0 0
      -----
      1 3 2
      1 2 0
      -----
        1 2
```

Answer: 28 remainder 12

432 ÷ 15 becomes

```
      2 8
1 5 | 4 3 2
      3 0 0   15×20
      -----
      1 3 2
      1 2 0   15×8
      -----
        1 2
```

$\frac{12}{15} = \frac{4}{5}$

Answer: $28\frac{4}{5}$

432 ÷ 15 becomes

```
      2 8 · 8
1 5 | 4 3 2 · 0
      3 0
      -----
      1 3 2
      1 2 0
      -----
        1 2 0
        1 2 0
        -----
            0
```

Answer: 28·8

Short division

342 × 7 becomes

```
  3 4 2
×     7
-------
2 3 9 4
  2 1
```

Answer: 2394

2741 × 6 becomes

```
  2 7 4 1
×       6
---------
1 6 4 4 6
  4 2
```

Answer: 16 446

Key Techniques: Support calculations with larger numbers with consistent pictorial representations. Use concrete materials for those who need it.


```
  7
3.80
- 1.26
```