Subtraction KS2

<table>
<tr><td>KS1</td><td colspan="6">Pupils should practise subtraction to 20 and within to become increasingly fluent. They should use the facts they know to derive others, e.g using 10 - 7 = 3 and 7 = 10 - 3 to calculate 100 - 70 = 30 and 70 = 100 - 30.
Know the effect of zero.

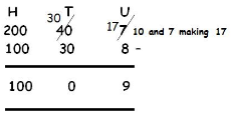
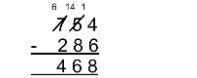
As well as number lines, 100 squares could be used to model calculations such as 74 – 11, 77 – 9 or 36 – 14, where partitioning or adjusting are used.
Pupils should learn to check their calculations, including by adding to check.
They should continue to see subtraction as both take away and finding the difference and should find a small difference by counting up.
They should use Dienes to model partitioning into tens and ones* and learn to partition numbers in different ways e.g. 23 = 20 + 3 = 10 + 13.</td></tr>
<tr><td>Year</td><td colspan="3">3</td><td colspan="3">4</td></tr>
<tr><td>Developing Conceptual/ Procedural Understanding</td>
<td>Subtract mentally pairs of multiples of 100 using known facts
600 – 200 = 400 because 6 – 2 = 4

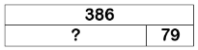
Remodelling strategy (keeping the difference the same)
502 – 198
504 – 200 = 304

Re-arranging
Use of apparatus to understand rearrangements, e.g. 55 as 40 and 15(not as part of calculations).

Place value materials to represent numbers in calculations
 
</td>
<td>Start with least significant digit - decomposition
81 = 80 1
- 57 50 7
—— ——
81 = 70 11
- 57 50 7
24 20 4

“1 subtract 7 is tricky so I will rearrange 81 into 70 and 11. 11 subtract 7 equals 4 and 70 subtract 50 equals 20. 20 and 4 make 24.”

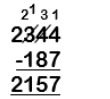
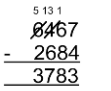
247 - 138 =
 
</td>
<td>Columnar subtraction
 
Emphasis on language of place value, i.e. 14 units subtract 6 units, 14 tens subtract 8 tens, and 6 hundreds subtract 2 hundreds.

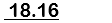
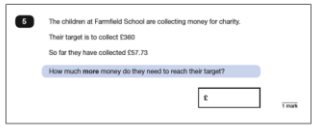
Representing problems
There are 386 pupils at Oak Primary. If 79 pupils have sandwiches, how many have dinners?
 
</td>
<td>Subtract mentally pairs of multiples of 1000 using known facts
6000 – 2000= 4000 because 6 – 2 = 4

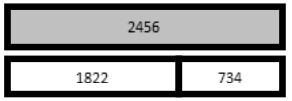
Remodelling strategy (keeping the difference the same)
3548 - 1998
3550 – 2000 = 1550

Find the difference strategy
13·6 – 2·8 =
 

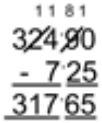
13·6 – 2·8 = 10·8

Place value materials to represent calculations
Appendix 1.</td>
<td>Columnar subtraction
2344 -187
 
6467 – 2684
 
Columnar subtraction (decimals) in contexts such as money and measurement

32.34 – 14.18
  </td>
<td>Representing problems
Check the answer to the following calculations using the inverse. Show all your working.
 
 

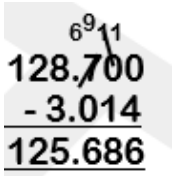
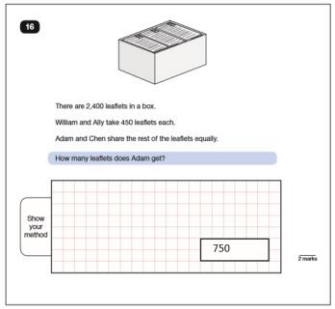
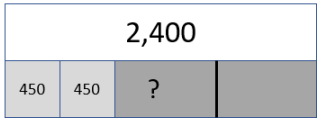
2456- 734 = 1822
 
</td></tr>
<tr><td>Known facts</td><td colspan="3">Derive and use addition and subtraction facts to 100, e.g. 33+ 67 =100.</td><td colspan="3">Derive and use addition and subtraction facts (for multiples of 10) to 1000, e.g. 330+ 670=1000.</td></tr>
<tr><td rowspan="4">Essential knowledge</td><td colspan="2">Subtract single digit bridging through boundaries</td><td colspan="2">Fluency of 2 digit - 2 digit</td><td>Subtract multiples of 10, 100 and 1000</td></tr>
<tr><td colspan="2">Partition second number to subtract</td><td colspan="2">Partition second number to subtract</td><td>Decimal subtraction from 10 or 1</td></tr>
<tr><td colspan="2">Difference between</td><td colspan="2">Difference between</td><td>Subtract near multiples by rounding and adjusting</td></tr>
<tr><td colspan="2">Partition and recombine</td><td colspan="2"></td><td></td></tr>
</table>

Subtraction KS2

<table>
<tr><th>Year</th><th colspan="2">5</th><th colspan="2">6</th></tr>
<tr><td>Developing Conceptual/ Procedural Understanding</td><td>Columnar subtraction
 
Include calculations with ‘empty columns’.
324.9 - 7.25
  </td><td>Representing problems
Kangchenjunga is the third highest mountain in the world at 28,169 feet above sea level. Lhotse is the fourth highest at 27,960 feet above sea level. Find the difference in heights mentally.

Keeping the difference, the same to make the numbers easier to calculate with.

122, 456 – 11,999

122, 457 – 12,000</td><td>Columnar subtraction
Include calculations with up to 3 ‘empty columns’.
128.7 - 3.014
  </td><td>Representing problems
Katie was given the calculation below 47326 – 1900 = She said “I will just take off 2000 then subtract another 100 so my answer is 45126.” Is she correct? Would you use her method? Explain your answer
 
  </td></tr>
<tr><td>Known facts</td><td colspan="2">Derive and use addition and subtraction facts to 10 and 1, e.g. 3.3+ 6.7 =10 leads to 10 – 3.3 = 6.7 and 0.33 + 0.67 = 1 so 1 – 0.67 = 0.33</td><td colspan="2">All the KS2 required facts</td></tr>
<tr><td rowspan="3">Essential knowledge</td><td>Fluency of 2 digit - 2 digit including with decimals</td><td>Subtract multiples of 10, 100, 1000 and tenths</td><td>Fluency of 2 digit - 2 digit including with decimals</td><td>Subtract multiples of 10, 100, 1000, tenths and hundredths</td></tr>
<tr><td>Partition second number to subtract</td><td>Use number facts, bridging and place value</td><td>Partition second number to subtract</td><td>Use number facts, bridging and place value</td></tr>
<tr><td>Adjust numbers to subtract</td><td>Difference between</td><td>Adjust numbers to subtract</td><td>Difference between</td></tr>
</table>