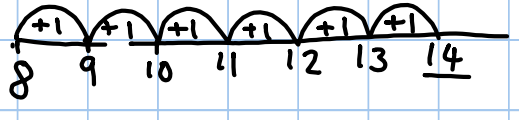
Calculation Strategies Key Stage 2

At NAIS Hong Kong we have a structured calculation progression policy. This details the strategies that children will use from the very beginnings of Maths through to fluency and efficiency.

Addition
Phase 2 - Empty Number Lines

8 + 6 = 14



Phase 3 - Partitioning

T U T U
76 + 47 = 123

Tens 70 + 40 = 110
Units 6 + 7 = 13
total 110 + 13 = 123

76 + 47 =

Phase 3 - Efficient Partitioning

76 + 47 =
40 7

76 + 40 = 116

116 + 7 = 123

76 + 47 =

Phase 4 - Column Method

57 + 86 =

60 + 90 = 150

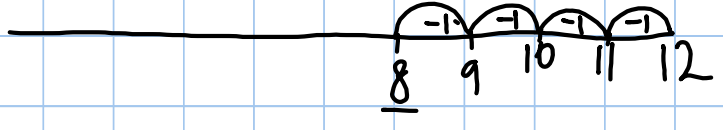
(estimate by rounding first)

	H	T	U
		5	7
+		8	6
	1	4	3
		7	6
+		4	7
	1	2	3

Subtraction

Phase 2 - Number Lines

12 - 4 = 8



Phase 3 - Partitioning

89 - 57 =

80 - 50 = 30

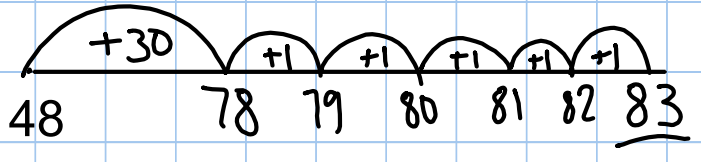
9 - 7 = 2

30 + 2 = 32

Phase 4 - Counting On (numberline)

'Find the Difference'

83 - 48 = 35



Phase 5 - Column Method

expanded layout

63 - 41 =

T	U
60	3
40	1
20	2

20 + 2 = 22

Phase 5 - Column Method

Efficient

542 - 293 =

(estimate) 500 - 300 = 200

T

$$\begin{array}{r} {}^{4}\cancel{5}\,{}^{1}\cancel{4}\,{}^{1}2 \\ -\ 2\ 9\ 3 \\ \hline 2\ 4\ 9 \\ \hline \end{array}$$

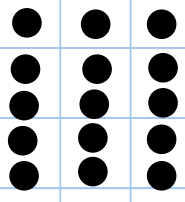
check by using inverse

249 + 293 = 542

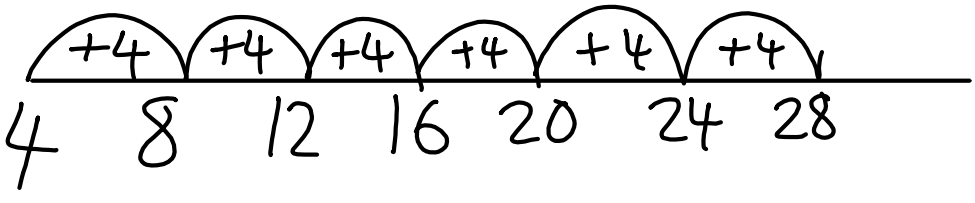
Multiplication

Phase 2 - Arrays

3 x 5 = 15



7x4



Multiplication

Phase 4 - Grid Method (Partitioning)

27 x 4 =

x	20	7
4	80	28

80
+28
108

.

Multiplication

Phase 5 - Efficient Multiplication

38 x 7 =

estimate first
40 x 7 = 280

38
x 7
266

Division

Phase 4 - Chunking

98 ÷ 7 =

$$
\begin{array}{r|l}
7 & 98 \\
 & 70 \quad (10) \\
\hline
 & 28 \quad + \\
 & 14 \quad (2) \\
\hline
 & 14 \quad + \\
- & 14 \quad (2) \\
\hline
 & 00
\end{array}
$$

10+2+2
=14

1 x 7=7
2 x 7=14
5 x 7=35
10 x 7=70
20 x 7=140

Phase 5 - Long Division

150 ÷ 12 =

$$
\begin{array}{r|l}
 & 012 \\
\hline
12 & 150 \\
 & 12\downarrow \\
\hline
 & 0\,{}^{2}\cancel{3}\,{}^{1}0 \\
 & 24 \\
\hline
 & 06
\end{array}
$$

12r6 $12\frac{6}{12}$

12.5

Phase 6 - Short Division

$876 \div 6 =$ 146

$$6\overline{)8^{2}7^{3}6} \quad 1\,4\,6$$

1 4 6 x 6

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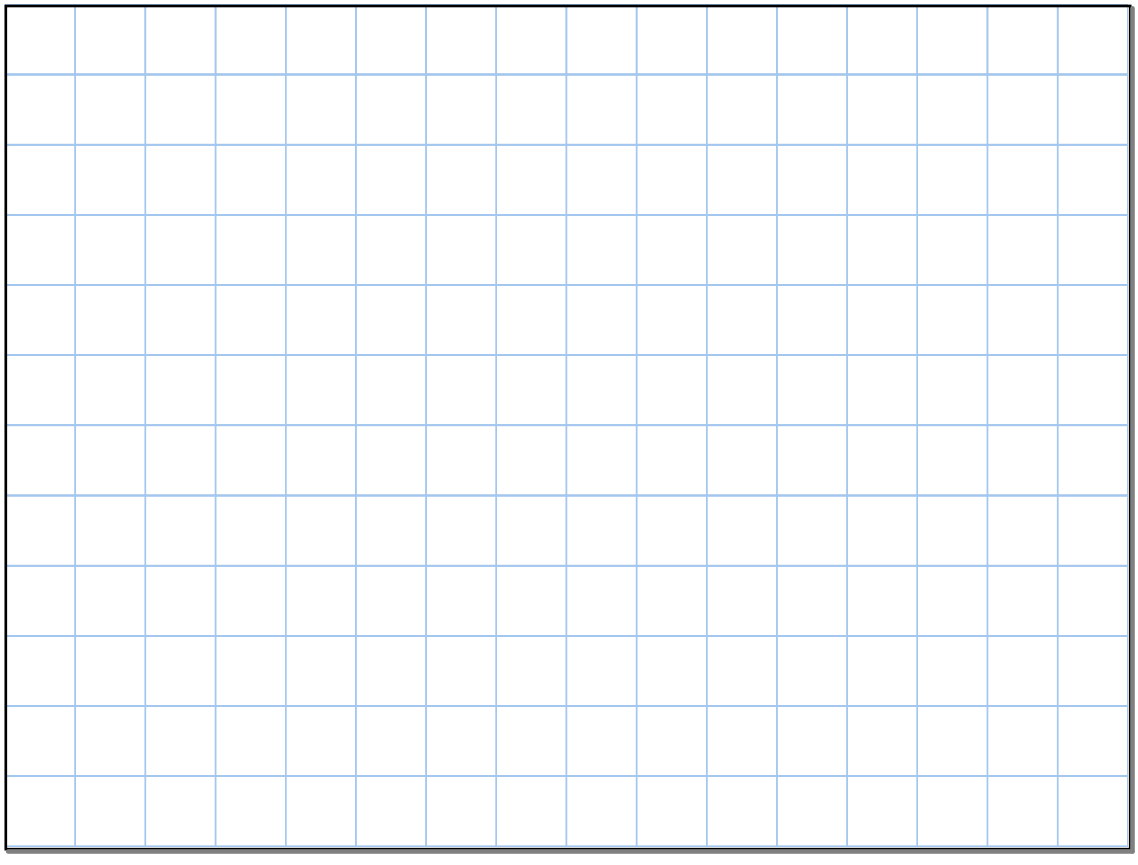

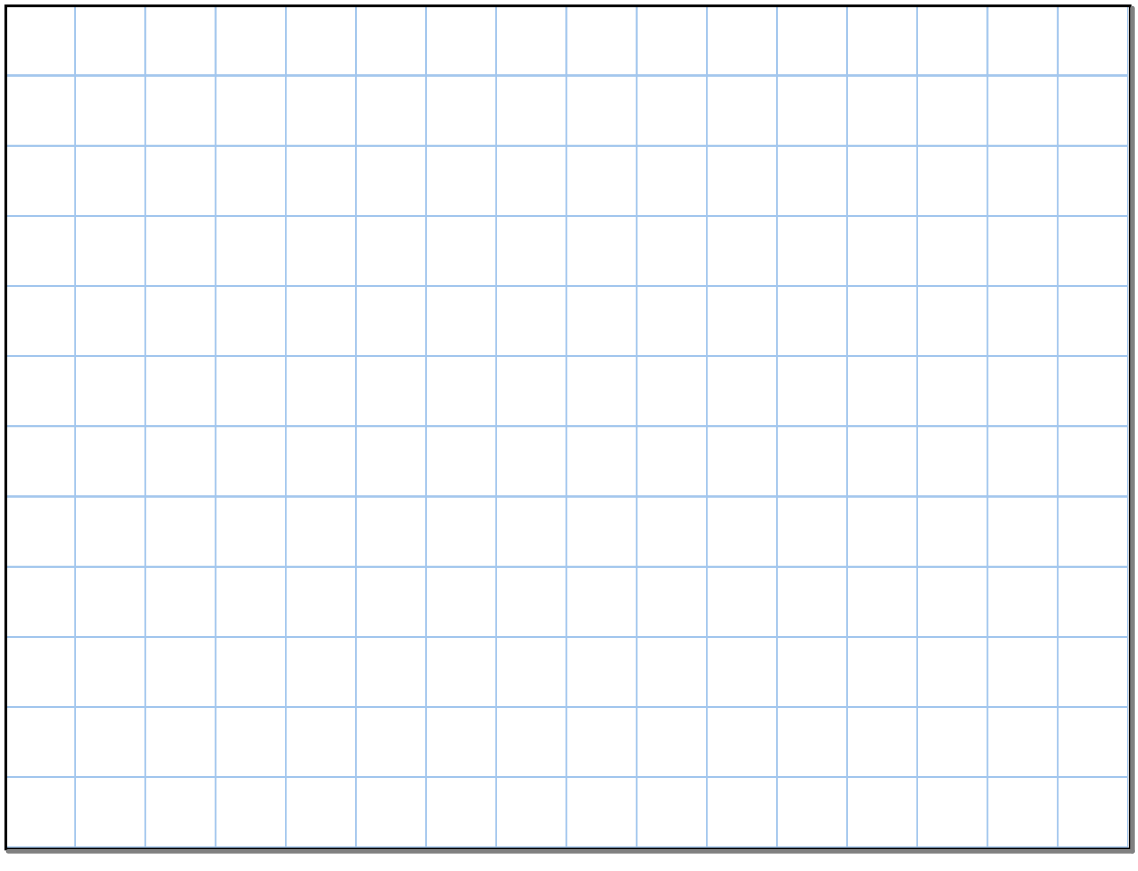
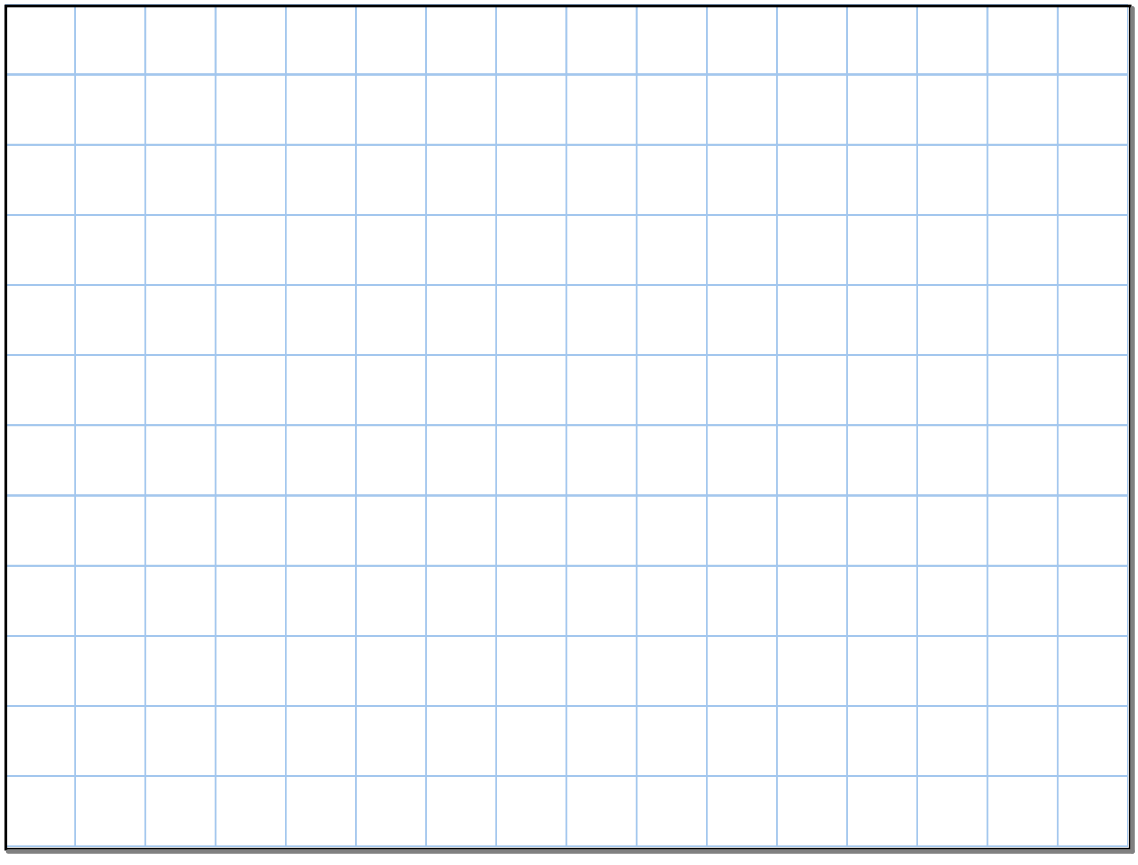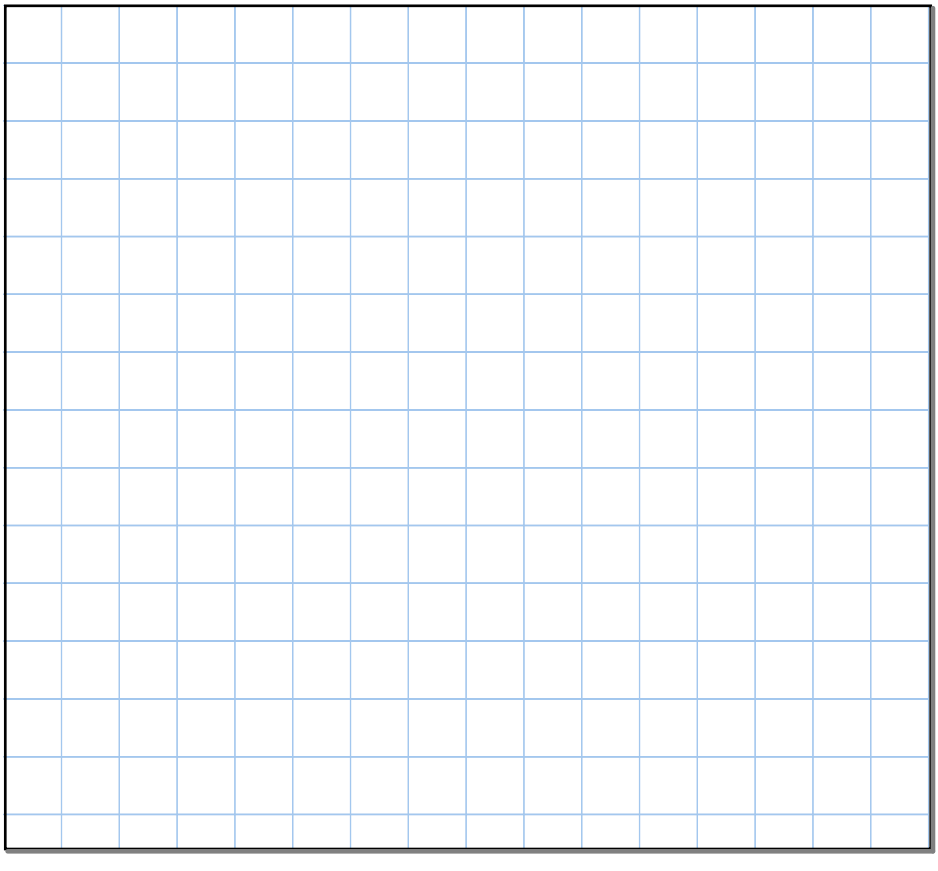
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