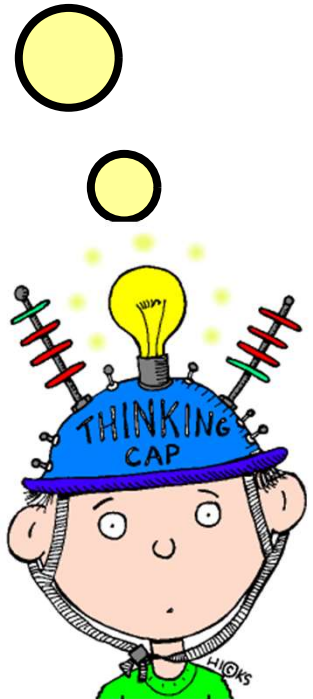
Calculation at Chesswood

Division

Number Line

Compact Method

So which method do I use?



Year group core expectations written in bottom corner

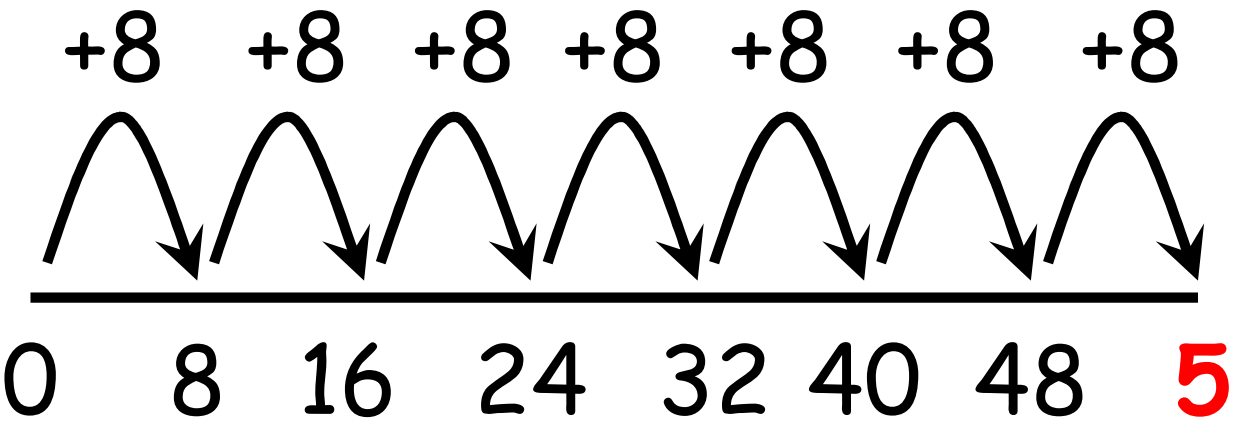
Calculation at Chesswood

Division 1

Number Line in small jumps

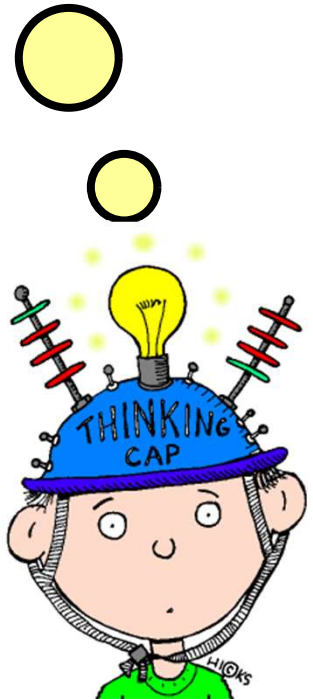
56 ÷ 8 =
Dividing - I can do this by counting on along a number line!

We are dividing by counting on 8 each time since we are dividing by 8.



It took 7 jumps to get to 56 … so 56 ÷ 8 is 7

56 ÷ 8 = 7



Calculation at Chesswood

Division 2

Number Line in chunks

Use a key facts box of known multiplication facts to support - 1 x, 2 x, 5 x and 10 x.

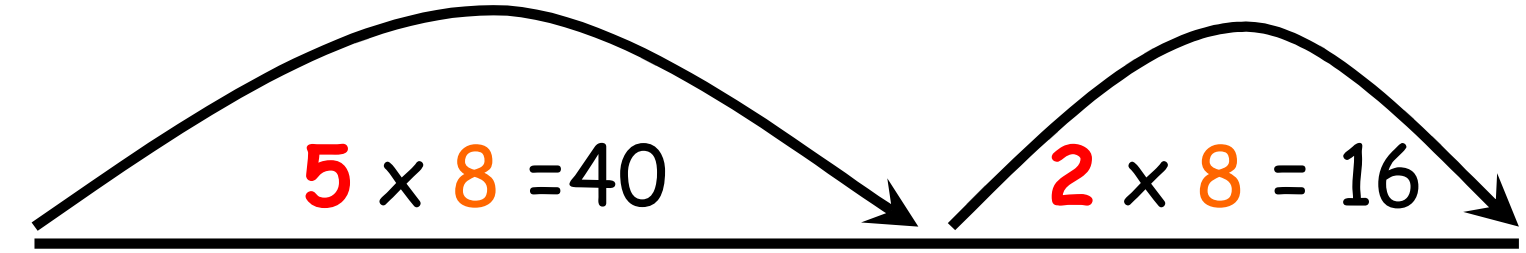
56 ÷ 8 =

Use a number line to do this.

What jumps of 8 can you make on the number line towards 56?
5 x 8 = 40 would be good!

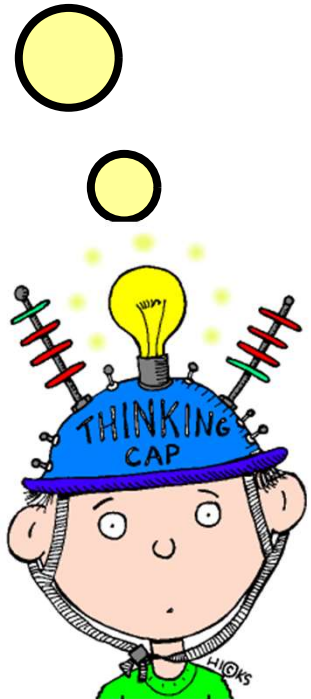
Now a jump of 2 x 8 = 16 would take you to 56.

Key Facts
1 x 8 = 8
2 x 8 = 16
5 x 8 = 40
10 x 8 = 80



Add 5 and 2 = 7.

56 ÷ 8 = 7



Calculation at Chesswood

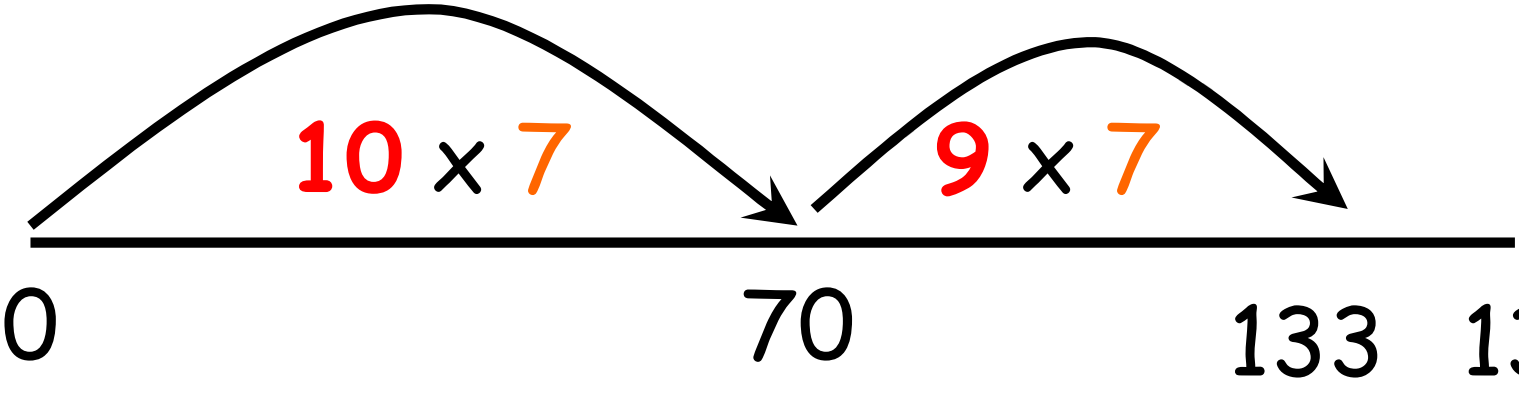
Division 3

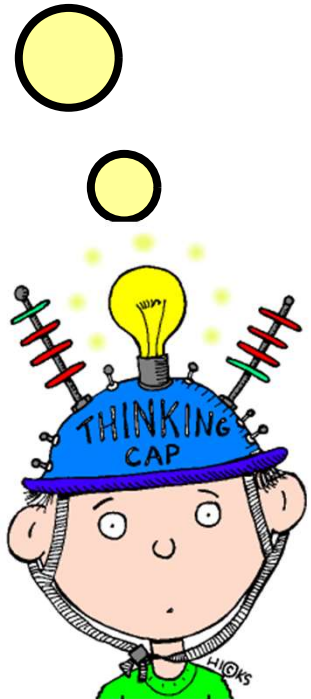
Number Line in chunks

What jumps of 7 can you make on the number line towards 135?
10 x 7 = 70 would be good!

Now a jump of 9 x 7 = 63 would take you to 133. But that's not 135. There's 2 remaining.

So how can I divide 135 by 7?





Add 10 and 9 = 19
and don't forget
the remainder of 2.

$$135 \div 7 = 19\ r2$$

Calculation at Chesswood

Division 4

Compact Method - Short

Use squared paper to help write in the place value columns.

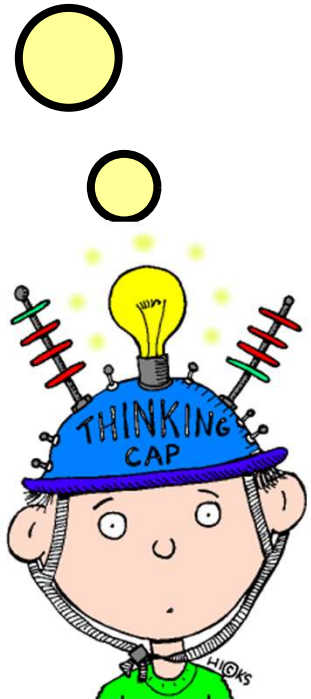
Always start dividing from the largest value digit (8 = 800)

256 ÷ 7 =
I must remember to calculate one digit at a time!

$$\begin{array}{r} 1\,2\,5 \\ 7\overline{)\,8^{1}7^{3}5} \end{array}$$

8 ÷ 7 = 1 r1
17 ÷ 7 = 2 r3
36 ÷ 7 = 5

(Write the remainder next to the digit in the place value column to the right.)



875 ÷ 7 = 125

Calculation at Chesswood

Division 5

Compact Method - Short

Use squared paper to help write in the place value columns.

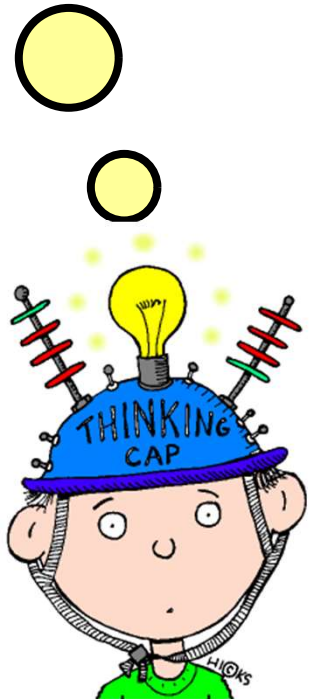
Always start dividing from the largest value digit (8 = 800)

256 ÷ 7 =
I must remember to calculate one digit at a time!

$$
\begin{array}{r}
1\ 2\ 5\ r1 \\
7\overline{)\ 8^{1}7^{3}6}
\end{array}
$$

8 ÷ 7 = 1 r1
17 ÷ 7 = 2 r3
36 ÷ 7 = 5 r1

(Write the remainder next to the digit in the place value column to the right.)



876 ÷ 7 = 125 r1

Year 4 GD
Year 5

Calculation at Chesswood

Division 6

Compact Method - Long

$$
\begin{array}{r}
4\ 7 \\
2\overline{)\ 9\ 4} \\
\quad 9 \\
\quad -\ 8 \\
\hline
\quad 1\ 4 \\
\quad -\ 1\ 4 \\
\hline
\quad\ \ 0
\end{array}
$$

$9 \div 2 = 4$ r1

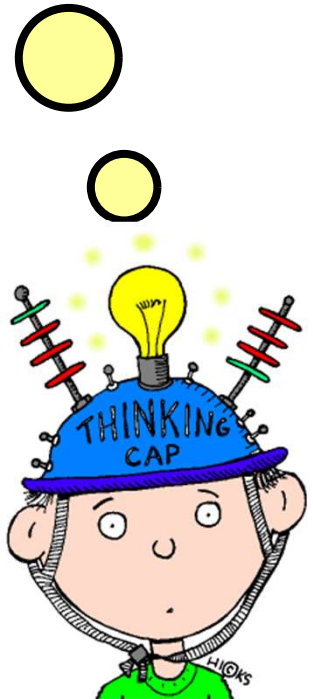
$14 \div 2 = 7$

94 ÷ 2 =
I must remember
to calculate one digit
at a time!
Knowing my times tables
will help.

Use squared paper to help write in the place value columns.

Always start dividing from the largest value digit (4 = 40)

$$94 \div 2 = 47$$



Year 4 GD
Year 5

Calculation at Chesswood

Division 7

Compact Method - Long

$$
\begin{array}{r}
1\ 2\ 5\ r1 \\
7\overline{)\ 8\ 7\ 6} \\
\quad 8\downarrow \\
\quad -7\downarrow \\
\quad\ \ 1\ 7 \\
\quad -\ 1\ 4\downarrow \\
\quad\ \ \ 3\ 6 \\
\quad -\ 3\ 5 \\
\quad\ \ \ 1
\end{array}
$$

8 ÷ 7= 1 r1

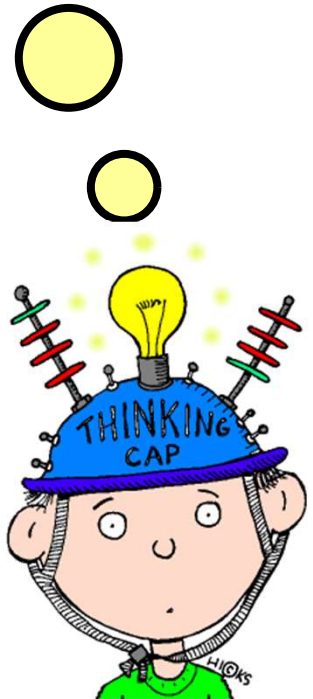
17 ÷ 7 = 2 r3

36 ÷ 7 = 5 r1

876 ÷ 7 =
I must remember
to calculate one digit
at a time!
Knowing my times tables
will help.

Use squared paper to help write in the place value columns.

Always start dividing from the largest value digit (8 = 800)



876 ÷ 7 = 125 r1

Calculation at Chesswood

Division 8

Compact Method - Long

$$
\begin{array}{r}
0\,2\,3\,2\ r8 \\
16\overline{)\,3\,7\,2\,0} \\
\underline{-\,3\,2} \\
5\,2 \\
\underline{-\,4\,8} \\
4\,0 \\
\underline{-\,3\,2} \\
8
\end{array}
$$

3 ÷ 16 = 0 r3

37 ÷ 16 = 2 r5

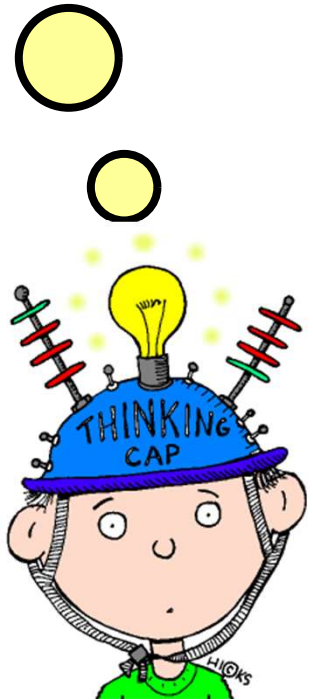
52 ÷ 16 = 3 r4

40 ÷ 16 = 2 r8

3720 ÷ 16 =
I must remember
to calculate one digit
at a time!
A 'cheat sheet' would
help.

Use squared paper to help write in the place value columns.

Always start dividing from the largest value digit (3 = 3000)



3720 ÷ 16 = 232 r8

Year 5 GD
Year 6

Calculation at Chesswood

Division 9

Compact Method – Long
Converting the remainder

$$
\begin{array}{r}
0\,2\,3\,2.5 \\
16\overline{)\,3\,7\,2\,0.0} \\
\underline{3\,7} \\
-3\,2 \\
\underline{5\,2} \\
-\,4\,8 \\
\underline{4\,0} \\
-\,3\,2 \\
\underline{8\,0} \\
-\,8\,0 \\
\underline{0}
\end{array}
$$

Decimals: include another 0 after the decimal point and keep calculating in the same way (up to 2 decimal places).

I can convert a remainder into a fraction or a decimal.

Fractions: remainder 8 out of 16 ($\frac{8}{16} = \frac{1}{2} = .5$)

$3720 \div 16 = 232$ r8 or $232\frac{8}{16}$
or $232\frac{1}{2}$ or 232.5
or round to 233!