

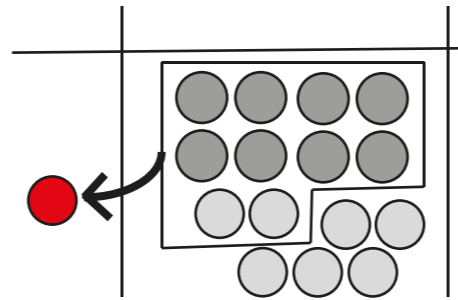
$0.9 + 0.9, 74 + 26$
 Number facts
 Single digit decimals
 Doubles
 Bonds of 100

I just knew it!

$7 + 8$
 Use known facts

If I know $7 + 8 = 15$
 then I know
 $0.7 + 0.8 = 1.5$

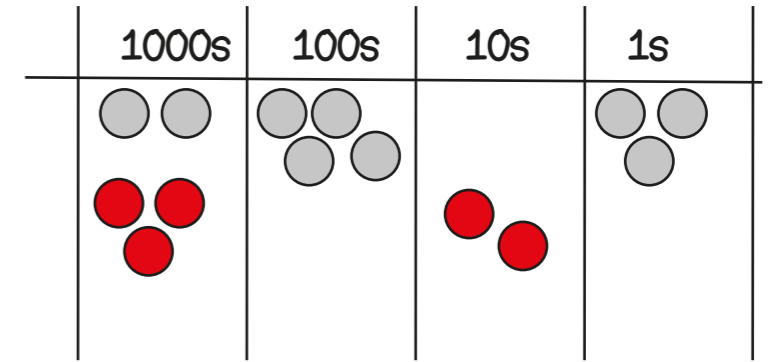
$70 + 80 = 150$
 $700 + 800 = 1,500$



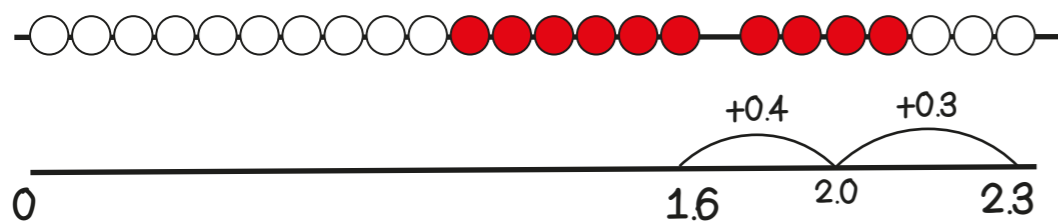
$2,403 + 3,020$
 Use place value to add

If I know $2 + 3 = 5$
 then I know
 $2000 + 3000 = 5000$

I have noticed,
 one number has no
 hundreds or ones, the
 other has no tens.



$1.6 + 0.7$
 Bridge through boundaries
 by counting in efficient steps



How shall I add?

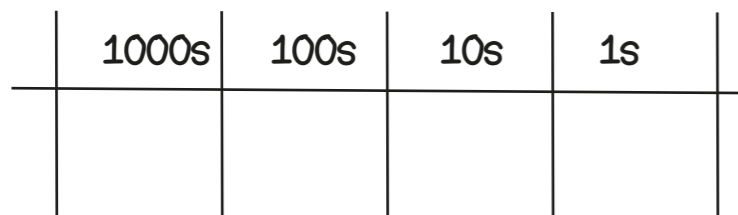


$5,748 + 3,374$
 Formal written method

Exchange ten of
 these for one of
 those!

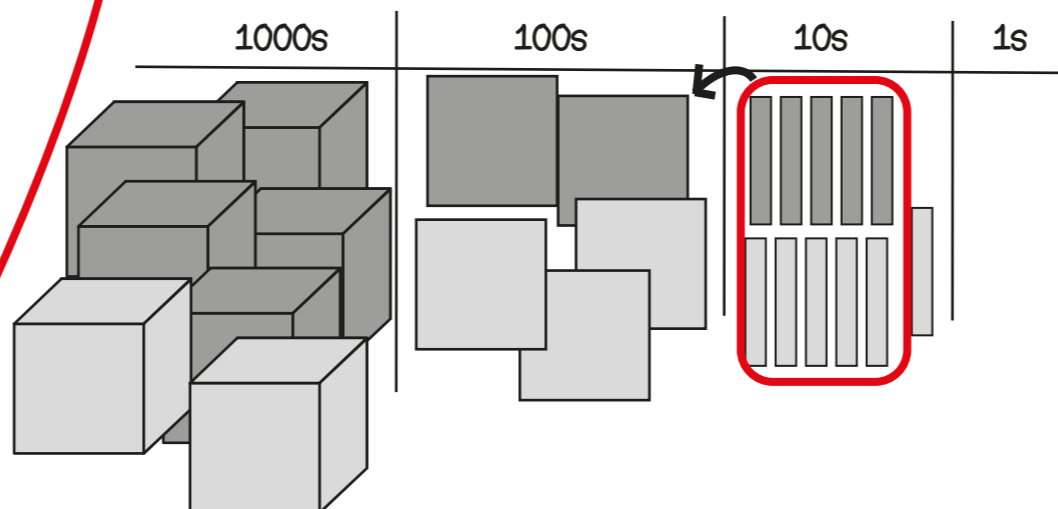
$$\begin{array}{r} 5,748 \\ + 3,374 \\ \hline 9,122 \end{array}$$

Regroup and rename

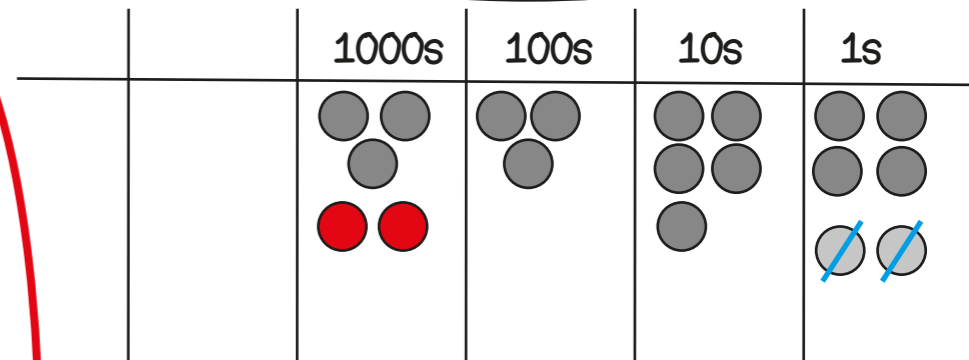


$5,250 + 2,360$
 Partition and recombine

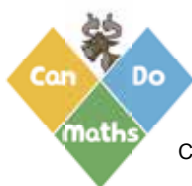
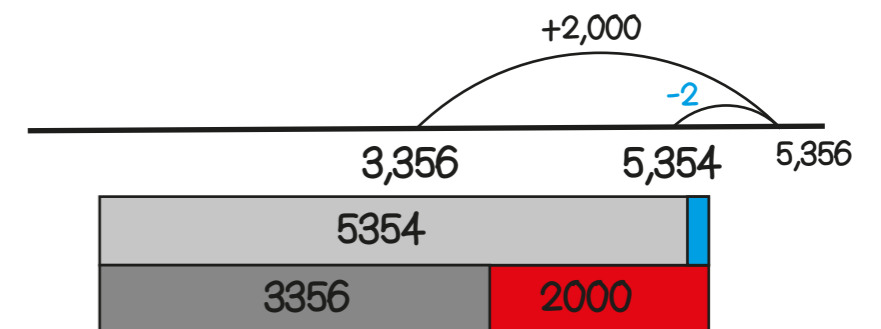
$5000 + 200 + 50 + 2000 + 300 + 60$
 $7000 + 500 + 110 = 7610$



$3,356 + 1,998$
 Round then adjust



Add **2,000** then **take away 2**



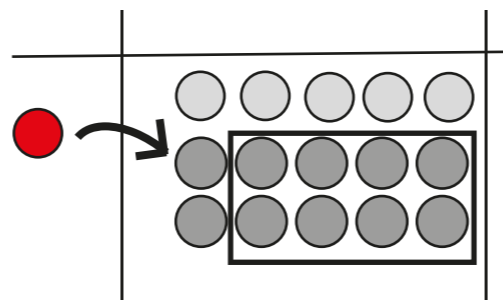
13 - 5, 1.8 - 0.8
 Number facts
 Single digit numbers
 Halves
 Wholes and tenths

I just knew it!

15 - 8 = 7
 Use known facts

If I know 15 - 8 = 7
 then I know
 1.5 - 0.8 = 0.7

150 - 80 = 70
 1500 - 800 = 700

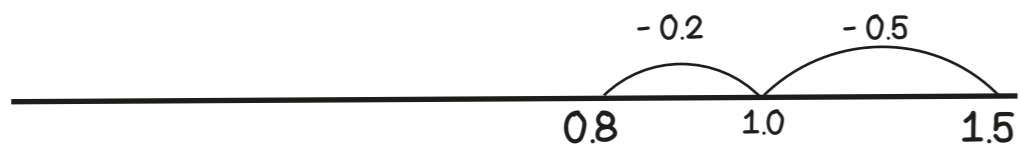


6,342 - 3,020
 Use place value to subtract

By using place value counters it is easy to see how to take away

	1000s	100s	10s	1s
	●●●●	●●●	●●	●●
	●●	●		
	●●		●●	

1.5 - 0.7
 Bridge through boundaries
 by counting in efficient steps



How shall I subtract?



5,352 - 2,136
 Formal written method

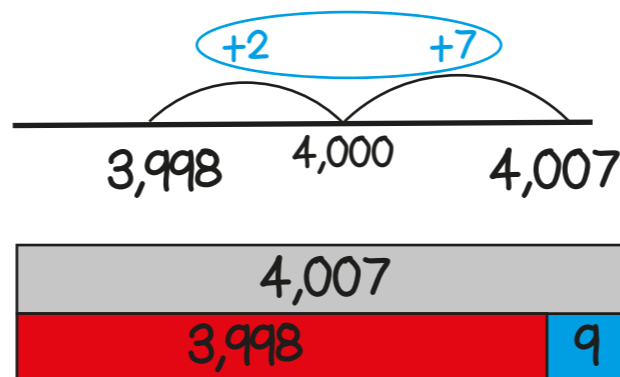
Exchange ten of these for one of those!

$$\begin{array}{r} 4 \quad 1 \quad 4 \quad 1 \\ 5,352 \\ - 2,136 \\ \hline 2,916 \end{array}$$

Regroup and rename

1000s	100s	10s	1s

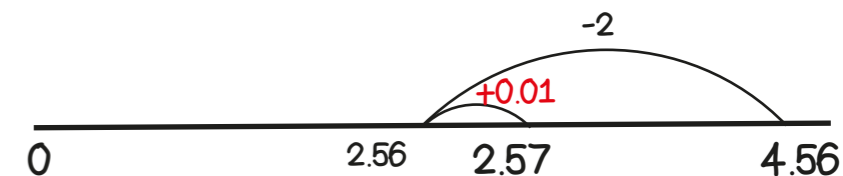
4007 - 3998
 Find the difference between two numbers



4.56 - 1.99
 Round then adjust

1s	1/10 s	1/100 s
●●	●●●●	●●●●
●●	●●	●●
		●

Take away 2 then add one hundredth



Known facts:
Rapid recall of all multiplication tables up to 12 x 12

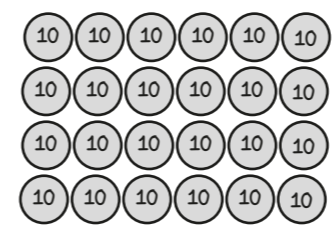
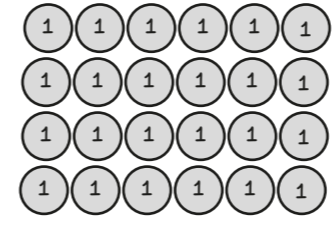
6 x 4
Use known facts and place value

40 is ten times greater than 4

$$6 \times 4 = 24$$

$$60 \times 4 = 240$$

$$60 \times 40 = 2400$$



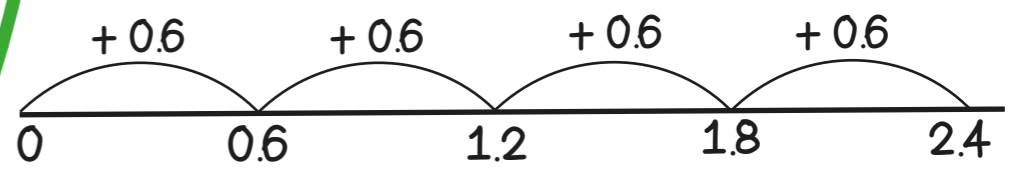
$$6 \times 10 \times 4 \times 10 = 24 \times 100$$

0.6 is ten times smaller than 6

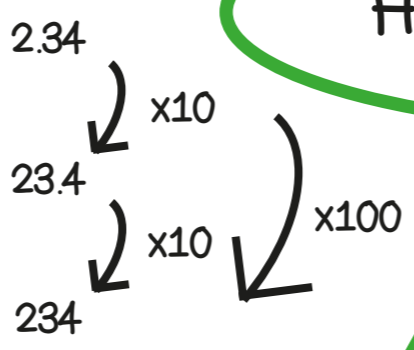
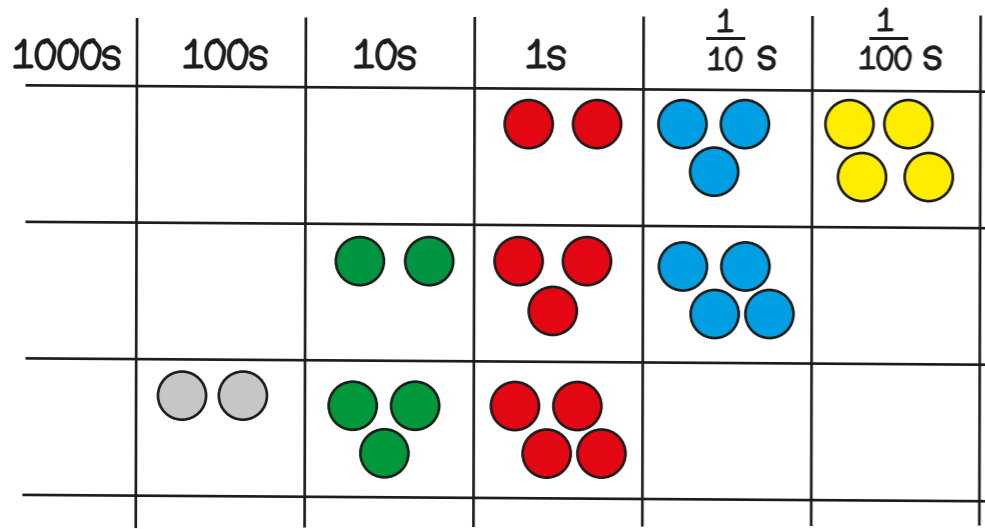
6 x 4
Use known facts and place value

$$0.6 \times 4 = 2.4$$

4 jumps of 0.6



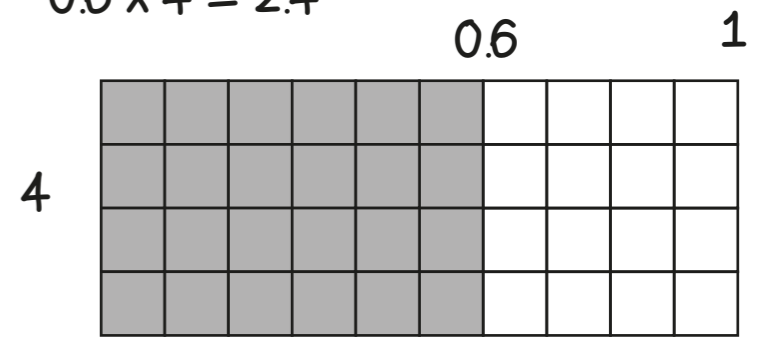
2.34 x 100
Multiply by 10, 100



How shall I multiply?

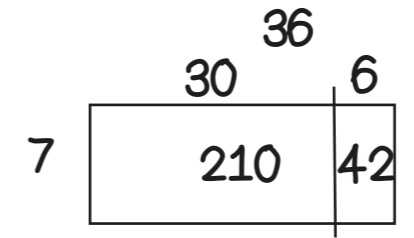
$$0.6 \times 4 = 24 \text{ tenths}$$

$$0.6 \times 4 = 2.4$$

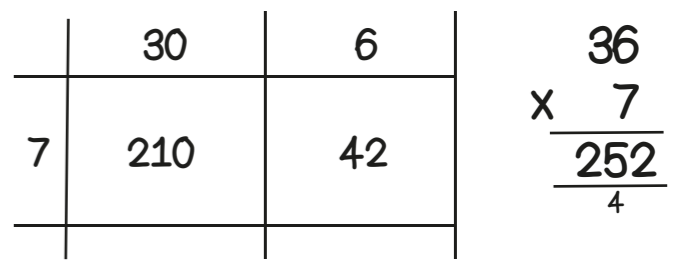


7 x 36
Use the distributive law

$$7 \times 36 = 7 \times 30 + 7 \times 6 = 210 + 42 = 252$$



36 x 7
Formal written method



45 x 6
Use factors and commutativity

Write as factors then re-order

$$2 \times (5 \times 6) = (2 \times 5) \times 6$$

$$2 \times 30 = 10 \times 6$$

$$45 \times 6 = 5 \times 9 \times 6 = 5 \times 6 \times 9 = 30 \times 9 = 270$$

$$236 \times 7 = 200 \times 7 + 30 \times 7 + 6 \times 7 = 1400 + 210 + 42 = 1652$$

Known facts:
Use recall of all multiplication tables up to 12 x 12 to derive division facts

$24 \div 4$
Use known facts and place value

240 is ten times greater than 24

$24 \div 4 = 6$
 $240 \div 40 = 6$
 $2400 \div 400 = 6$

24 biscuits shared between 4 people means they will get 6 biscuits each.
If there are 100 times as many people and 100 times as many biscuits, how many biscuits each now?

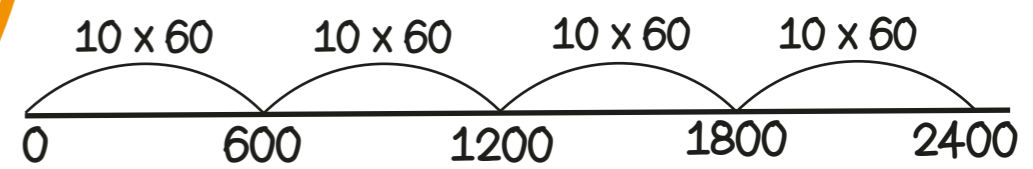
$2400 \div 400 = \frac{24 \times 100}{4 \times 100}$
 $\frac{24}{4} = 6$

60 is ten times greater than 6

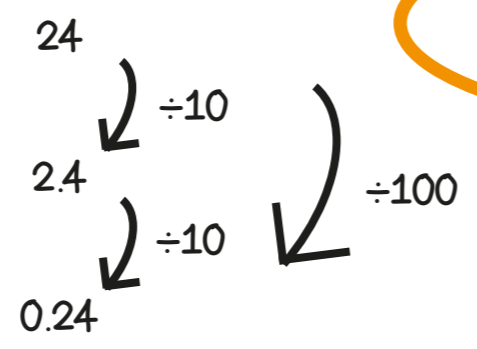
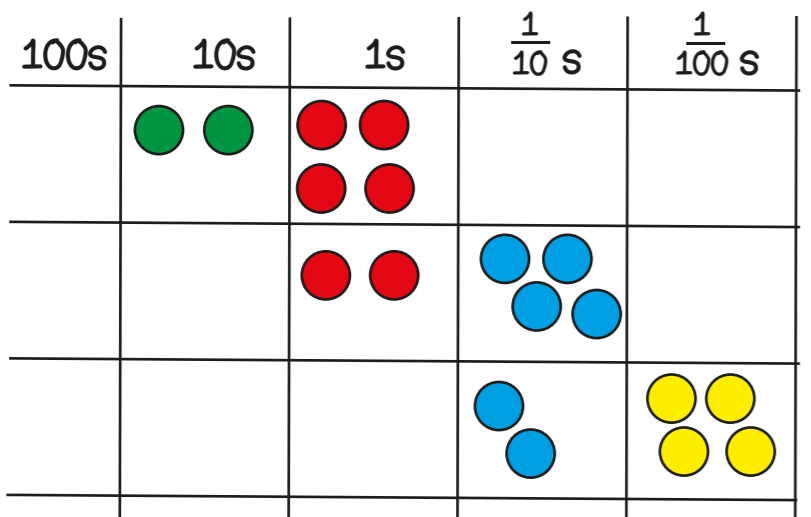
$2400 \div 60$
Use known facts and place value

$2400 \div 60 = 40$

How many steps of 60 make 2400?

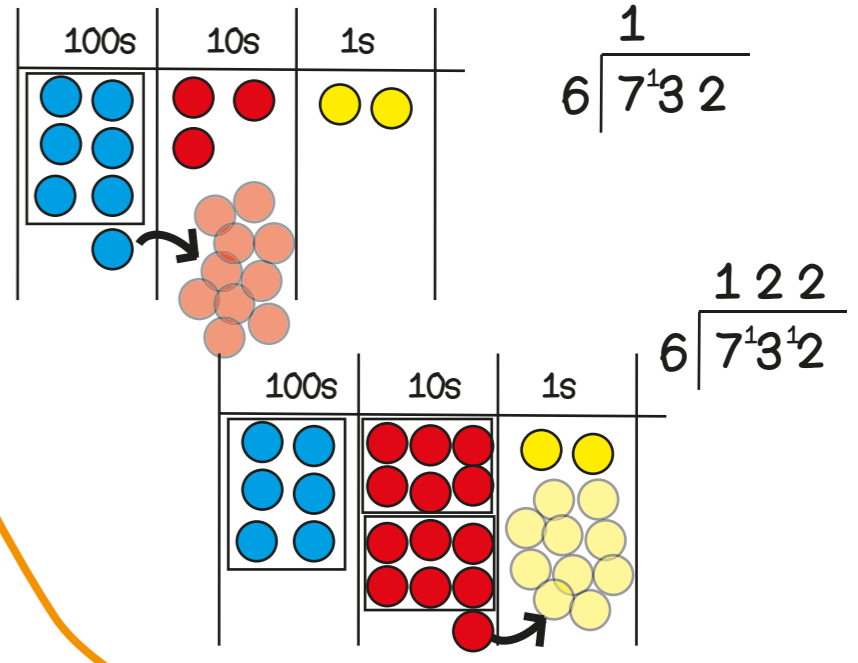


$24 \div 100$
Divide by 10, 100



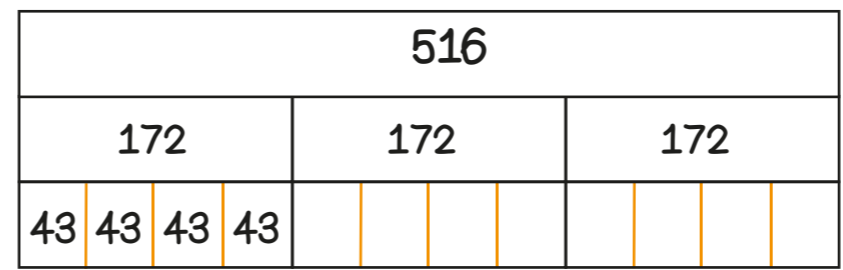
How shall I divide?

$732 \div 6$
Formal written method



$516 \div 12$
Using factors

$516 \div 3 \div 4$



$496 \div 8$
Partition and recombine

$496 \div 8$
480 16
÷ 8 ÷ 8
60 + 2 = 62

