

44 + 56, 27 + 27

Number facts

Single digit decimals

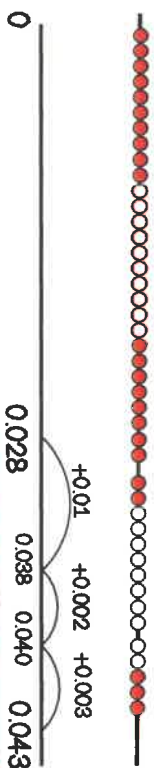
Doubles

Bonds of 1 and 100

I just knew it!

Rapid fluency of
2 digit add 2 digit numbers

$$0.028 + 0.015$$

Bridge through boundaries
by counting in efficient steps

$$325,748 + 246,374$$

Formal written method

Exchange ten of
these for one of
those!

Regroup and rename

$$\begin{array}{r} 325,748 \\ + 246,374 \\ \hline 572,122 \end{array}$$

1 1 1 1

100,000s	10,000s	1,000s	100s	10s	1s

17 + 17

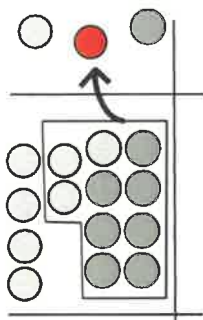
Use known facts

If I know $17 + 17 = 34$
then I know
 $17 + 17 = 34$

$$17,000 + 17,000 = 34,000$$

$$170,000 + 170,000 = 340,000$$

$$1,700,000 + 1,700,000 = 3,400,000$$



How shall I add?



$$307,040 + 206,070$$

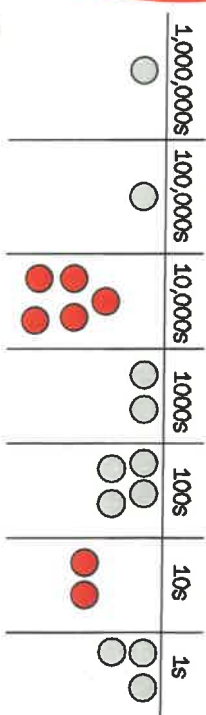
Partition and recombine

$$300,000 + 7,000 + 40 + 200,000 + 6,000 + 70$$

$$500,000 + 13,000 + 110 = 513,110$$

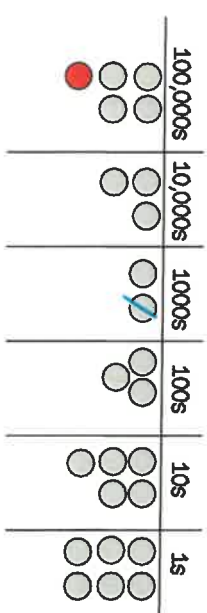
$$1,102,403 + 50,020$$

Use place value to add

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

$$432,356 + 99,000$$

Round then adjust



Add 100,000 then take away 1,000

+100,000

-1,000

$$\begin{array}{r} 0 \\ 432,356 \\ +100,000 \\ \hline 531,356 \end{array}$$

$$\begin{array}{r} 531,356 \\ 432,356 \\ -100,000 \\ \hline 432,356 \end{array}$$



0.9 - 0.4, 100 - 65

Number facts

Single digit decimals

Halves

Bonds of 1 and 100

I just knew it!

Rapid fluency of
2 digit subtract
2 digit numbers

0.054 - 0.017
Bridge through boundaries
by counting in efficient steps

$$\begin{array}{r} - 0.03 \\ 0.037 \\ \hline - 0.004 \\ 0.040 \\ \hline - 0.01 \\ 0.044 \\ \hline 0.054 \end{array}$$

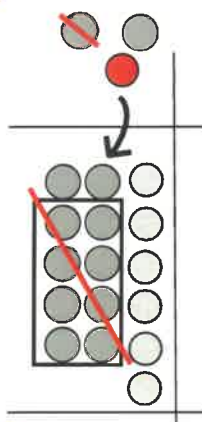
36 - 18 = 18
Use known facts

If I know 36 - 18 = 18
then I know
36 - 18 = 18

$$36,000 - 18,000 = 18,000$$

$$360,000 - 180,000 = 180,000$$

$$3,600,000 - 1,800,000 = 1,800,000$$



How shall I subtract?



400,032 - 30,005
Use place value to subtract

5 less than 32 is 27

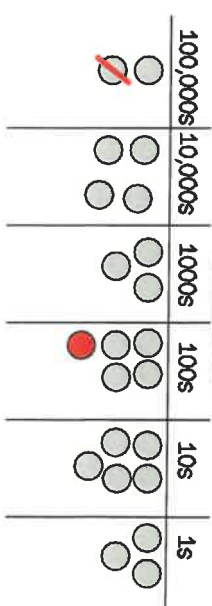
400,000 = 4 hundreds of thousands

or 400 thousands

400 - 30 = 370 so 400,000 - 3,000 = 370,000

400,032 = 400 thousands and 32 ones
take away 30 thousands and 5 ones
= 370,027

243,453 - 99,900
Round then adjust



Take away 100,000 then add 100



445,748 - 126,374
Formal written method

Exchange ten of
these for one of
those!

$$\begin{array}{r} 445,748 \\ + 126,374 \\ \hline 319,374 \end{array}$$

Regroup and rename

100,000s	10,000s	1,000s	100s	10s	1s

$$\begin{array}{r} 200,450 \\ - 199,989 \\ \hline 200,450 \end{array}$$

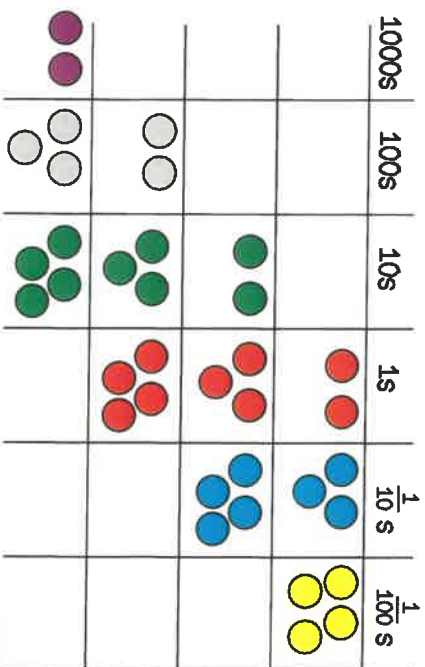
+11

+450

200,450
199,989
461

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

2.34×1000
Multiply by 10, 100, 1000



234
234
234
2340
2340
2340

6×4
Use known facts
and place value

40 is ten times
greater than 4

$$60 \times 40 = 2400$$

$$600 \times 400 = 240,000$$

$$6000 \times 4000 = 24,000,000$$

$$6 \times 10 \times 4 \times 10$$

$$= 24 \times 100$$

How shall I multiply?



15×42
Using factors and
distributive law

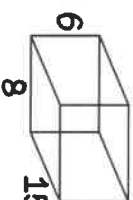
$$15 \times 48$$

$$= 15 \times 6 \times 8$$

$$= 90 \times 8$$

$$= 720$$

Factor pair

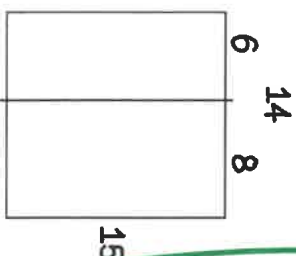


$$15 \times 14$$

$$= 15 \times 6 + 15 \times 8$$

$$= 90 + 120$$

$$= 210$$

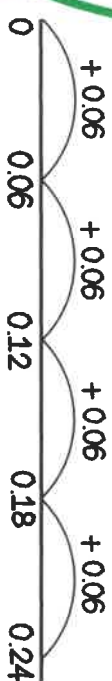


0.6 is ten times
smaller than 6

6×4
Use known facts
and place value

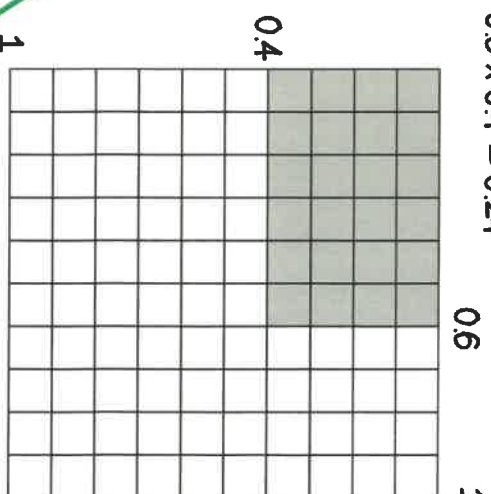
$$0.06 \times 4 = 2.4$$

4 jumps of 0.06



$$0.6 \times 0.4 = 24 \text{ hundredths}$$

$$0.6 \times 0.4 = 0.24$$



2427×38
Formal written method

$$\begin{array}{r} 2427 \\ \times 38 \\ \hline 19416 \\ 72810 \\ \hline 92226 \end{array}$$

4203×4
Partition and recombine

$$4000 \times 4 = 16,000$$

$$200 \times 4 = 800$$

$$3 \times 4 = 12$$

$$16,000 + 800 + 12 = 16,812$$



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

Include calculations where remainders occur

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

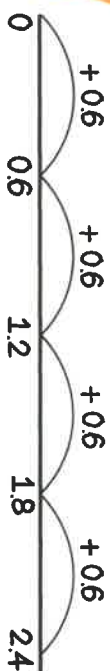
240 is ten times greater than 24

24 biscuits shared between 4 people means they will get 6 biscuits each.
If there are 10 times as many people and 10 times as many biscuits, how many biscuits each now?

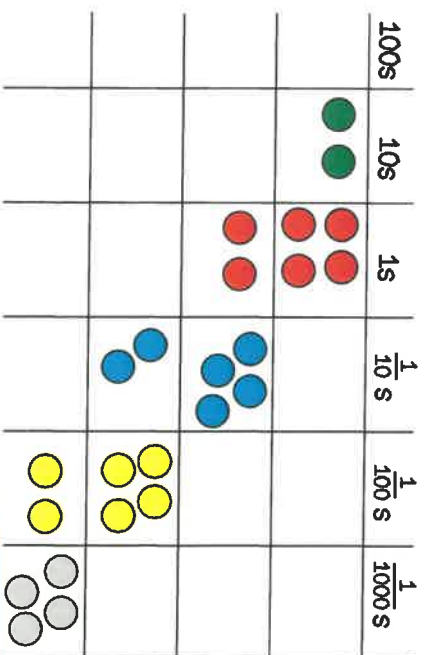
$2.4 \div 0.6$
Use known facts and place value

0.6 is ten times smaller than 6

How many steps of 0.6 make 2.4?



$24 \div 1000$
Divide by 10, 100, 1000

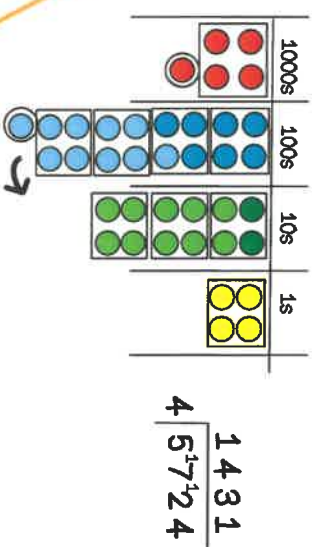


$24 \div 10 = 2.4$
 $2.4 \div 10 = 0.24$
 $0.24 \div 10 = 0.024$

How shall I divide?



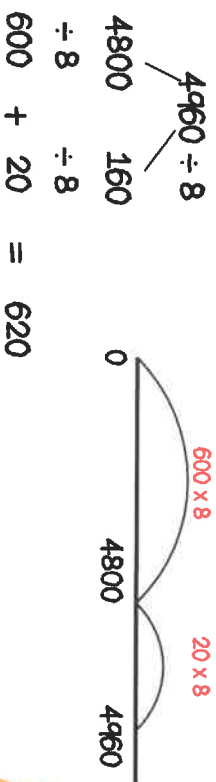
$7182 \div 21$
Formal written method



$4 \overline{) 1431}$
 $4 \overline{) 5724}$

$1512 \div 24$
Using factors

$496 \div 8$
Partition and recombine



$1512 \div 6 \div 4$

1512					
252	252	252	252	252	252
63	63	63	63	63	63

