River View Primary and Nursery School

'Together, We Make Our Community Richer'

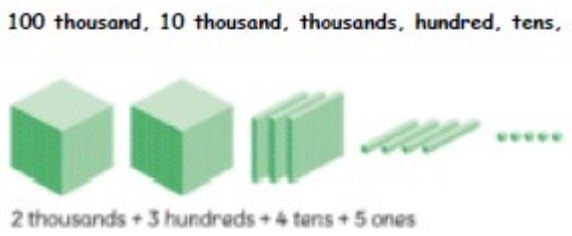
YEAR 5

CALCULATION POLICY

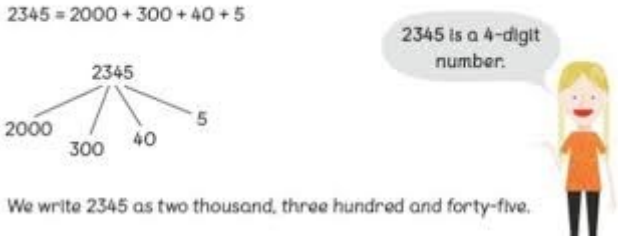
Year 5

Place Value

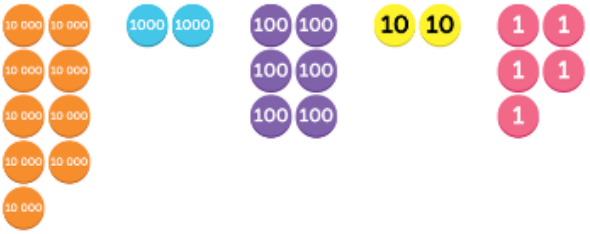
Base 10 or dienes blocks:



Partitioning:



Value of digits:



ten thousands	thousands	hundreds	tens	ones
9	2	6	2	5

Place value cards:

The 9 has a value of 90 000 or 90 thousands.
It is in the ten-thousands place.

The 2 has a value of 2000 or 2 thousands.
It is in the thousands place.

The 6 has a value of 600 or 6 hundreds.
It is in the hundreds place.

The 2 has a value of 20 or 2 tens.
It is in the tens place.

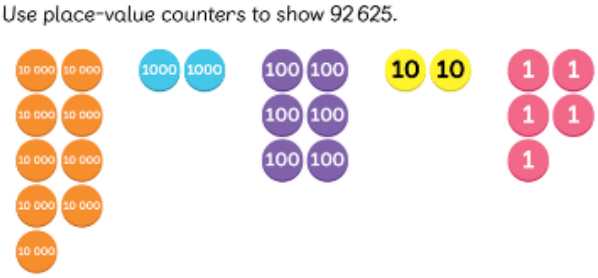
The 5 has a value of 5 or 5 ones.
It is in the ones place.

92 625 = 90 000 + 2000 + 600 + 20 + 5

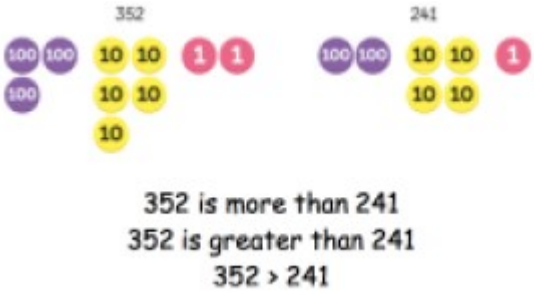
Year 5

Place Value

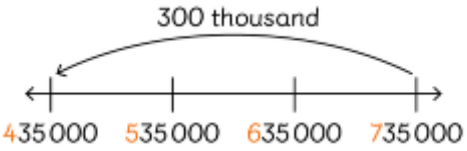
Place value counters:



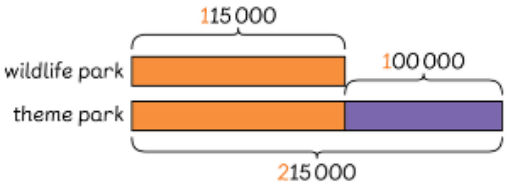
Comparing numbers:



Number lines:



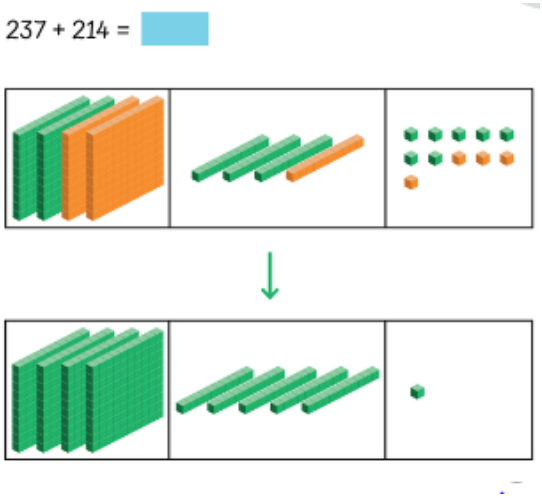
Comparing numbers (bar model):



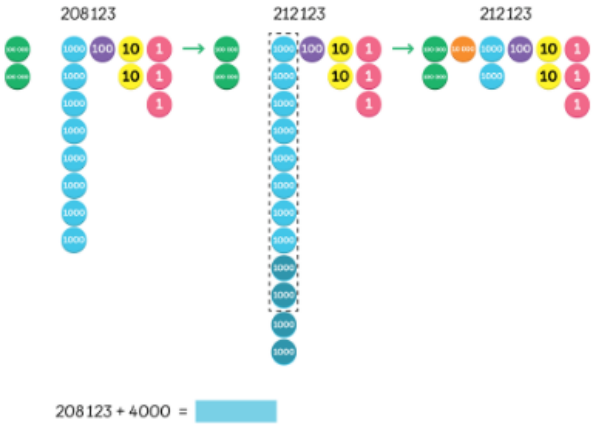
Year 5

Addition

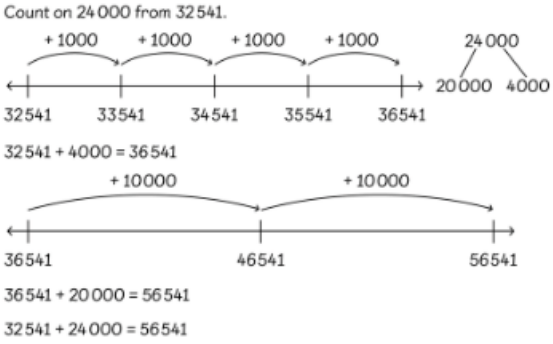
Base 10 method:



Counters method:



Number line:



Inverse calculations:

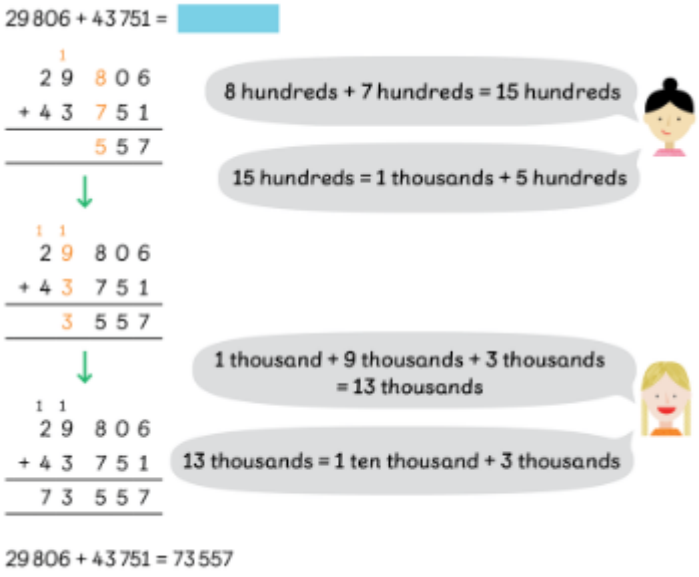
Commutative	Inverse
1415 + 12 = 1427	1427 - 12 = 1415
12 + 1415 = 1427	1427 - 1415 = 12

Year 5

Addition

Bar model:

Column addition:



$$\begin{array}{r} 14\,000 \\ +\,25\,000 \\ \hline 39\,000 \end{array}$$

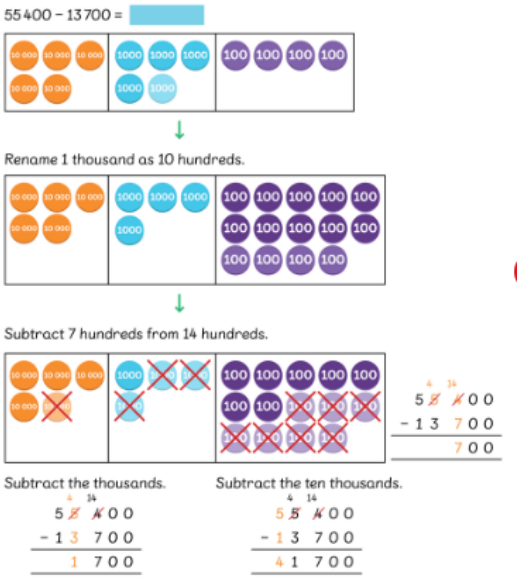
Estimation:

$$31249 + 58155 \approx 30000 + 60000$$
$$= 90000$$

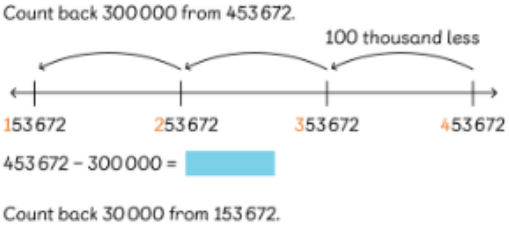
Year 5

Subtraction

Counters method:



Number line method:



Inverse calculations:

Commutative	Inverse
1728 - 4 = 1724	1724 + 4 = 1728
1728 - 1724 = 4	4 + 1724 = 1728

Year 5

Subtraction

Missing number problems:

$$\begin{array}{rcccc} & \square & 3 & 2 & 7 & 6 \\ - & 2 & \square & 1 & 8 & \square \\ \hline & 2 & 0 & \square & 8 & 8 \end{array}$$

Column subtraction:

$$\begin{array}{rcccc} & 7 & 9 & 10 & 11 & 13 \\ & \cancel{8} & 0 & \cancel{1} & \cancel{2} & \cancel{3} \\ - & 7 & 9 & 6 & 5 & 4 \\ \hline & & & 4 & 6 & 9 \end{array}$$

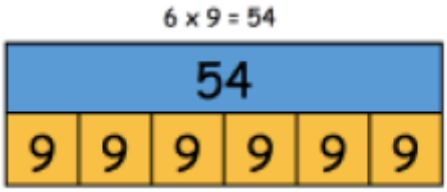
80 123 − 79 654 = 469

Bar modelling:

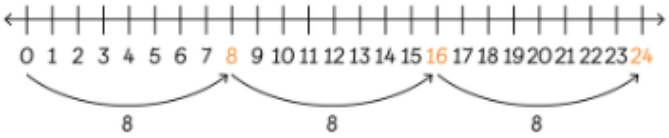
Year 5

Multiplication

Bar model:



Number line method:



Array method:

Year 5

Multiplication

Multiplying by 10, 100 and 1000:

11 packets: 11 × 10 = 11 × 1 ten = 11 tens = 110 11 packets will have 110 beads.	
11 bags: 11 × 100 = 11 × 1 hundred = 11 hundreds = 1100 11 bags will have 1100 beads.	
11 boxes: 11 × 1000 = 11 × 1 thousand = 11 thousands = 11 000 11 boxes will have 11 000 beads.	

Long and short multiplication:

```
  3 5 6
×     5
-------
  1 7 8 0
```

3 0 → 5 × 6 = 30

2 5 0 → 5 × 50 = 250

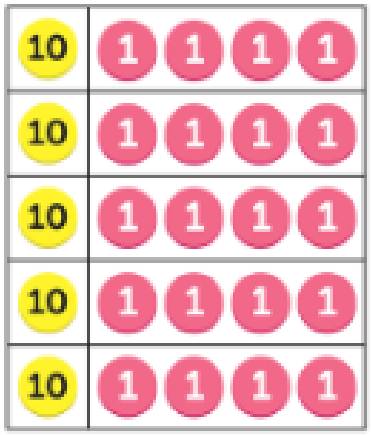
+ 1 5 0 0 → 5 × 300 = 1500

5 × 356 = 1780

```
  1 1
  2 5 4 1
×       3
---------
  7 6 2 3
```

Counters method:

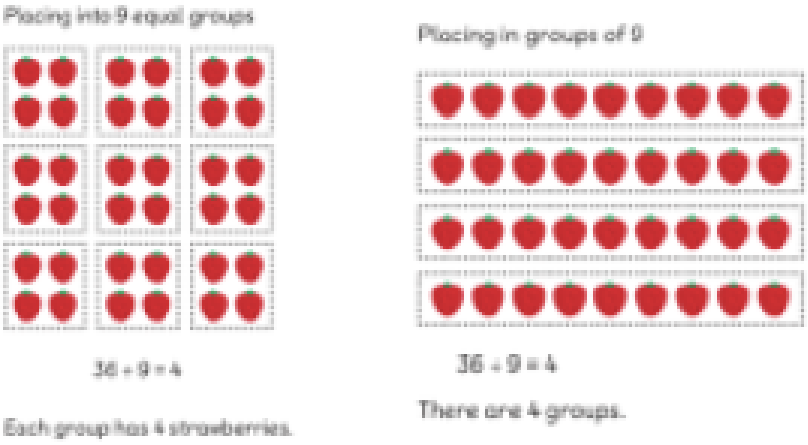
£14 × 5 = ☐



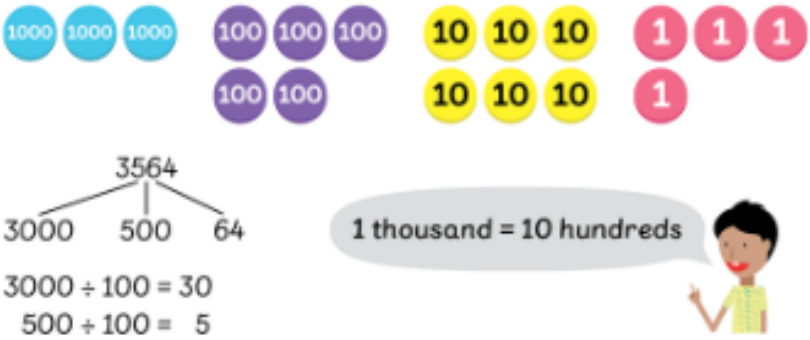
Year 5

Division

Division by grouping:



Dividing by 10, 100 and 1000:

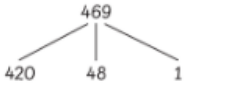


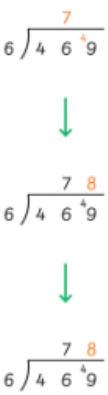
Year 5

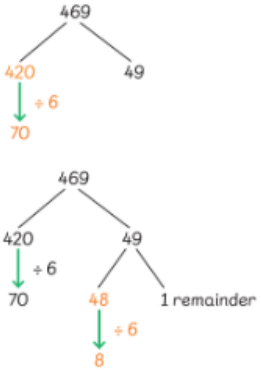
Division

Divide with remainders:

469 ÷ 6 =

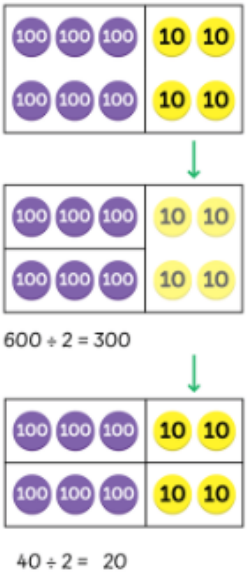






Divide without remainders:

640 ÷ 2 =

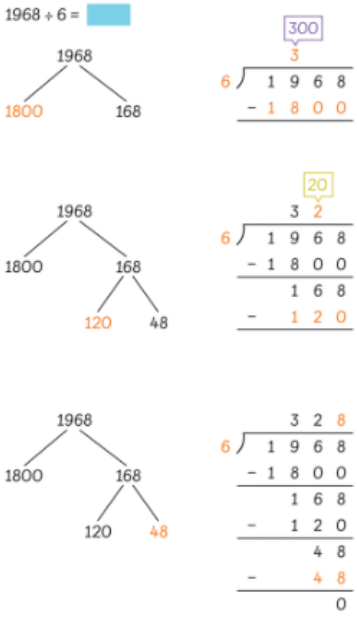


600 ÷ 2 = 300

40 ÷ 2 = 20

640 ÷ 2 = 320

1968 ÷ 6 =



1968 ÷ 6 = 328