Familiarisation

Numicon Shapes

1 2 3 4 5 6 7 8 9 10

Number Rods

1
2
3
4
5
6
7
8
9
10
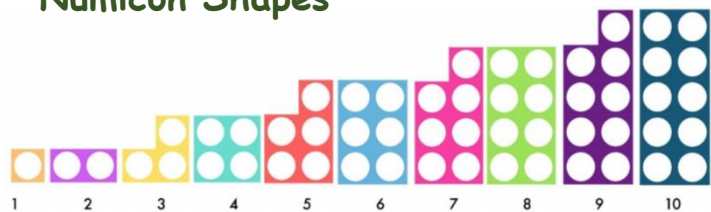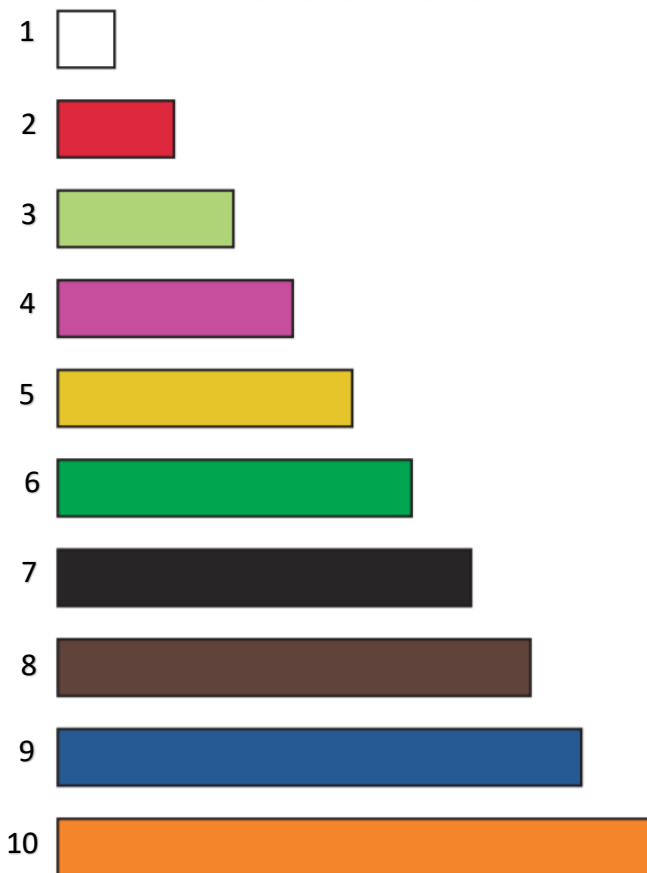
Number and place value

Number and Place Value — Knowledge Organiser

Numbers to One Million

926 471

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
9	2	6	4	7	1

nine hundred and twenty-six thousand, four hundred and seventy-one

926 471 → 900 000, 20 000, 6000, 400, 70, 1

0 — 500 000 — 1 000 000

100 00 200 000 300 000 400 000 600 000 700 000 800 000 900 000

Rounding

Rounding to the nearest 10

20	21	22	23	24	25	26	27	28	29	30

← round down   round up →

Rounding to the nearest 1000

2000 ← → 2499 | 2500 → 3000

round down   round up

Rounding to the nearest 100 000

200 000 ← → 249 999 | 250 000 → 300 000

round down   round up

Compare and Order

equals	greater than	less than
26 + 38 = 8 × 8	23 873 > 8256	901 198 < 1 091 098
Both calculations have the value 64.	The number on the left has 2 ten thousands and the number on the right has 0 ten thousands.	The number on the right has 1 million and the number on the left has 0 millions.

smallest | 898 | 6735 | 6835 | 7019 | 9002 | 11 235 | greatest

Negative Numbers

-25 -24 -23 -22 -21 -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Column Method

		4	5	8	6	4
+		2	3	4	9	7
		6	9	3	6	1
			1	1	1

Starting with the ones, add each column in turn. Regroup tens, hundreds, thousands, ten thousands as required.

	3	5	⁶7̶	¹³7̶4̶	¹2̶
-			3	4	7	6
	3	2	2	6	6

Starting with the ones, subtract each column in turn. Exchange tens, hundreds, thousands and/or ten thousands as required.

Counting in Powers of 10

Counting in 10s

365	375	385	395	405	415

The tens increase until 9 tens becomes one more hundred and 0 tens.

Counting in 100s

2841	2941	3041	3141	3241	3341

The hundreds increase until 9 hundreds becomes one more thousand and 0 hundreds.
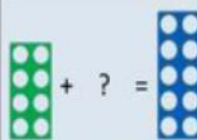
Counting in 10 000s

276 109	286 109	296 109	306 109

The ten thousands increase until 9 ten thousands become one more hundred thousand and 0 ten thousands.

Counting in 100 000s
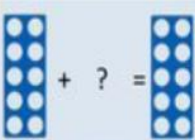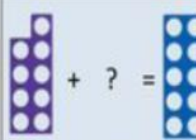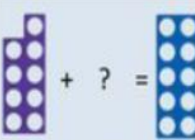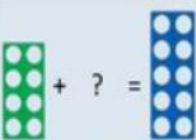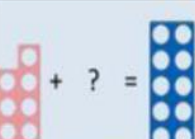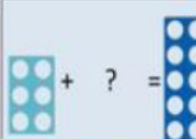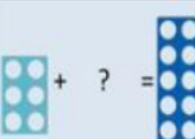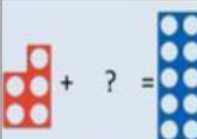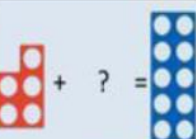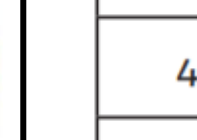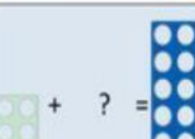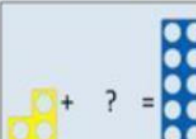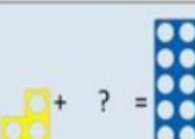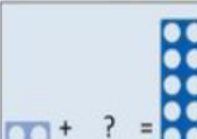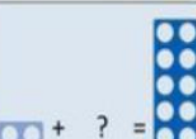
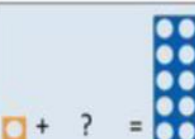| 2 972 151	3 072 151	3 172 151	3 272 151

The hundred thousands increase until 9 hundred thousands becomes one more million and 0 hundred thousands.

NUMICON – UNITS 1 TO 3 KNOWLEDGE ORGANISER

Quiz 1

Work out the following exercises:

$10 + \boxed{} = 10$

$9 + \boxed{} = 10$

$8 + \boxed{} = 10$

$7 + \boxed{} = 10$

$6 + \boxed{} = 10$

$5 + \boxed{} = 10$

$4 + \boxed{} = 10$

$3 + \boxed{} = 10$

$2 + \boxed{} = 10$

$1 + \boxed{} = 10$

Quiz 2

Use >, =, > to compare the following numbers:

817	>	781
6205		6208
8574		7548
4274		7442
7891		7198
9999		10 000
1099		9011
3991		3919
1056		10 065
10 001		10 010
80 102		29 999

Quiz 3

Write the following numbers in ascending order:

a. 856, 5001, 4999, 4959, 4599, 5101

b. 7357, 7537, 7753, 7735, 7053, 7305

c. 3746, 3467, 3476, 3673, 3764, 4763

NUMICON – UNITS 1 TO 3 KNOWLEDGE ORGANISER

Round up the following numbers to the nearest 100 and 1000:

3764

to the nearest 100:

to the nearest 1000:

5250

to the nearest 100:

to the nearest 1000:

1985

to the nearest 100:

to the nearest 1000:

2340

to the nearest 100:

to the nearest 1000:

Estimate the results of the following additions, then check how close you were:

```
    4 5 5    Estimated:
+   2 8 1
_____
```

```
    4 5 5    Estimated:
+   2 8 1
_____
```

```
    6 7 7    Estimated:
+   1 6 0
_____
```

Estimate the results of the following subtractions, then check how close you were:

```
    6 7 2    Estimated:
-   3 3 9
_____
```

```
    7 6 0    Estimated:
-   3 2 5
_____
```

```
    6 0 9    Estimated:
-   5 2 6
_____
```

Quiz 7

Fill in the missing digits:

1
```
   9 _ 4 5
 - _ 5 _ 6
 _____
   1 7 1 _
```

2
```
   2 6 _ 5
 - 1 _ 6 _
 _____
 _ 3 6 8
```

3
```
 _ 5 _ 7
 - 2 _ 2 _
 _____
   4 9 7 1
```

4
```
   2 _ _ 8
 - _ 6 3 _
 _____
   1 0 7 5
```

Quiz 8

Find the missing numbers:

29
15 — ☐

39
16 — ☐

70
48 — ☐
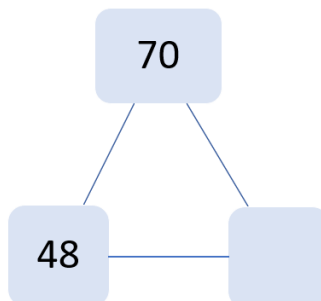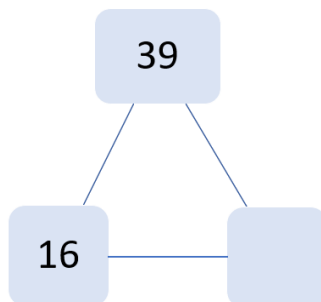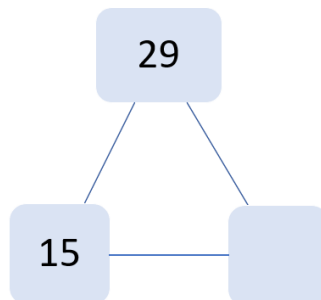
Quiz 9

Fill in the missing gaps below to create inverse calculations. Use the models to help you.

16
6   10

16 - ____ = ____

____ + ____ = 16

18	
13	5

____ + ____ = 18

18 - ____ = ____

____ - ____ = ____

____ + ____ = ____