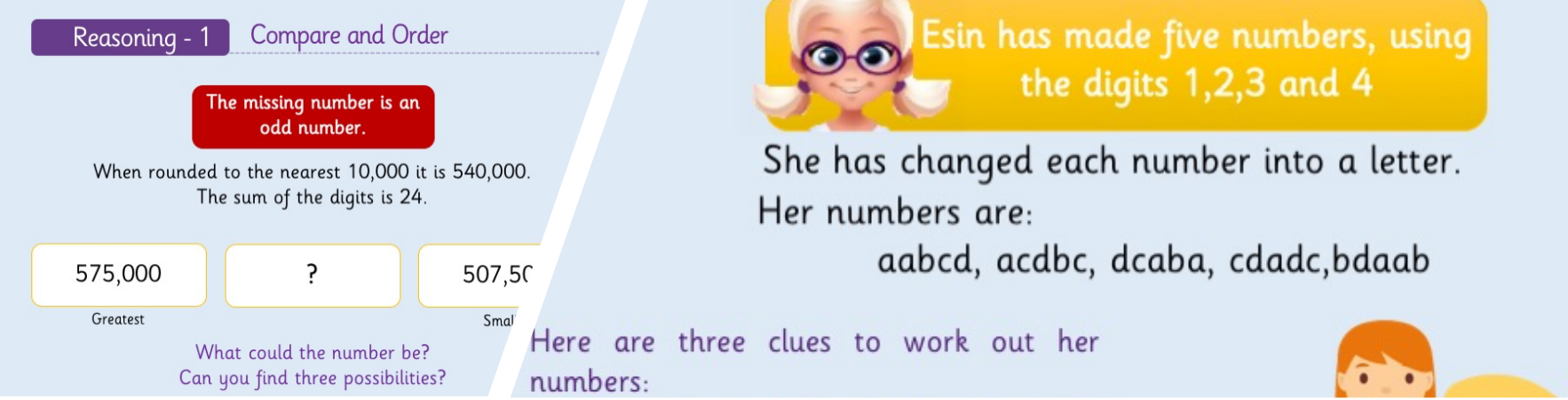
Place Value

Master The Curriculum



5

Fluency Teaching Slides



For the full teaching slides, including reasoning, please visit:
www.masterthecurriculum.co.uk



Numbers to 10,000



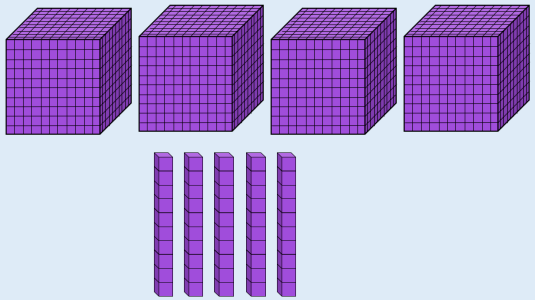
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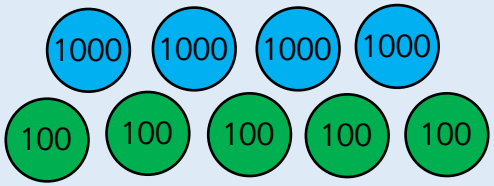
Fluency Teaching Slides

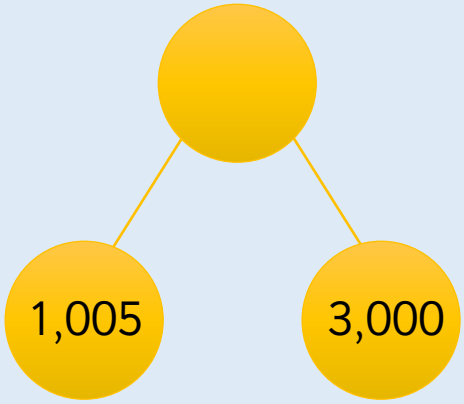
www.masterthecurriculum.co.uk

Activity 1 Numbers to 10,000

Match the diagram to the number.





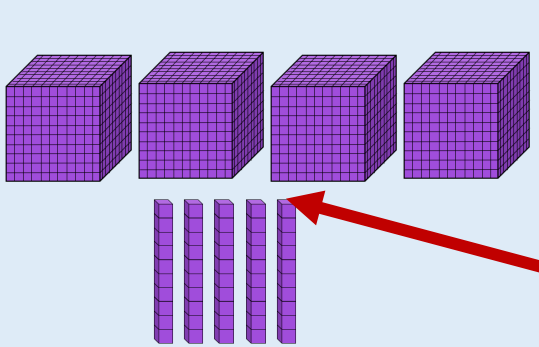


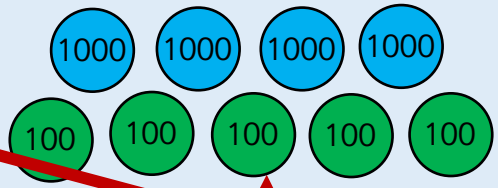
4,005	4,500	4,050

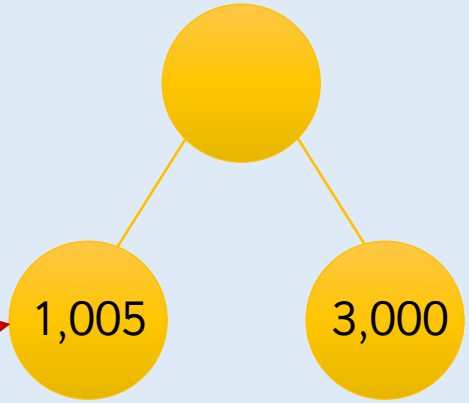
? *Can you show me 8,045 in three different ways?*

Activity 1 Numbers to 10,000

Match the diagram to the number.







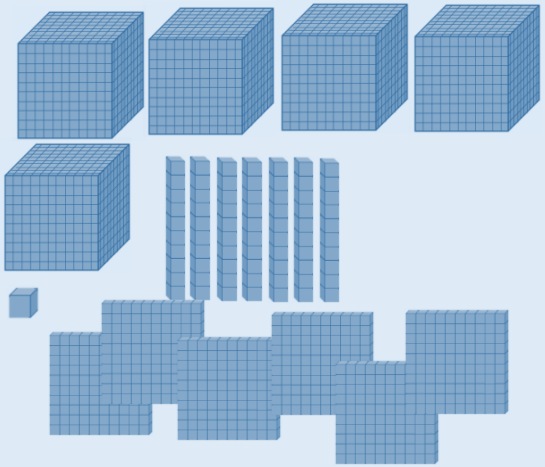
4,005

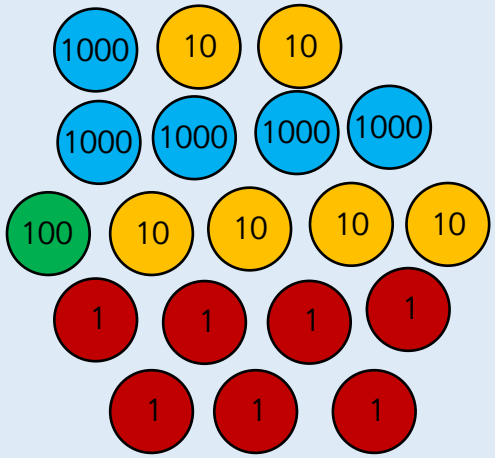
4,500

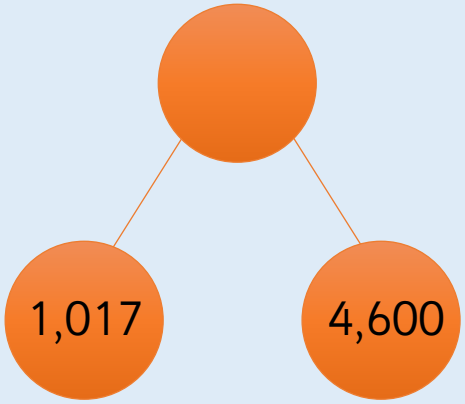
4,050

Activity 1 Numbers to 10,000

Match the diagram to the number.







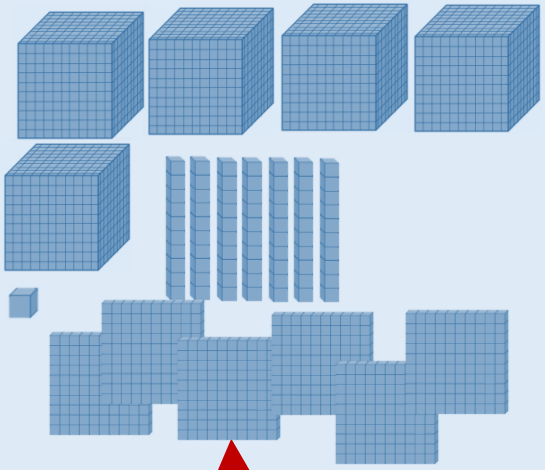
5,671

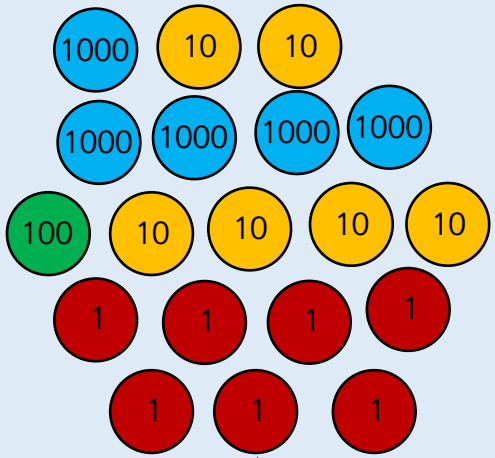
5,167

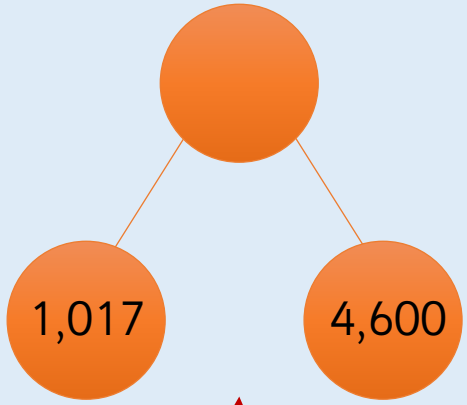
5,617

Activity 1 Numbers to 10,000

Match the diagram to the number.







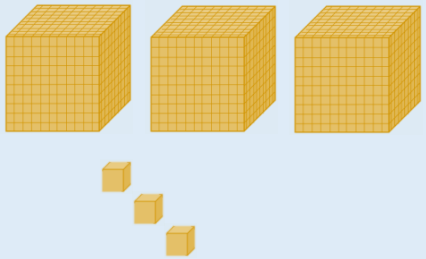
5,671

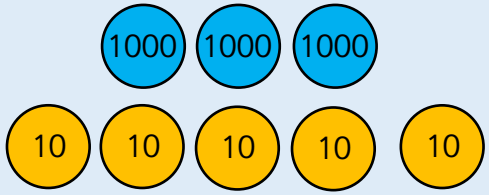
5,167

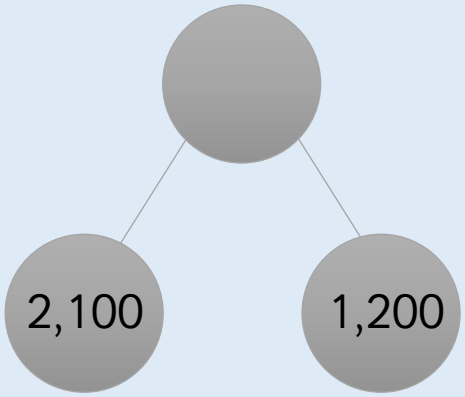
5,617

Activity 1 Numbers to 10,000

Match the diagram to the number.







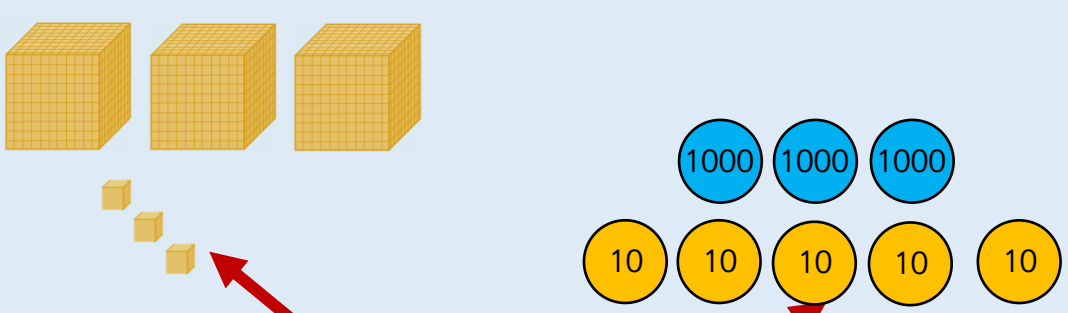
3,050

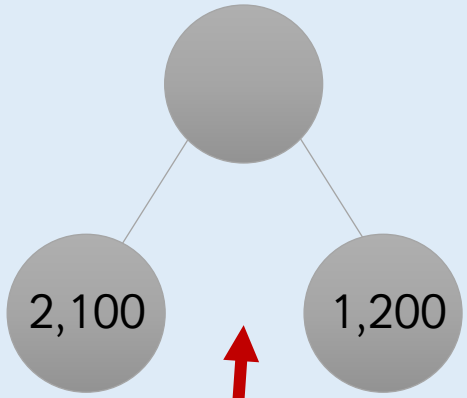
3,003

3,300

Activity 1 Numbers to 10,000

Match the diagram to the number.





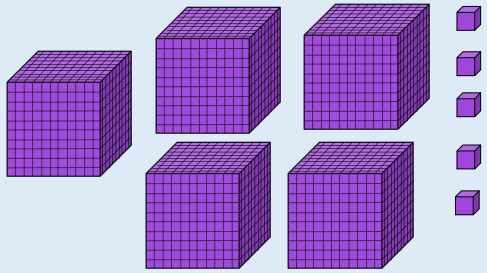
3,050

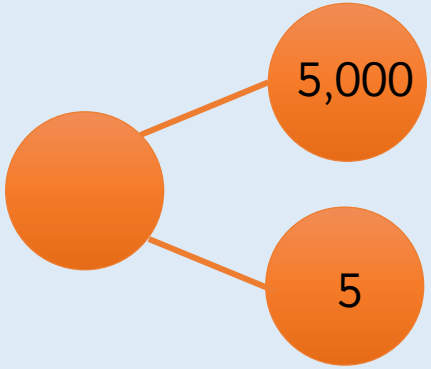
3,003

3,300

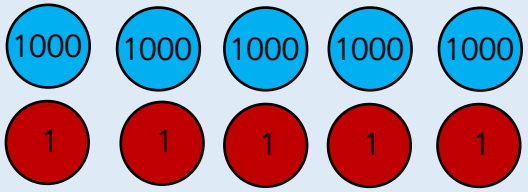
Activity 2 Numbers to 10,000

Which diagram is the odd one out?







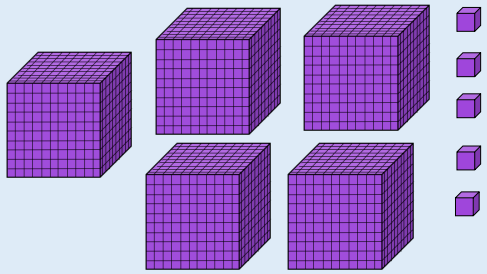


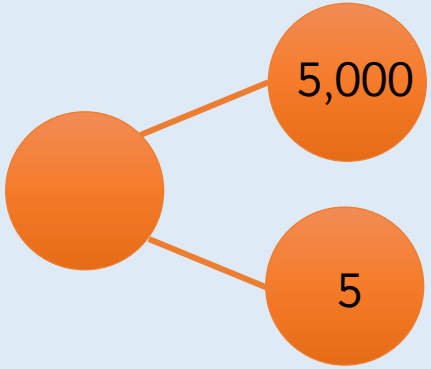
?

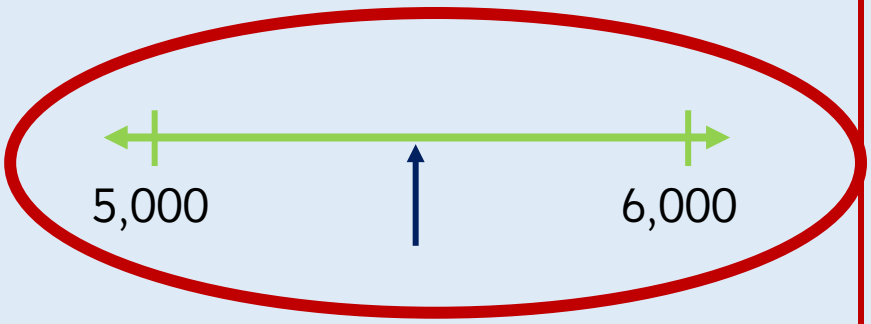
Do you prefer to use concrete objects or draw an image pictorially? Why?

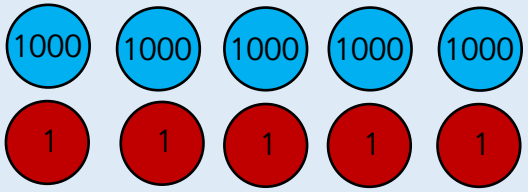
Activity 2 Numbers to 10,000

Which diagram is the odd one out?





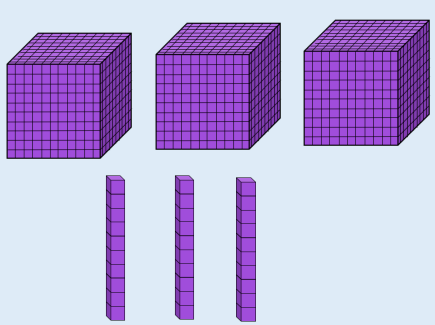


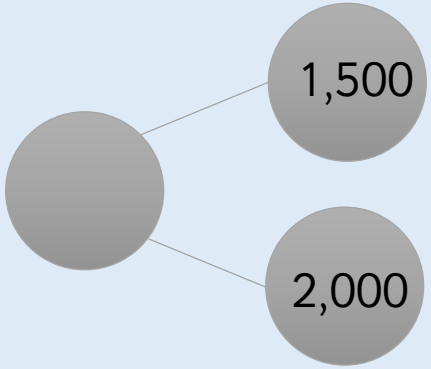


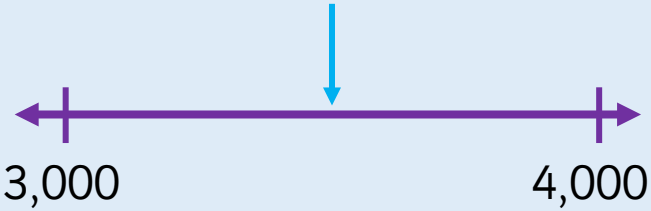
All of the other images show 5,005. This image shows 5,500.

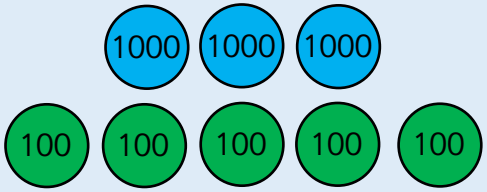
Activity 2 Numbers to 10,000

Which diagram is the odd one out?



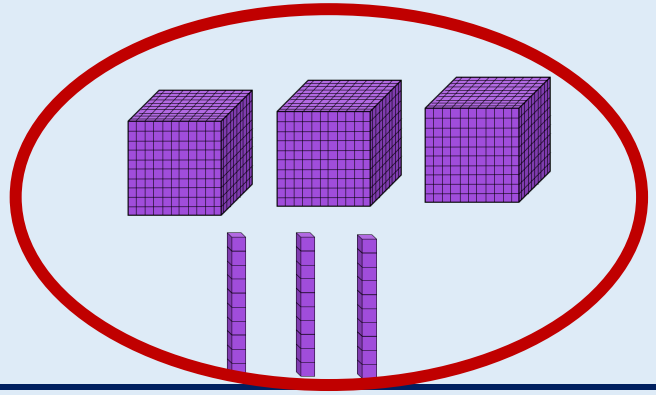


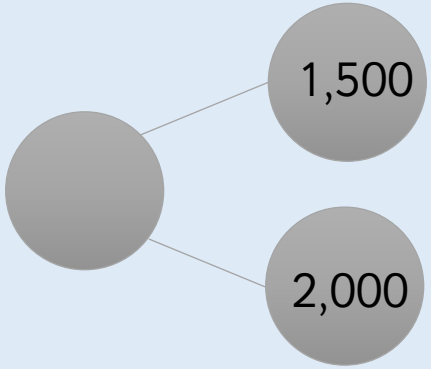


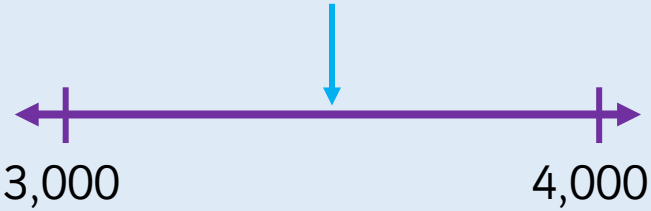


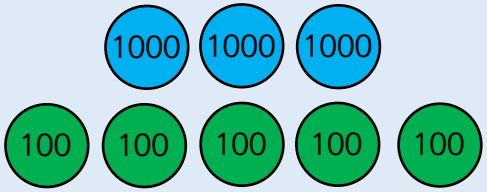
Activity 2 Numbers to 10,000

Which diagram is the odd one out?









All of the other images show 3,500. This image shows 3,030.

Activity 3 Numbers to 10,000

Complete the table.

	Add 10	Add 100	Add 1,000
4,579			
3,999			
8,193			

Activity 3 Numbers to 10,000

Complete the table.

	Add 10	Add 100	Add 1,000
4,579	4,589	4,689	5,689
3,999	4,009	4,109	5,109
8,193	8,203	8,303	9,303

Activity 3 Numbers to 10,000

Complete the table.

	Add 10	Add 100	Add 1,000
2,508			
7,999			
		1,070	

Activity 3 Numbers to 10,000

Complete the table.

	Add 10	Add 100	Add 1,000
2,508	2,518	2,618	3,618
7,999	8,009	8,109	9,109
960	970	1,070	2,070

Activity 3 Numbers to 10,000

Complete the table.

	Add 10	Add 100	Add 1,000
			9,492
		5,456	
	1,578		

Activity 3 Numbers to 10,000

Complete the table.

	Add 10	Add 100	Add 1,000
8,382	8,392	8,492	9,492
5,346	5,356	5,456	6,456
1,568	1,578	1,678	2,678

Activity 3 Numbers to 10,000

Complete the table.

	Subtract 10	Subtract 100	Subtract 1,000
	5,302		
		9,719	
			5,561

Activity 3 Numbers to 10,000

Complete the table.

	Subtract 10	Subtract 100	Subtract 1,000
5,312	5,302	5,202	4,202
9,829	9,819	9,719	8,719
6,671	6,661	6,561	5,561

Discuss

Numbers to 10,000

Show me 3,508 in three different ways.

Do you prefer to use concrete objects or draw an image pictorially? Why?

Make 2,500 and explain why you choose to make it in this way.

Roman Numerals

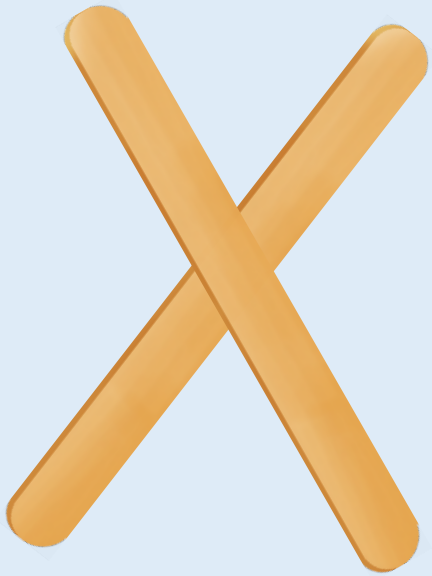
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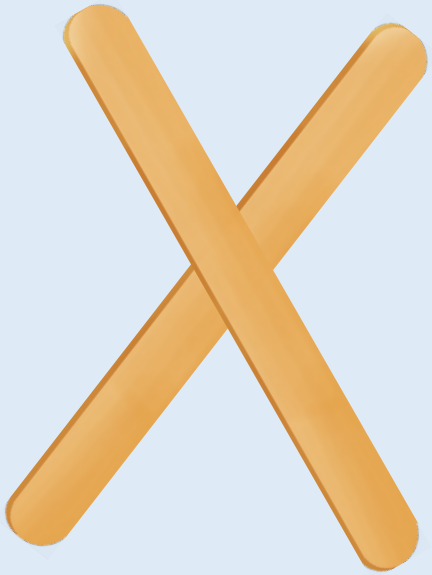
Fluency Teaching Slides

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Activity 1 Roman Numerals

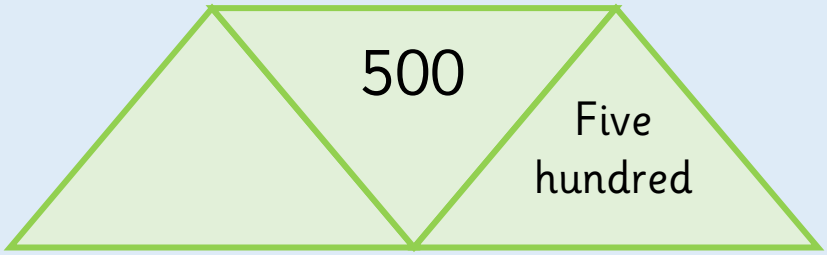
Lollipop stick activity.
The teacher shouts out a number and the children make it with lollipop sticks.
You can do this in pairs or groups... or even test your teacher!

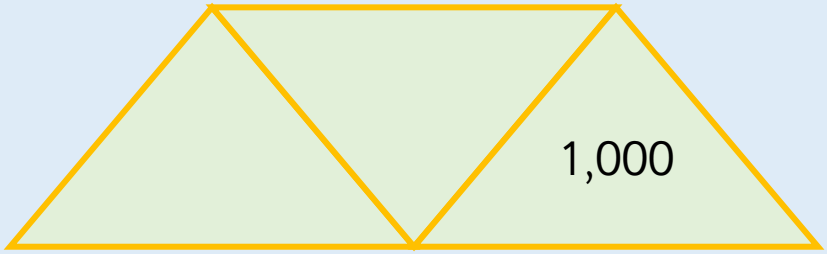


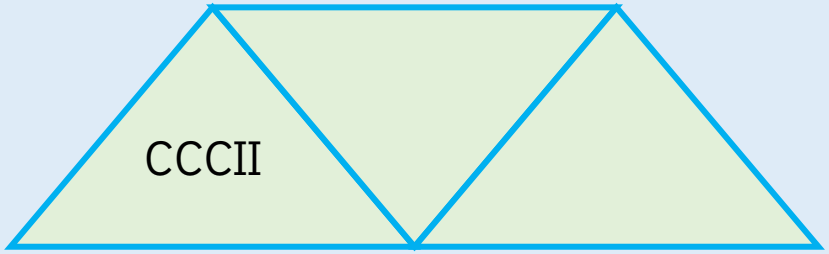


Activity 2 Roman Numerals

Each diagram shows a number in digits, words and Roman Numerals. Complete the diagrams.





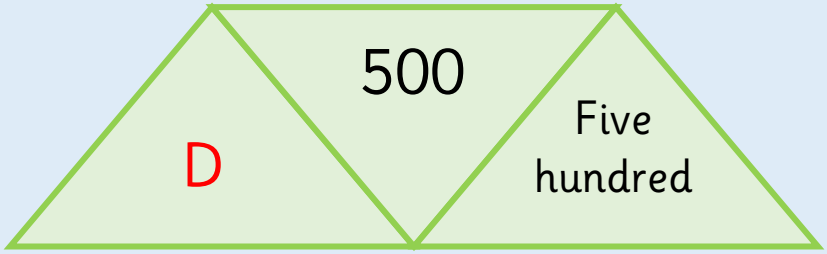


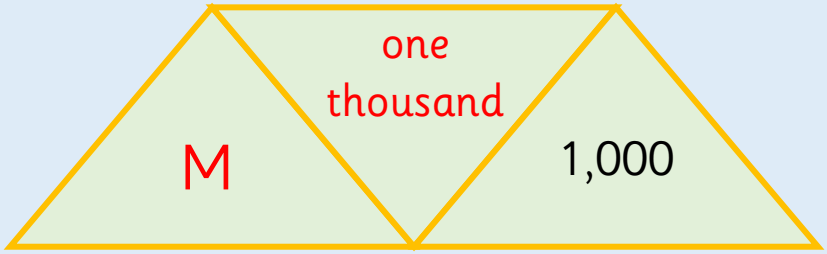
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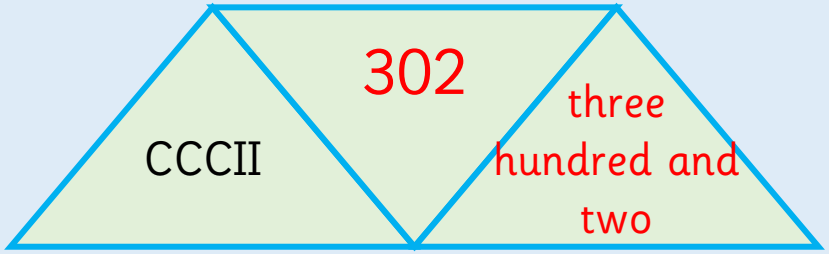
Why is there no zero in Roman Numerals? What might it look like?

Activity 2 Roman Numerals

Each diagram shows a number in digits, words and Roman Numerals. Complete the diagrams.

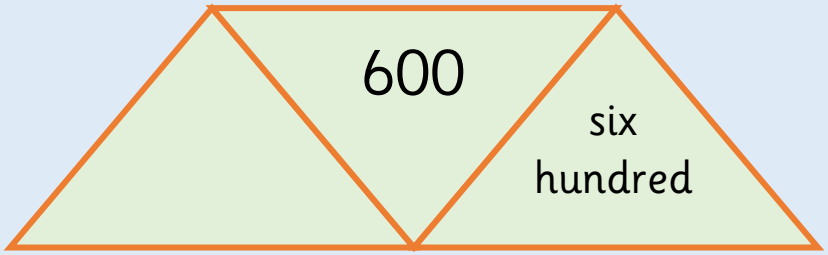


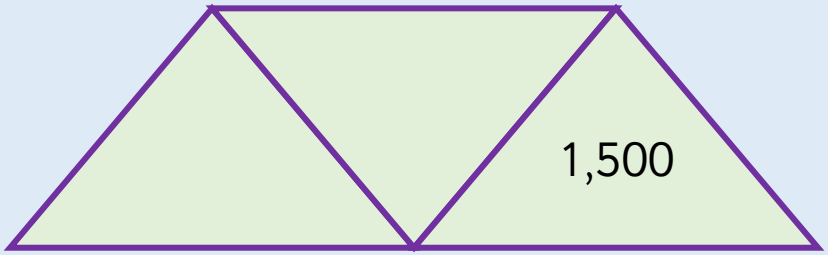


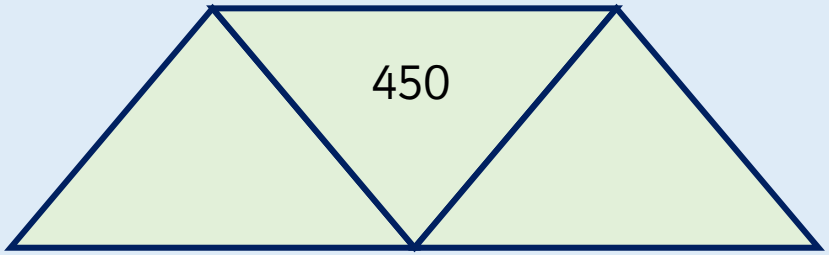


Activity 2 Roman Numerals

Each diagram shows a number in digits, words and Roman Numerals. Complete the diagrams.

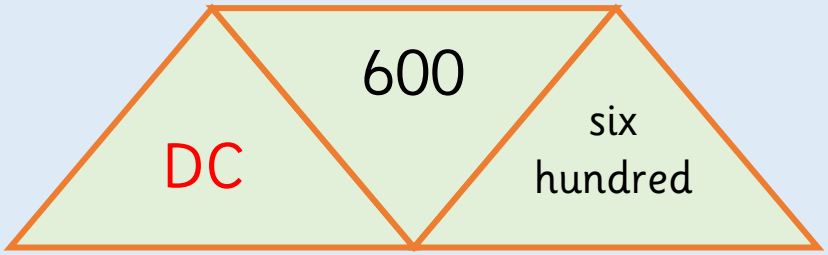


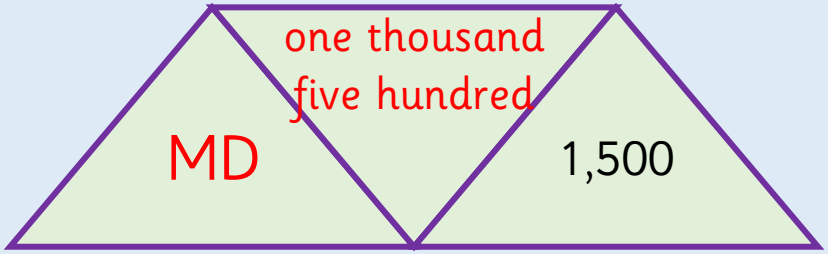


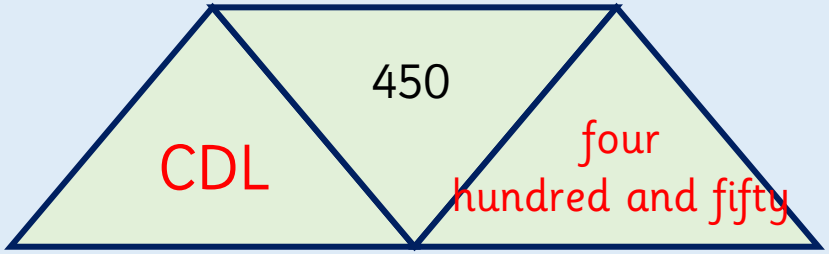


Activity 2 Roman Numerals

Each diagram shows a number in digits, words and Roman Numerals. Complete the diagrams.

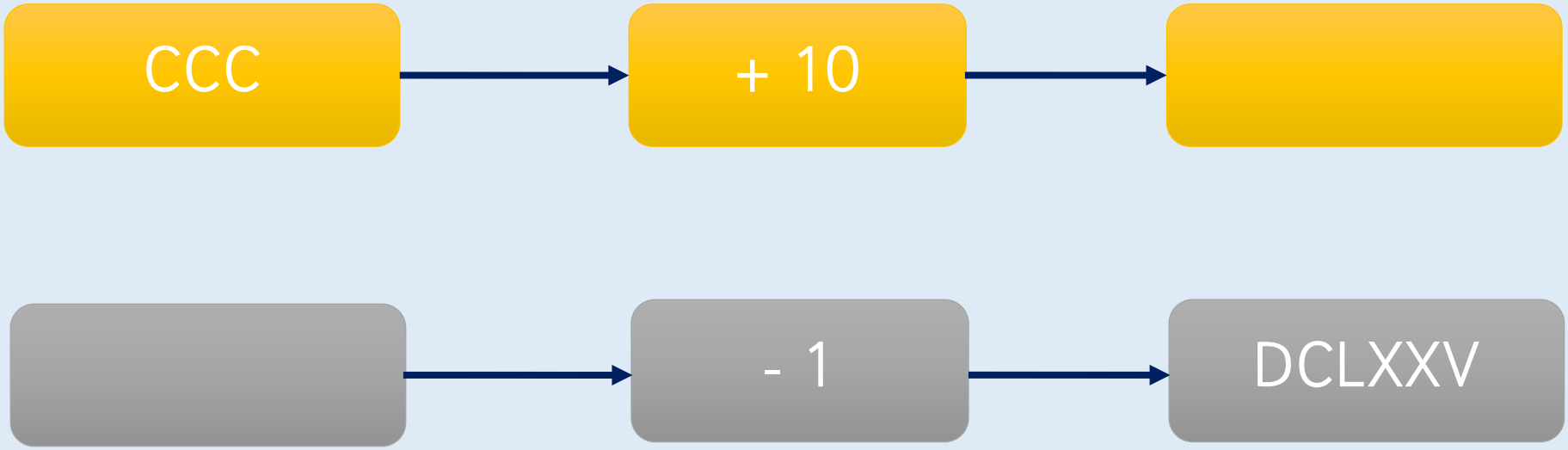






Activity 3 Roman Numerals

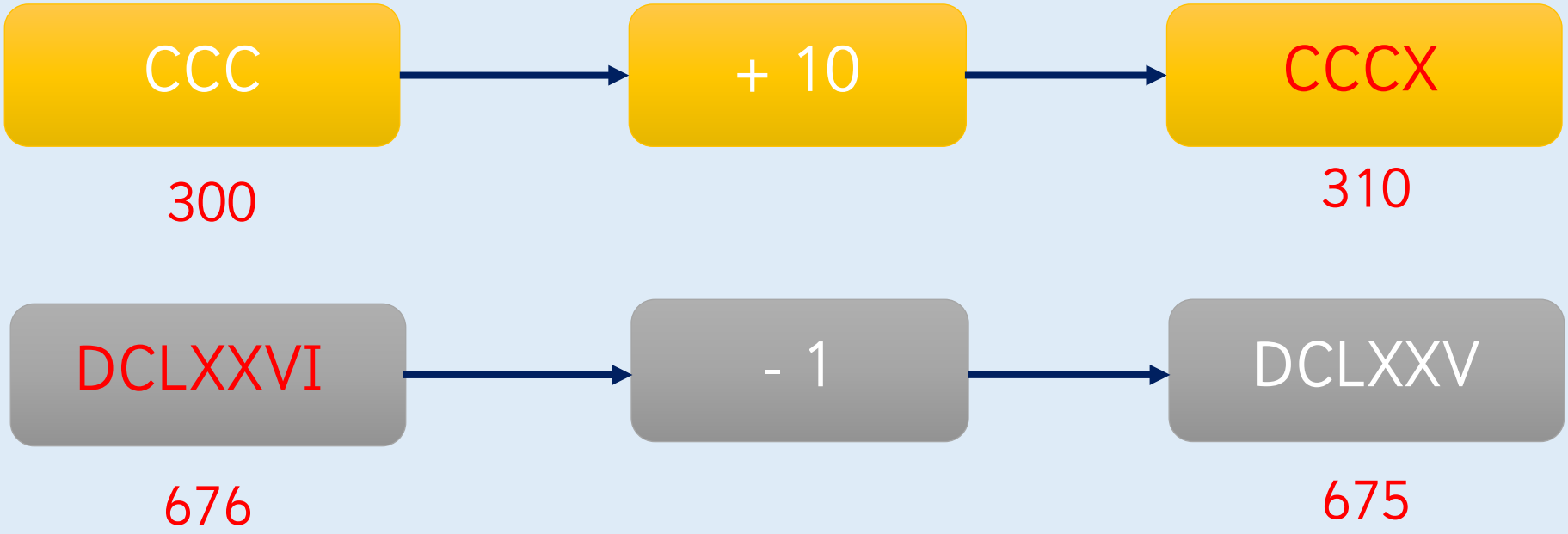
Complete the function machines.



How can you check you have represented the Roman Numeral correctly?

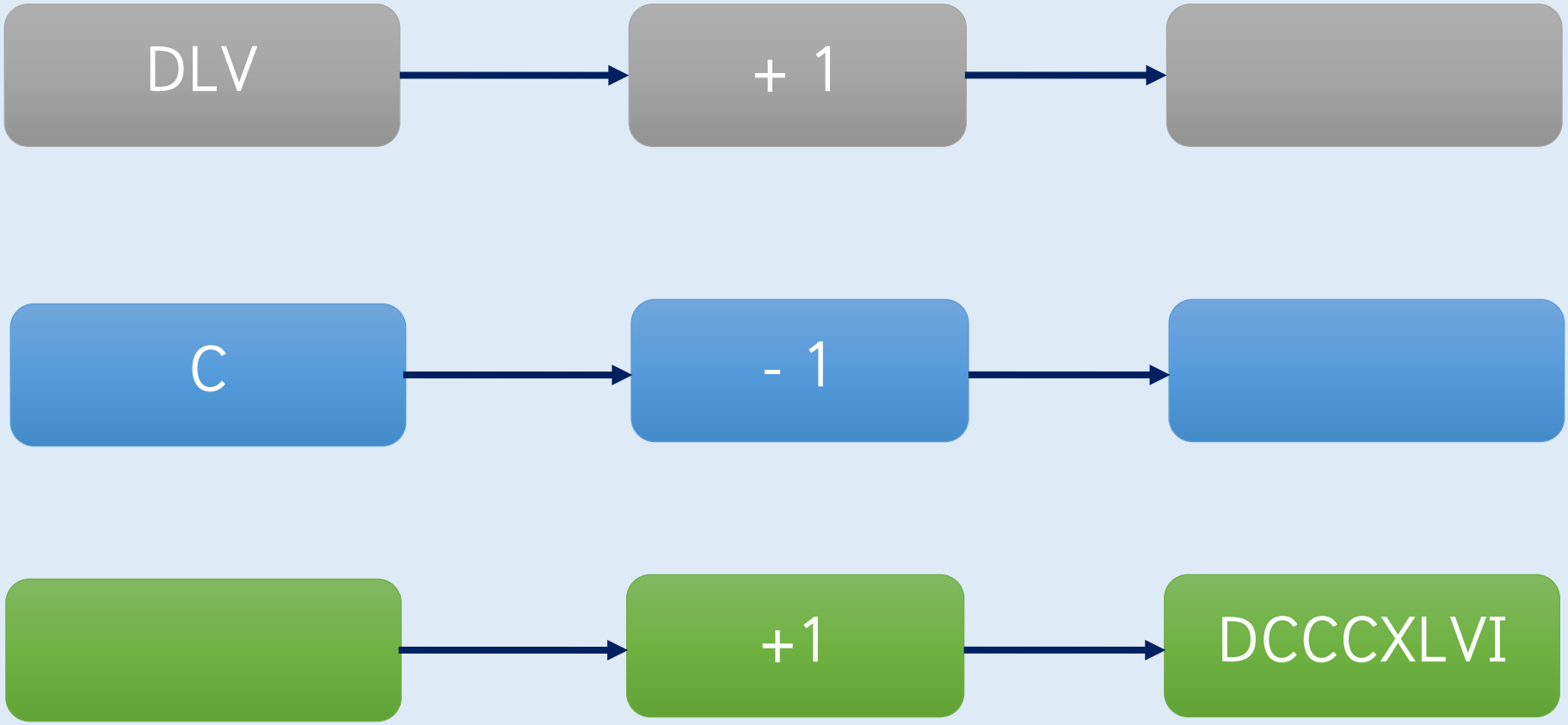
Activity 3 Roman Numerals

Complete the function machines.



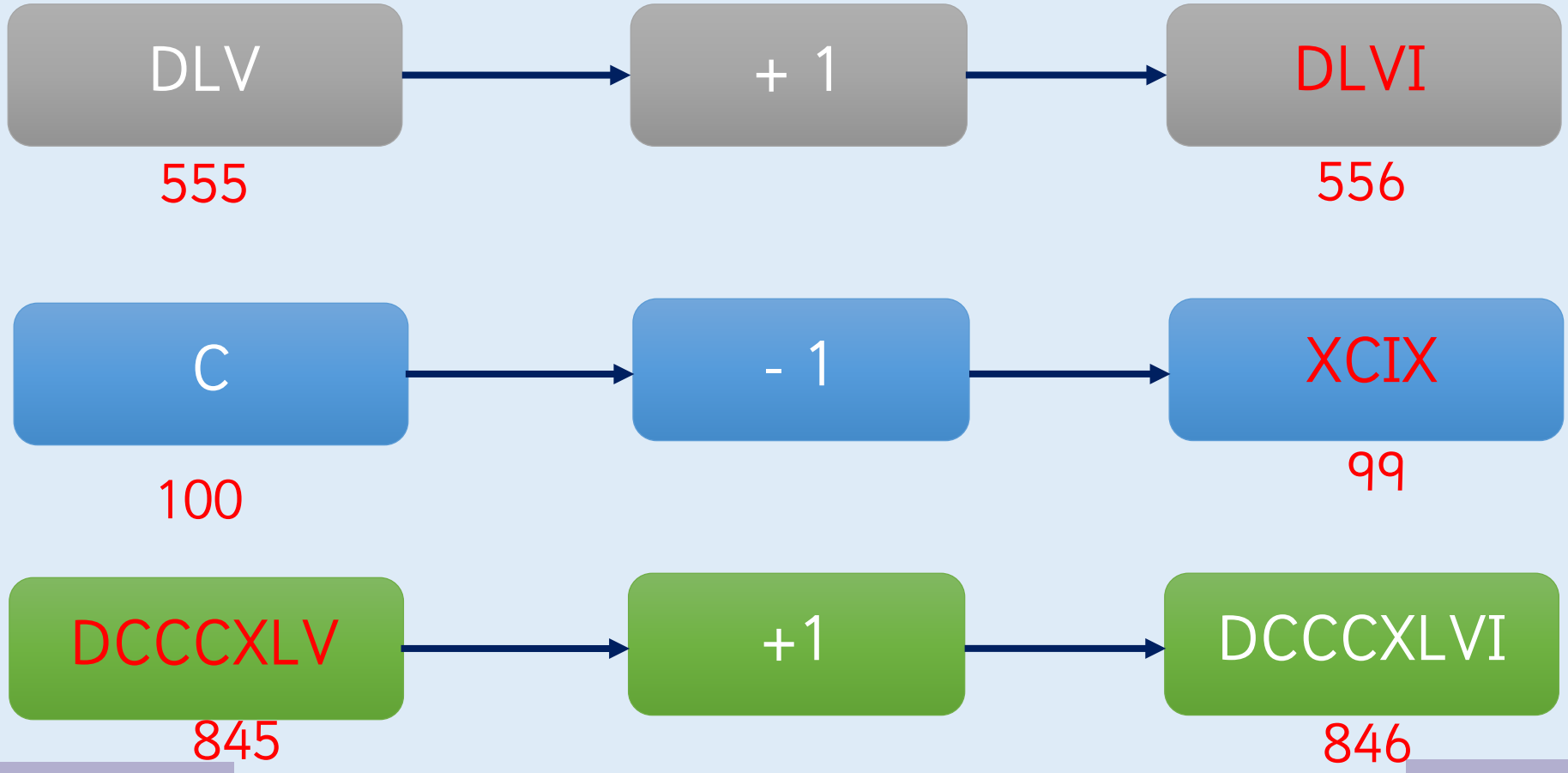
Activity 3 Roman Numerals

Complete the function machines.



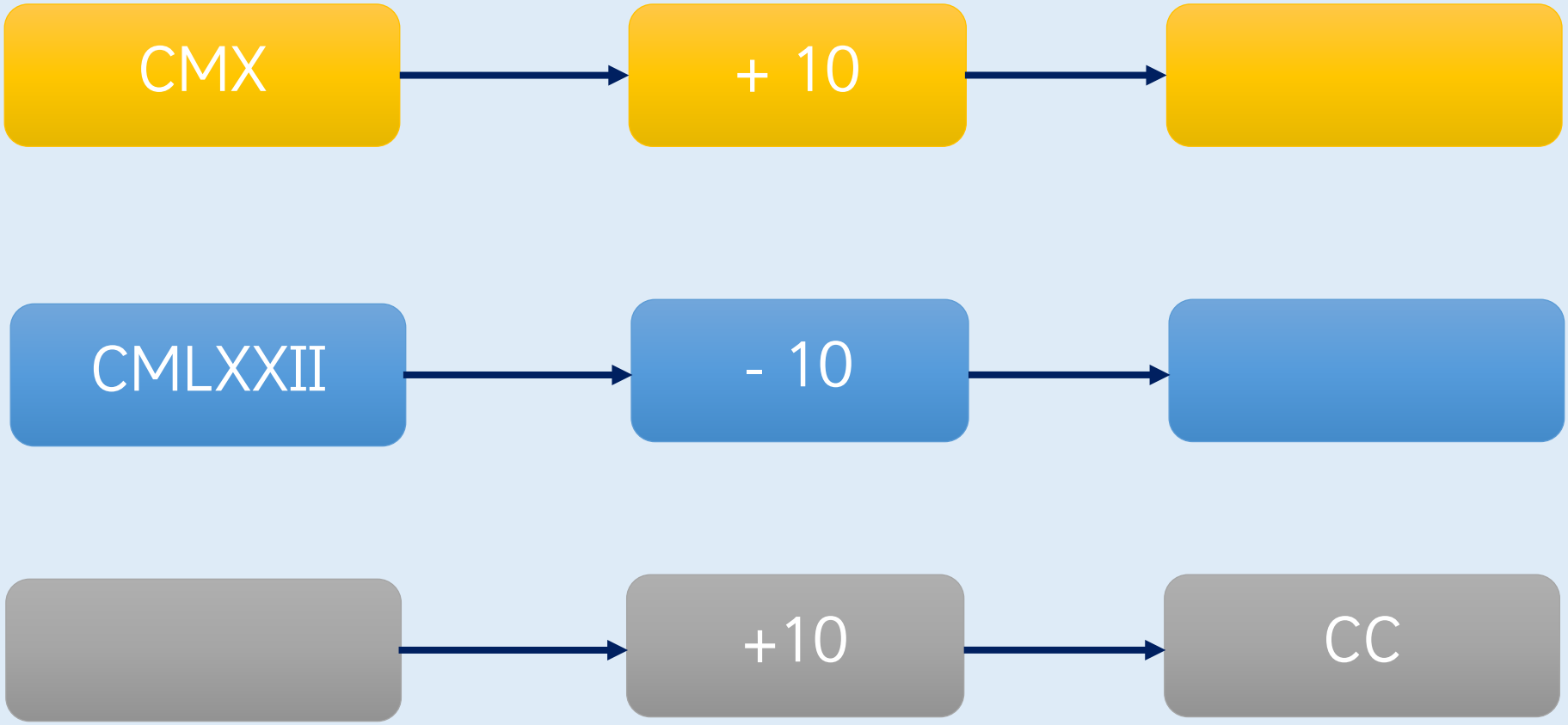
Activity 3 Roman Numerals

Complete the function machines.



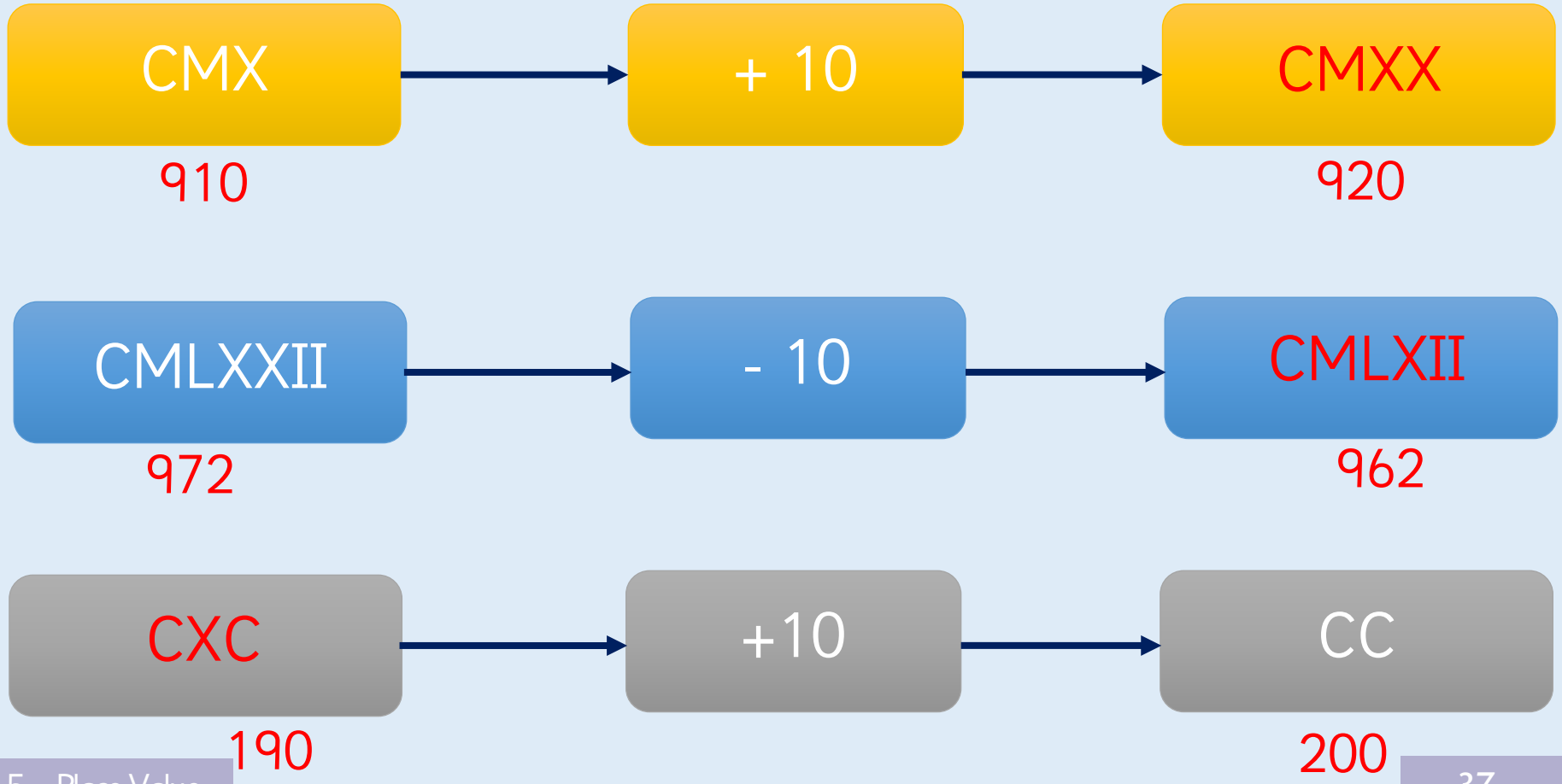
Activity 3 Roman Numerals

Complete the function machines.



Activity 3 Roman Numerals

Complete the function machines.



Discuss Roman Numerals

Why is there no zero in Roman Numerals?
What might it look like?

Do you notice any patterns? Look at 30 and 300.

How can you check you have represented the Roman Numeral correctly?

Round to 10, 100 and 1,000

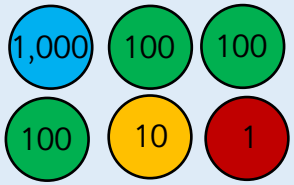
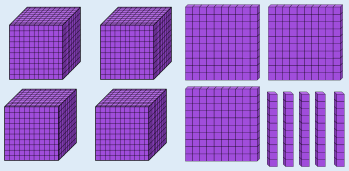
5

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Activity 1 Round to 10, 100 and 1,000

Complete the table.

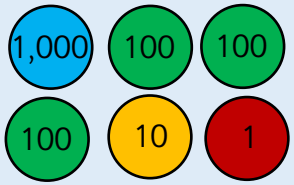
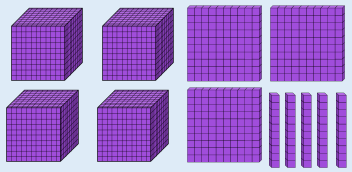
Start Number	Rounded to the nearest 10	Rounded to the nearest 100	Rounded to the nearest 1,000
			
			
DCCLXIX			

?

When it is best to round to 10? 100? 1,000?

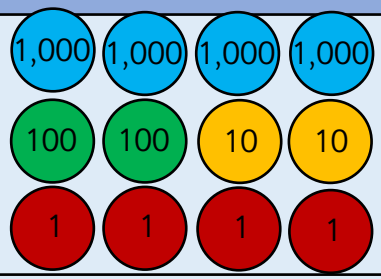
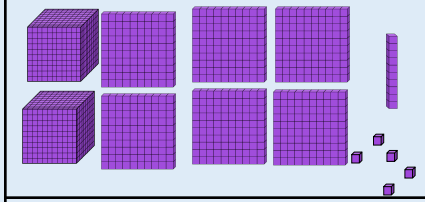
Activity 1 Round to 10, 100 and 1,000

Complete the table.

Start Number	Rounded to the nearest 10	Rounded to the nearest 100	Rounded to the nearest 1,000
	1,310	1,300	1,000
	4,350	4,400	4,000
DCCLXIX 769	770	800	1,000

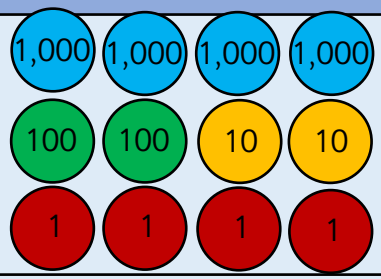
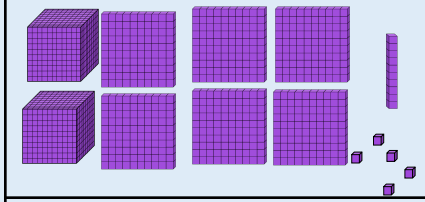
Activity 1 Round to 10, 100 and 1,000

Complete the table.

Start Number	Rounded to the nearest 10	Rounded to the nearest 100	Rounded to the nearest 1,000
			
			
DCCCLV			

Activity 1 Round to 10, 100 and 1,000

Complete the table.

Start Number	Rounded to the nearest 10	Rounded to the nearest 100	Rounded to the nearest 1,000
	4,220	4,200	4,000
	2,620	2,600	3,000
DCCCLV 855	860	900	1,000

Activity 2 Round to 10, 100 and 1,000

For each number, find five numbers that round to it when rounding to the nearest 100.

300

8,900

10,000



Is there more than one solution?

Activity 2 — Round to 10, 100 and 1,000

For each number, find five numbers that round to it when rounding to the nearest 100.

300

300
310
320
330
340

9,960
9,999
10,010
10,040
10,049

10,000

8,900

8,890
8,910
8,920
8,930
8,940

Activity 2 Round to 10, 100 and 1,000

For each number, find five numbers that round to it when rounding to the nearest 10.

460

170

710

Activity 2 Round to 10, 100 and 1,000

For each number, find five numbers that round to it when rounding to the nearest 10.

460

455
456
457
458
459

711
712
713
709
708

710

170

169
168
167
166
165

Activity 3 Round to 10, 100 and 1,000

Complete the table.

Start Number	Nearest 10	Nearest 100	Nearest 1,000
365			
1,242			
	4,770		

?

Will the answers to the nearest 100 and 1,000 be the same or different for the different start numbers?

Activity 3 Round to 10, 100 and 1,000

Complete the table.

Start Number	Nearest 10	Nearest 100	Nearest 1,000
365	370	400	-
1,242	1,240	1,200	1,000
4,765	4,770	4,800	5,000

Activity 3 Round to 10, 100 and 1,000

Complete the table.

Start Number	Nearest 10	Nearest 100	Nearest 1,000
276			
1,679			
	6,440		
		2,700	
			5,000

Activity 3 Round to 10, 100 and 1,000

Complete the table.

Start Number	Nearest 10	Nearest 100	Nearest 1,000
276	280	300	-
1,679	1,680	1,700	2,000
6,441	6,440	6,400	6,000
2,711	2,710	2,700	3,000
4,911	4,910	4,900	5,000

Discuss

Round to 10, 100 and 1,000

Which place value column do we need to look at when we round to the nearest 1,000?

When is it best to round to 10? 100? 1,000?
Can you give an example of this?
Can you justify your reasoning?

Is there more than one solution?
Will the answers to the nearest 100 and 1,000 be the same or different for the different start numbers?

Numbers to 100,000

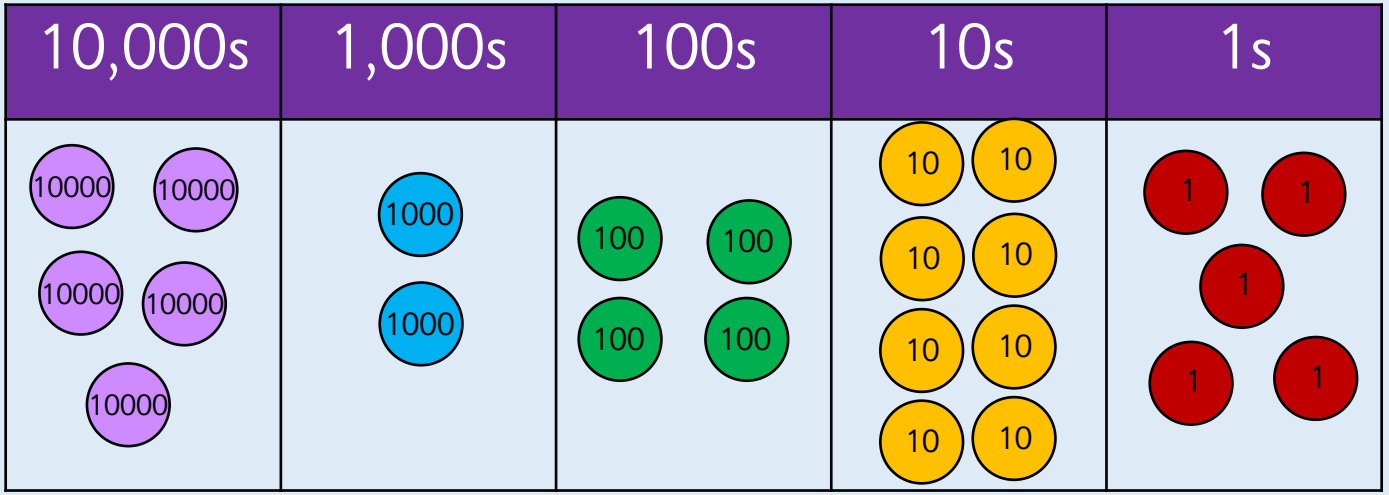
5

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Activity 1 Numbers to 100,000

A number is shown in the place value grid.



Write the number in figures and in words.

- Tia adds 10 to this number
- Malachi adds 100 to this number
- Rosie adds 1,000 to this number

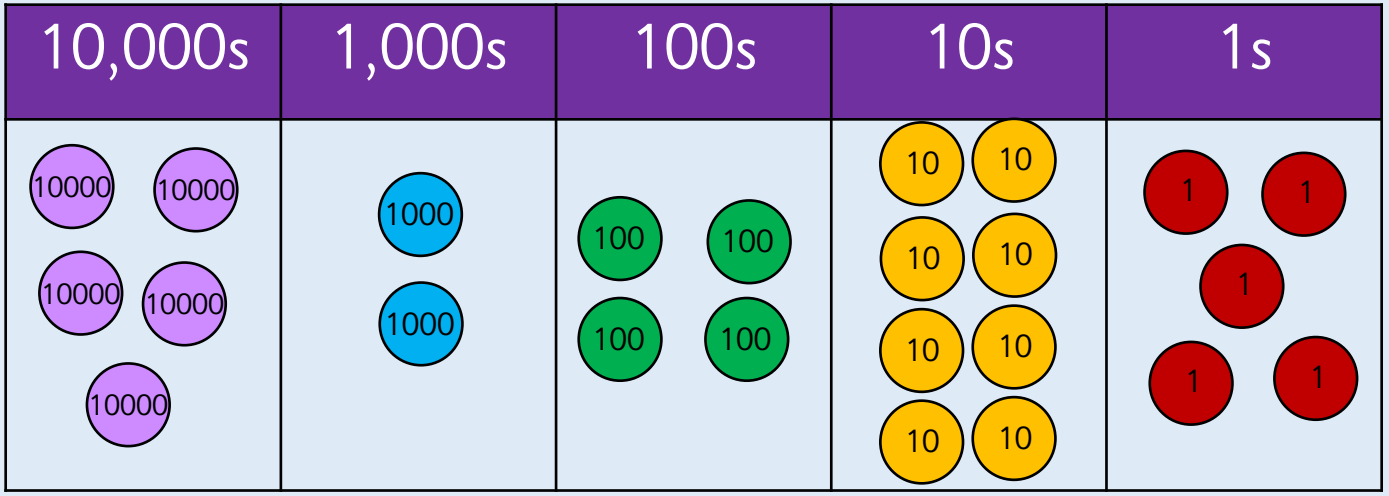
Write each of their new numbers in figures and in words.

?

How many digits change when you add 10, 100 or 1,000?

Activity 1 Numbers to 100,000

A number is shown in the place value grid.



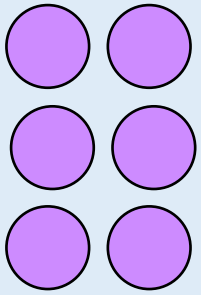
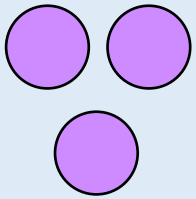
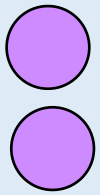
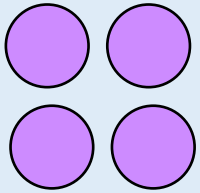
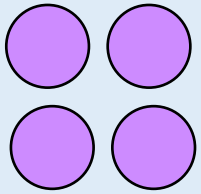
The number is: 52,485

fifty-two thousand four hundred and eighty-five

- Tia adds 10 to this number
  - 52,495 → fifty-two thousand four hundred and ninety-five
- Malachi adds 100 to this number
  - 52,585 → fifty-two thousand five hundred and eighty-five
- Rosie adds 1,000 to this number
  - 53,485 → fifty-three thousand four hundred and eighty-five

Activity 1 Numbers to 100,000

A number is shown in the place value grid.

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

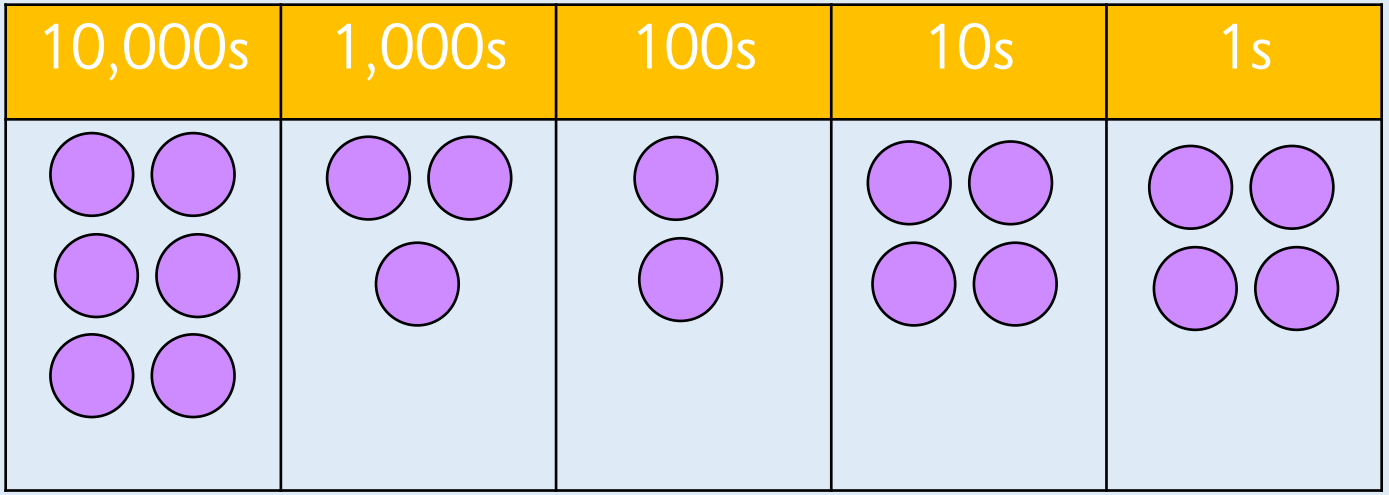
Write the number in figures and in words.

- Anthony adds 10 to this number
- Sadie adds 100 to this number
- Charlotte adds 1,000 to this number

Write each of their new numbers in figures and in words.

Activity 1 Numbers to 100,000

A number is shown in the place value grid.



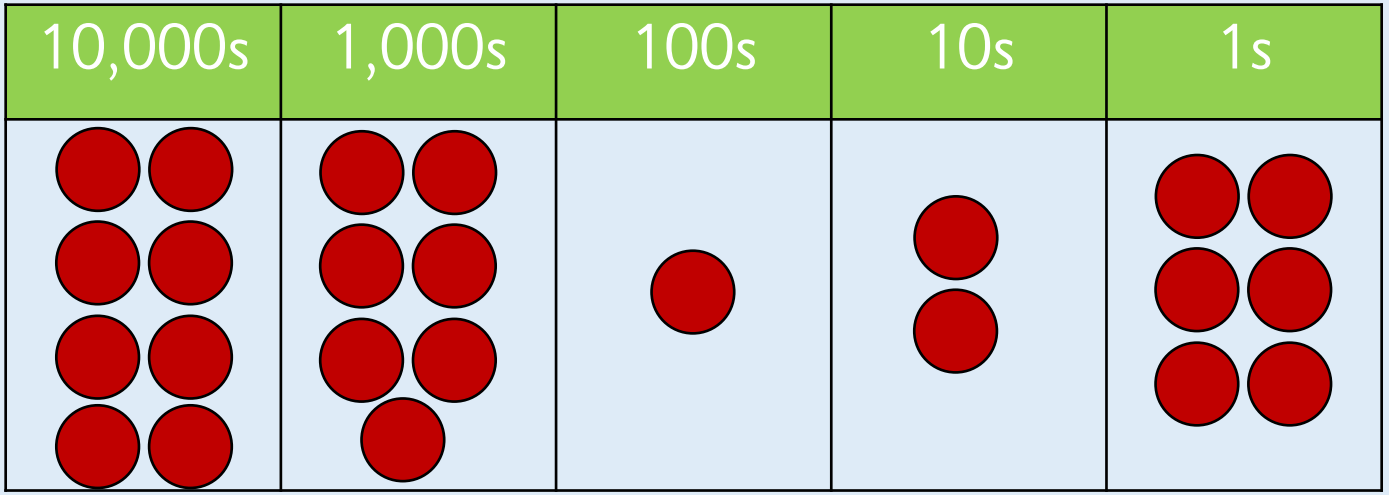
The number is: 63,244

sixty-three thousand two hundred and forty-four

- Anthony adds 10 to this number
  - 63,254 → sixty-three thousand two hundred and fifty-four
- Sadie adds 100 to this number
  - 63,344 → sixty-three thousand three hundred and forty-four
- Charlotte adds 1,000 to this number
  - 64,244 → sixty-four thousand two hundred and forty-four

Activity 1 Numbers to 100,000

A number is shown in the place value grid.



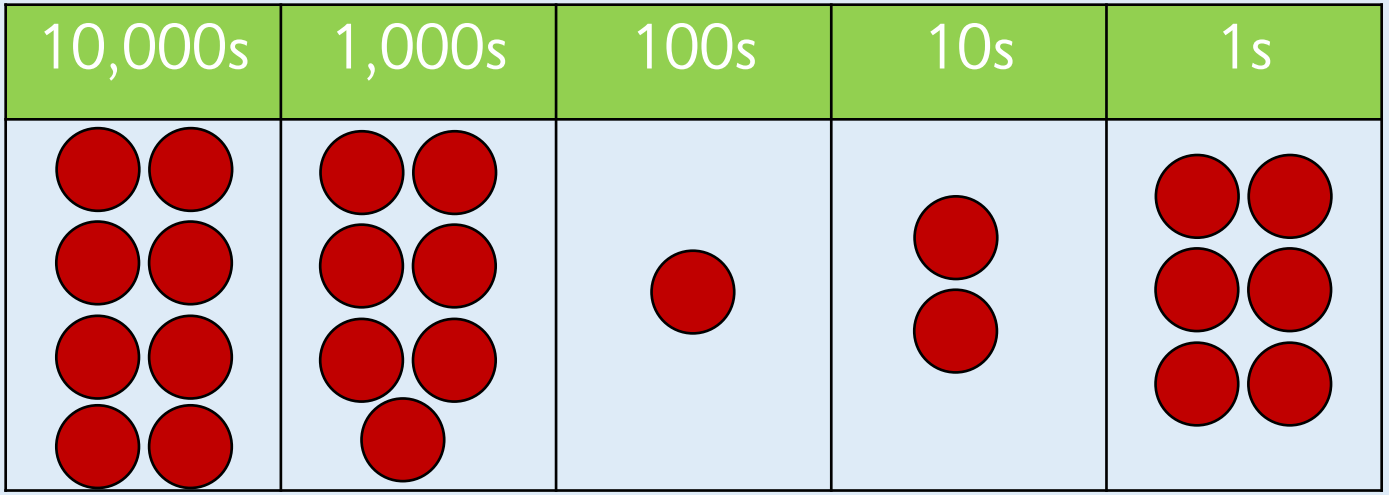
Write the number in figures and in words.

- Anthony adds 10 to this number
- Sadie adds 100 to this number
- Charlotte adds 1,000 to this number

Write each of their new numbers in figures and in words.

Activity 1 Numbers to 100,000

A number is shown in the place value grid.



The number is: 87,126

eighty-seven thousand one hundred and twenty-six

- Anthony adds 10 to this number
  - 87,136 → eighty-seven thousand one hundred and thirty-six
- Sadie adds 100 to this number
  - 87,226 → eighty-seven thousand two hundred and twenty-six
- Charlotte adds 1,000 to this number
  - 88,126 → eighty-eight thousand one hundred and twenty-six

Activity 2 Numbers to 100,000

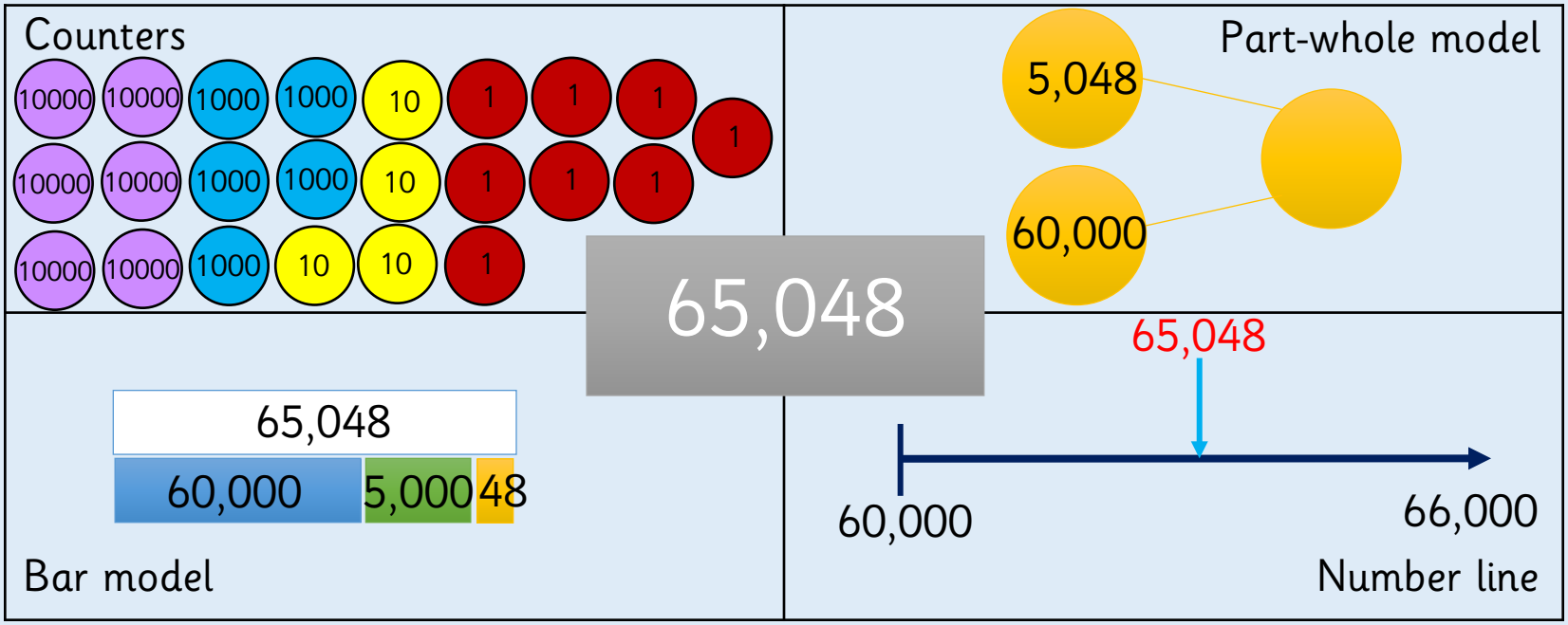
Complete the grid to show the same number in different ways.

Counters	Part-whole model
65,048	
Bar model	Number line

Activity 2 Numbers to 100,000

Complete the grid to show the same number in different ways.

Examples



Activity 2 Numbers to 100,000

Complete the grid to show the same number in different ways.

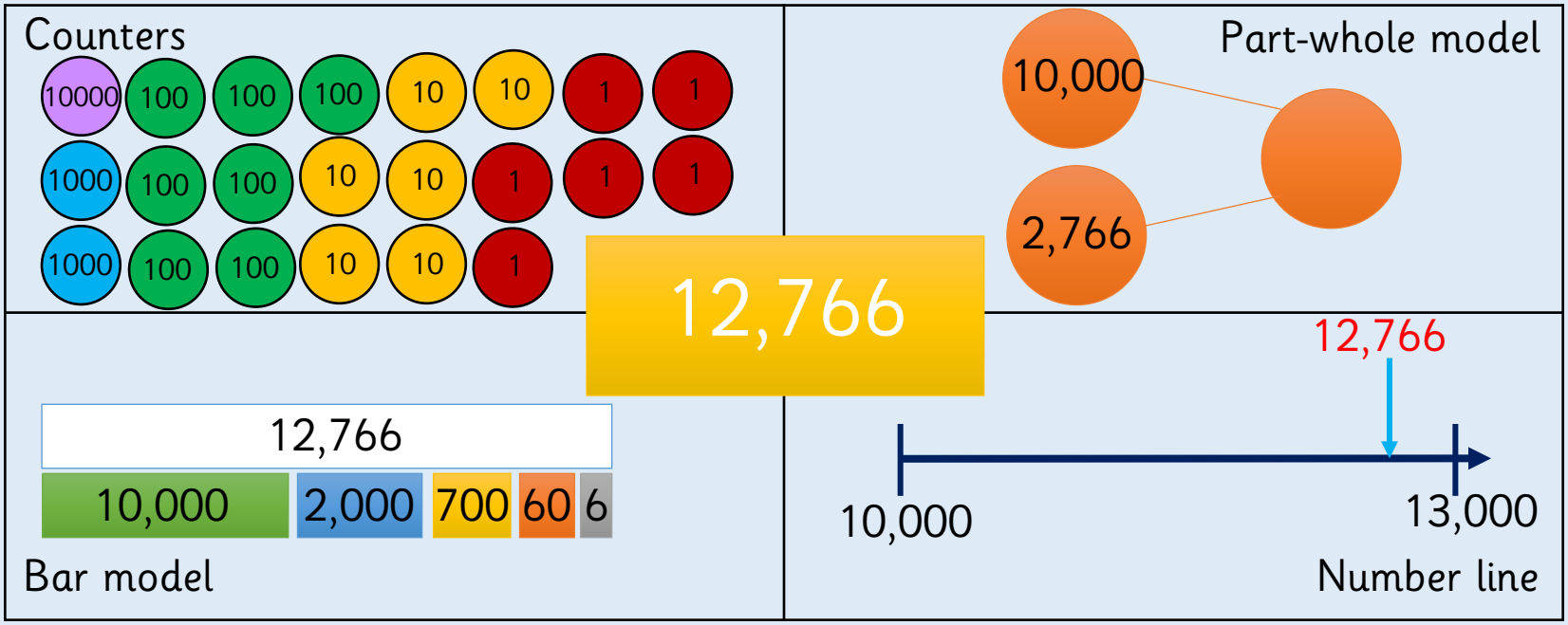
Counters	Part-whole model
Bar model	Number line

12,766

Activity 2 Numbers to 100,000

Complete the grid to show the same number in different ways.

Examples



Activity 3 Numbers to 100,000

Complete the missing numbers.



69,000 = 60,000 + _____

_____ = 30,000 + 1,600 + 380

75,480 = _____ + 300 + _____

Activity 3 Numbers to 100,000

Complete the missing numbers.



69,000 = 60,000 + 9,000

31,980 = 30,000 + 1,600 + 380

75,480 = 75,000 + 300 + 180

Activity 3 Numbers to 100,000

Complete the missing numbers.



68,000 = 60,000 + _____

_____ = 40,000 + 1,200 + 650

85,235 = _____ + 200 + _____

37,986 = _____ + 800 + _____

Activity 3 Numbers to 100,000

Complete the missing numbers.



68,000 = 60,000 + 8,000

41,850 = 40,000 + 1,200 + 650

85,235 = 85,000 + 200 + 35

37,986 = 37,000 + 800 + 186

Examples

Discuss

Numbers to 100,000

How can we estimate a number on a number line if there are no divisions?

How many digits change when you add 10, 100 or 1,000?

Do you need to count forwards and backwards to find out if a number is in a number sequence? Explain.

Compare and Order 5

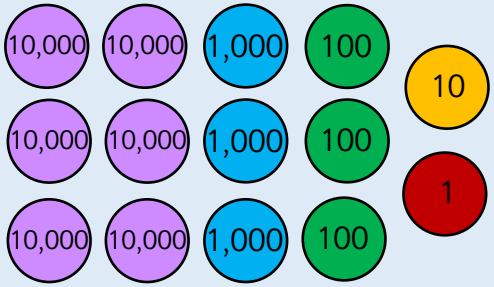


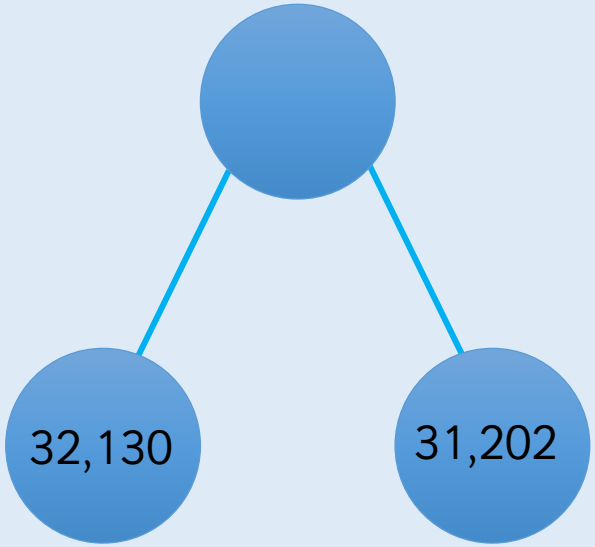
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Activity 1 Compare and Order

Order the following.





10,000s	1,000s	100s	10s	1s
6	3	3	2	0

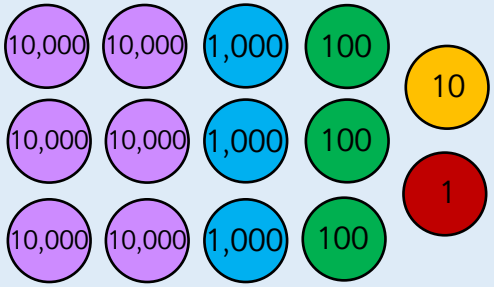
?

In order to compare numbers, what do we need to know?

Activity 1 Compare and Order

Order the following.

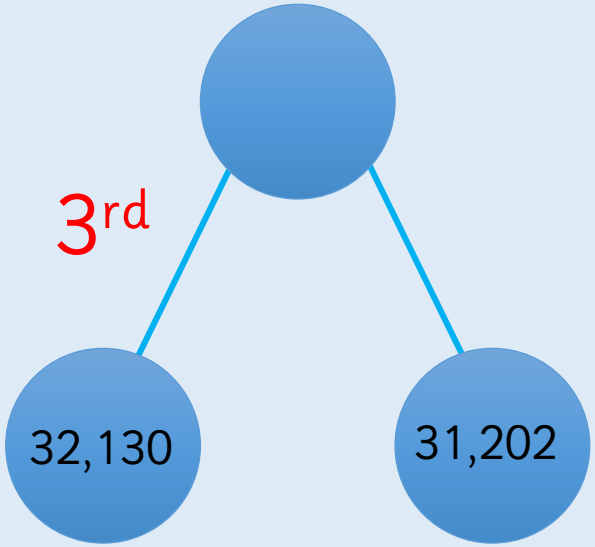
Ascending order.



1st

63,311

3rd



63,332

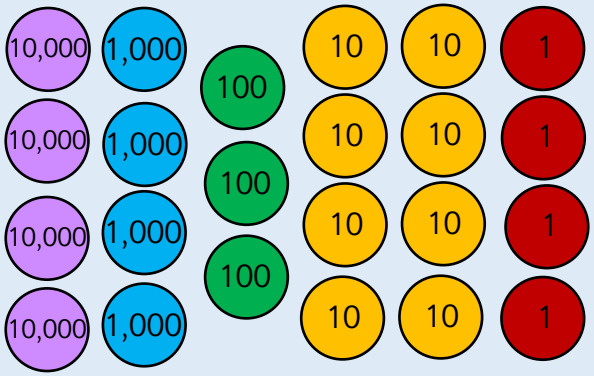
2nd

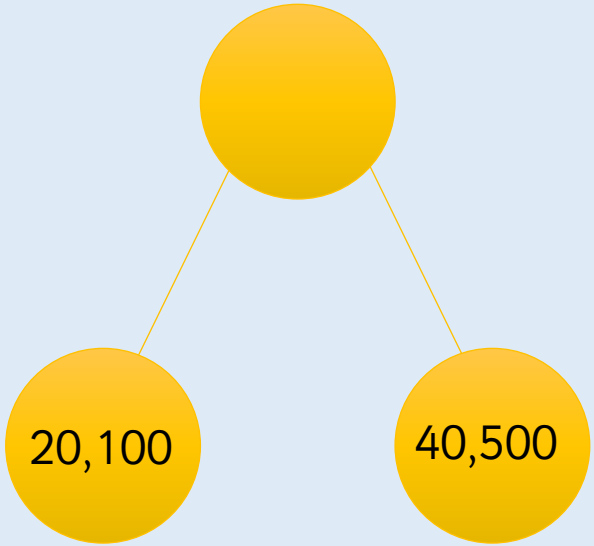
10,000s	1,000s	100s	10s	1s
6	3	3	2	0

63,320

Activity 1 Compare and Order

Order the following.

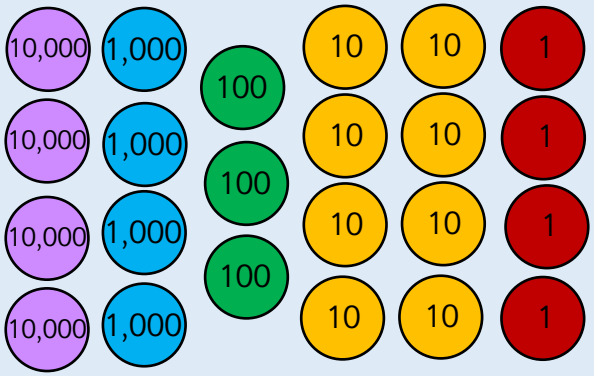




10,000s	1,000s	100s	10s	1s
8	1	4	1	1

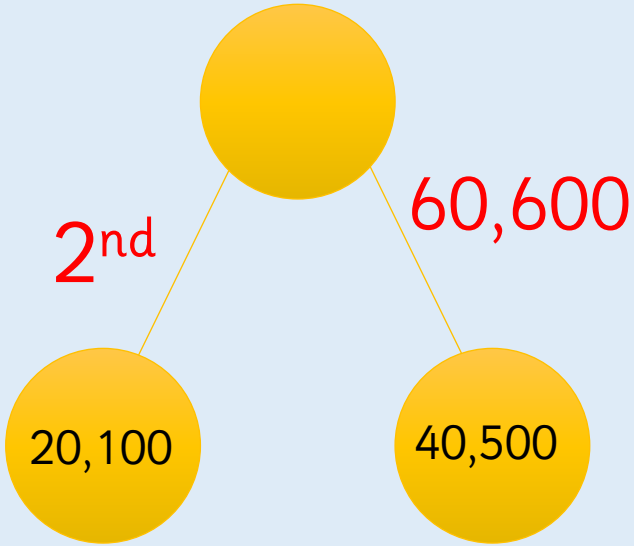
Activity 1 Compare and Order

Order the following.



Ascending order.

1st



44,384

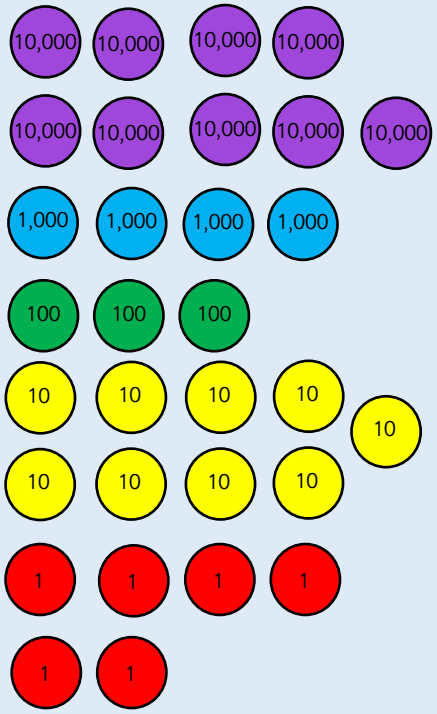
3rd

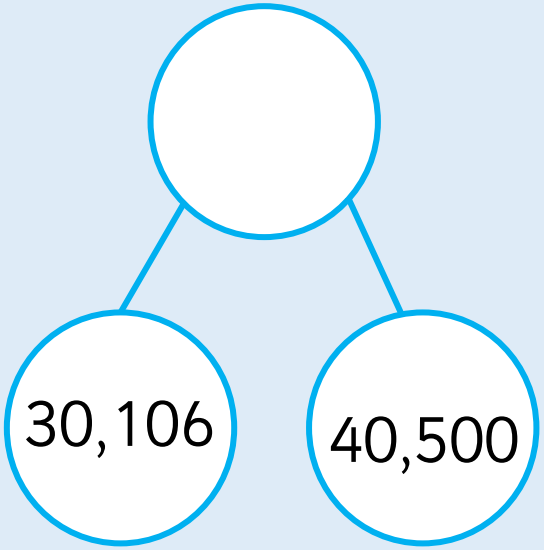
10,000s	1,000s	100s	10s	1s
8	1	4	1	1

81,411

Activity 1 Compare and Order

Order the following.



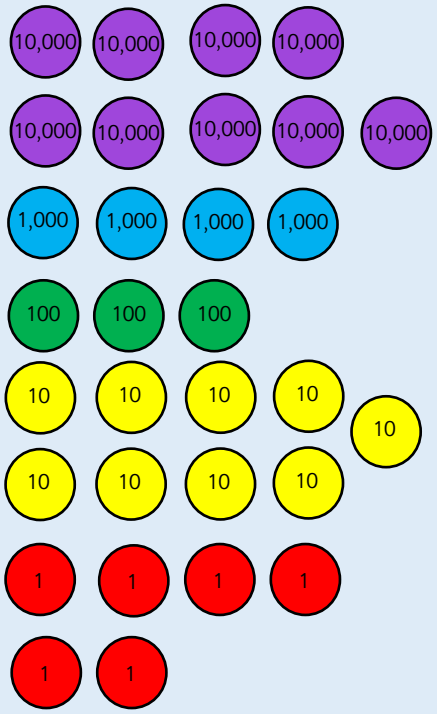


10,000s	1,000s	100s	10s	1s
●●●●●●	●	●●●	●	●●●●●

Activity 1 Compare and Order

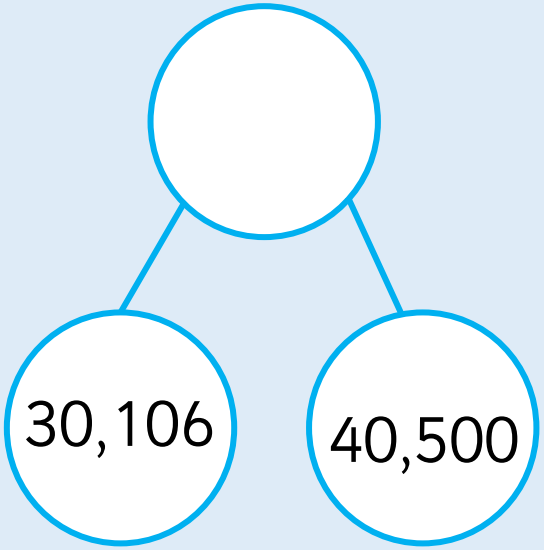
Order the following.

1st



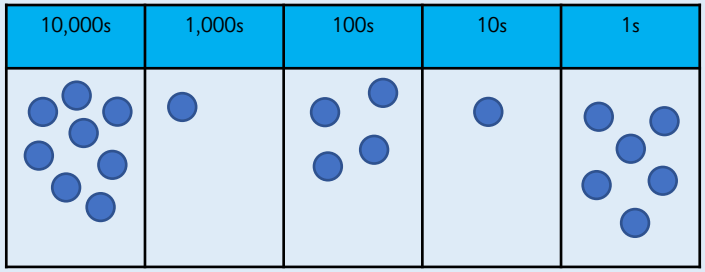
94,396

3rd



70,606

2nd



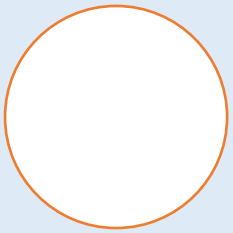
81,416

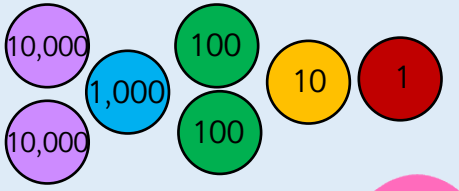
Descending order.

Activity 2 Compare and Order

Add the symbol <, > or = to make the statement correct.

MMXVII







?

What is the value of each digit?

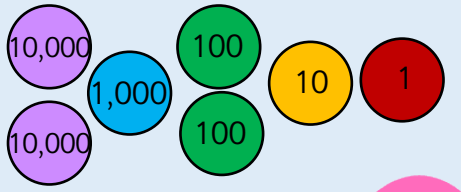
Activity 2 Compare and Order

Add the symbol <, > or = to make the statement correct.

MMXVII

2017

<

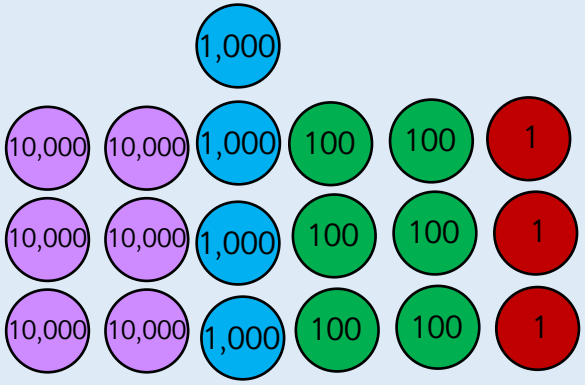


21,211



Activity 2 Compare and Order

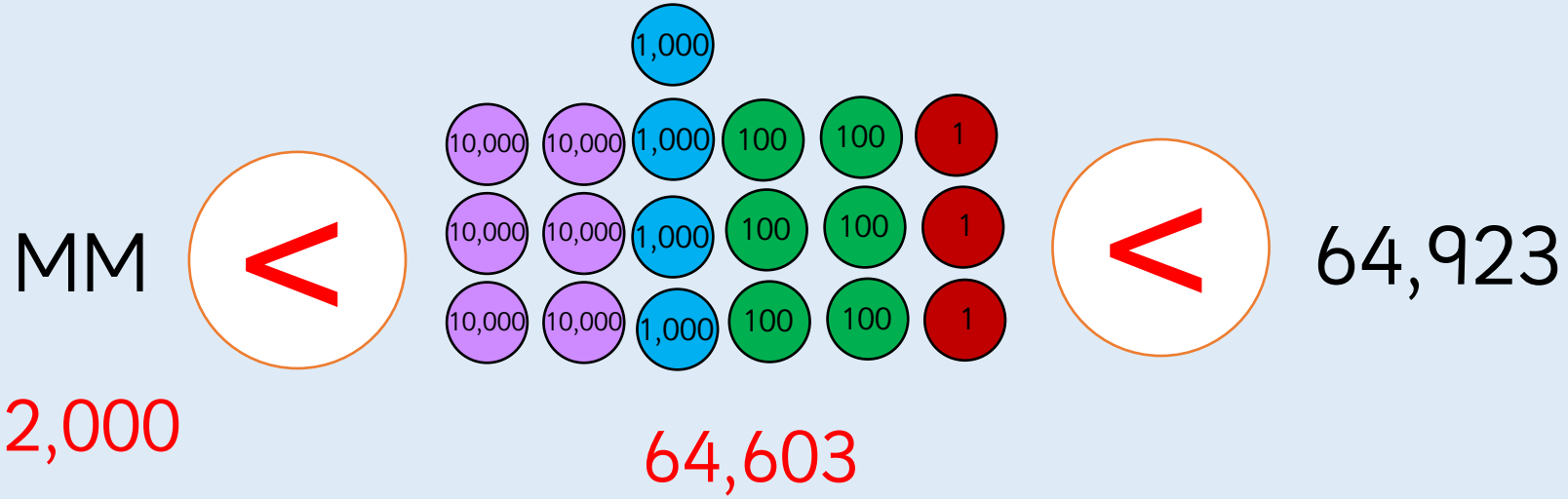
Add the symbol <, > or = to make the statement correct.

MM ◯ 

◯ 64,923

Activity 2 Compare and Order

Add the symbol <, > or = to make the statement correct.



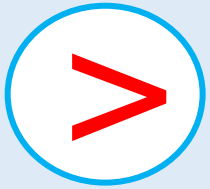
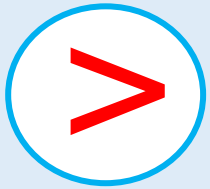
Activity 2 Compare and Order

Add the symbol <, > or = to make the statement correct.

70,000 + 350 ◯ 55,319 ◯ DCCCXXXII

Activity 2 Compare and Order

Add the symbol <, > or = to make the statement correct.

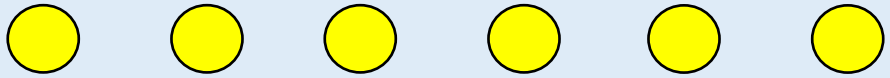
70,000 + 350  55,319  DCCCXXXII

70,350

832

Activity 3 Compare and Order

Use six counters to make five different 5 digit numbers.



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

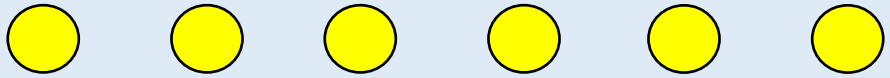
Order your number from greatest to smallest.

?

What is the value of _____ in this number?

Activity 3 Compare and Order

Use six counters to make five different 5 digit numbers.



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

Order your number from greatest to smallest.

11,112 , 11,121 , 11,211 , 12,111 , 21,111

?

What is the value of _____ in this number?

Discuss

Compare and Order

In order to compare numbers, what do we need to know?

What is the value of each digit?

What is the value of _____ in this number?

What is the value of the whole?

Can you suggest other parts that make the whole?

Can you write a story to support your part-whole model?

Round within 100,000

5

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Activity 1 Round within 100,000

Round 25,617

- To the nearest 10
- To the nearest 100
- To the nearest 1,000
- To the nearest 10,000



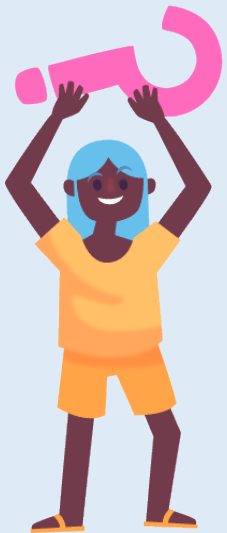


Which place value column do we need to look at when we round to the nearest 1,000?

Activity 1 Round within 100,000

Round 25,617

- To the nearest 10 — 25,620
- To the nearest 100 — 25,600
- To the nearest 1,000 — 26,000
- To the nearest 10,000 — 30,000





Activity 1 Round within 100,000

Round 78,218

- To the nearest 10
- To the nearest 100
- To the nearest 1,000
- To the nearest 10,000

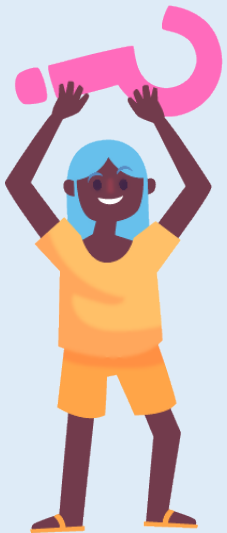




Activity 1 Round within 100,000

Round 78,218

- To the nearest 10 — 78,220
- To the nearest 100 — 78,200
- To the nearest 1,000 — 78,000
- To the nearest 10,000 — 80,000





Activity 2 Round within 100,000

Round the distances to the nearest 1,000 miles

Destination	Miles from Manchester airport	Miles to the nearest 1,000
New York	3,334	
Sydney	10,562	
Hong Kong	5,979	
New Zealand	11,550	

?

When is it best to round to 10? 100? 1,000?

Activity 2 Round within 100,000

Round the distances to the nearest 1,000 miles

Destination	Miles from Manchester airport	Miles to the nearest 1,000
New York	3,334	3,000
Sydney	10,562	11,000
Hong Kong	5,979	6,000
New Zealand	11,550	12,000

Activity 2 Round within 100,000

Round the distances to the nearest 1,000 miles

Destination	Miles from the airport	Miles to the nearest 1,000
Rome	4,795	
Dublin	1,001	
London	2,500	
Berlin	3,126	
New Delhi	9,001	

Activity 2 Round within 100,000

Round the distances to the nearest 1,000 miles

Destination	Miles from the airport	Miles to the nearest 1,000
Rome	4,795	5,000
Dublin	1,001	1,000
London	2,500	3,000
Berlin	3,126	3,000
New Delhi	9,001	9,000

Activity 2 Round within 100,000

Complete the table.

Start number	Nearest 10	Nearest 100	Nearest 1,000	Nearest 10,000
56,276				
87,125				
21,153				
11,562				
37,842				

Activity 2 Round within 100,000

Complete the table.

Start number	Nearest 10	Nearest 100	Nearest 1,000	Nearest 10,000
56,276	56,280	56,300	56,000	60,000
87,125	87,130	87,100	87,000	90,000
21,153	21,150	21,200	21,000	20,000
11,562	11,560	11,600	12,000	10,000
37,842	37,840	37,800	38,000	40,000

Activity 3 Round within 100,000

Complete the table.

Rounded to the nearest 100	Start Number	Rounded to the nearest 1,000
	15,999	
	28,632	
	55,555	

?

When is it best to round to 10? 100? 1,000?

Activity 3 Round within 100,000

Complete the table.

Rounded to the nearest 100	Start Number	Rounded to the nearest 1,000
16,000	15,999	16,000
28,600	28,632	29,000
55,600	55,555	56,000

Activity 3 Round within 100,000

Complete the table.

Rounded to the nearest 100	Start number	Rounded to the nearest 1,000
	12,999	
	67,853	
	44,444	
	5,555	
	95,781	

Activity 3 Round within 100,000

Complete the table.

Rounded to the nearest 100	Start number	Rounded to the nearest 1,000
13,000	12,999	13,000
67,900	67,853	68,000
44,400	44,444	44,000
5,600	5,555	6,000
95,800	95,781	96,000

Discuss

Round within 100,000

Which place value column do we need to look at when we round to the nearest 1,000?

When is it best to round to 10? 100? 1,000?

Can you give an example of this?

Can you justify your reasoning?

Numbers to One Million

5

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Activity 1 Numbers to One Million

Use counters to make these numbers on the place value chart.

72,620

344,301

90,090

Thousands			Ones		
H	T	O	H	T	O

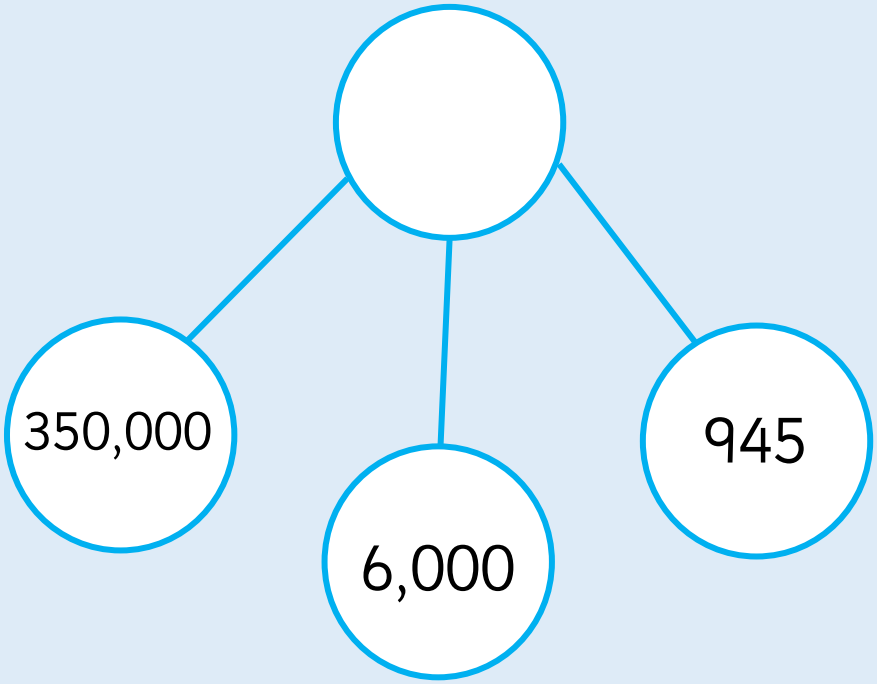
Can you say the numbers out loud?

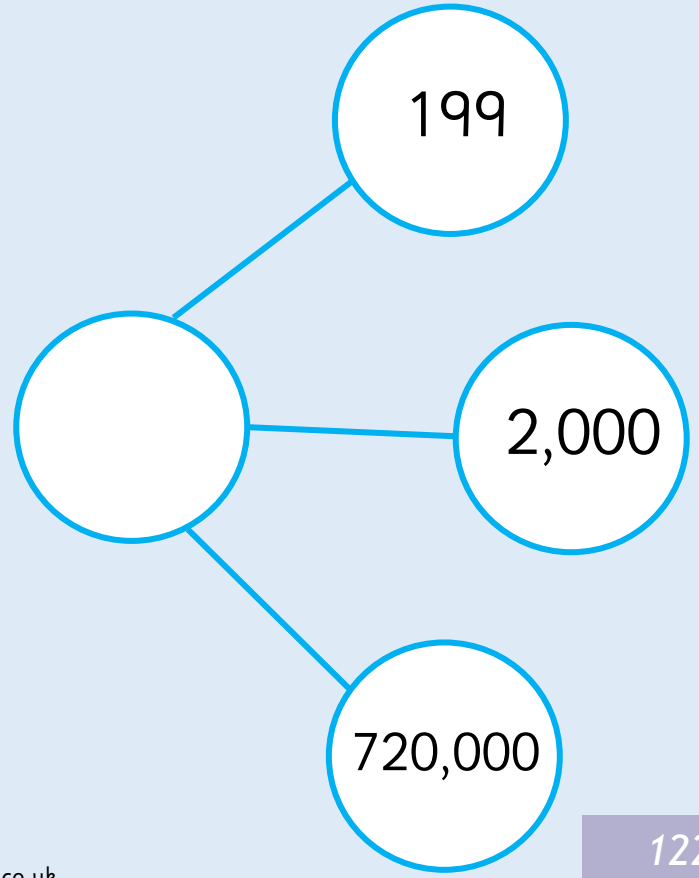
?

How many counters do you need to make the number 435,234?

Activity 2 Numbers to One Million

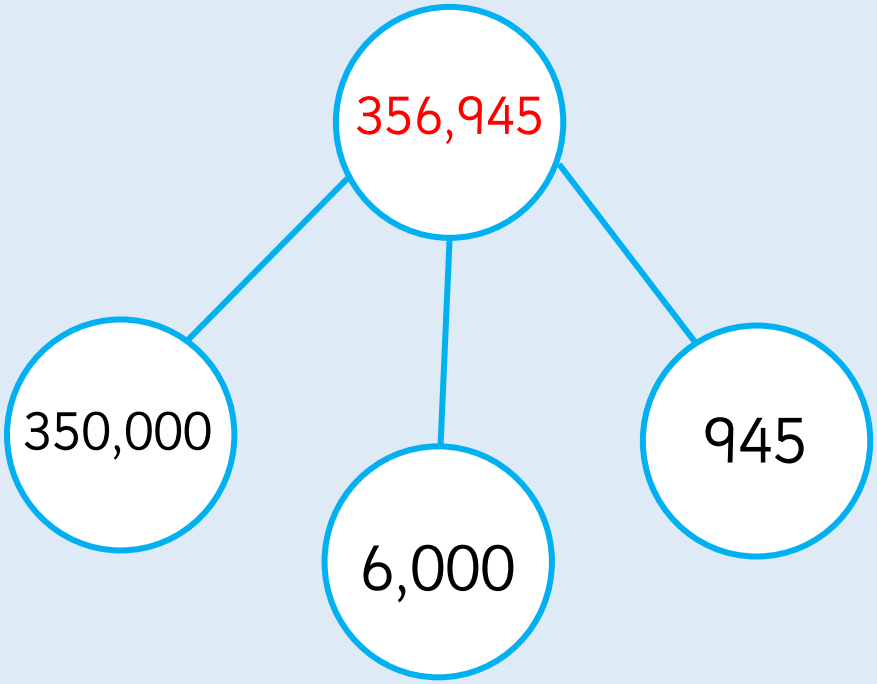
Complete the following part-whole diagrams.

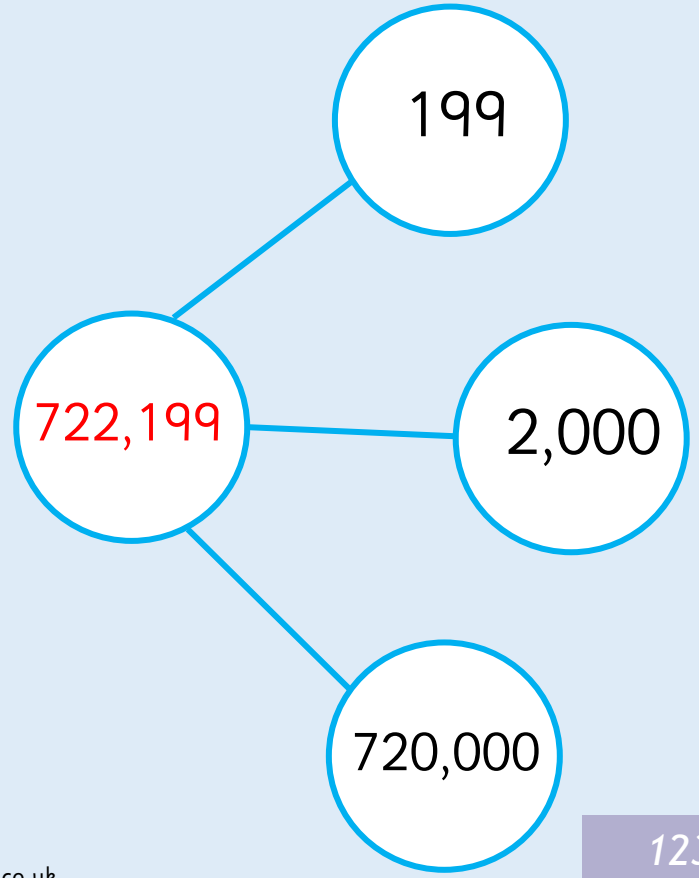




Activity 2 Numbers to One Million

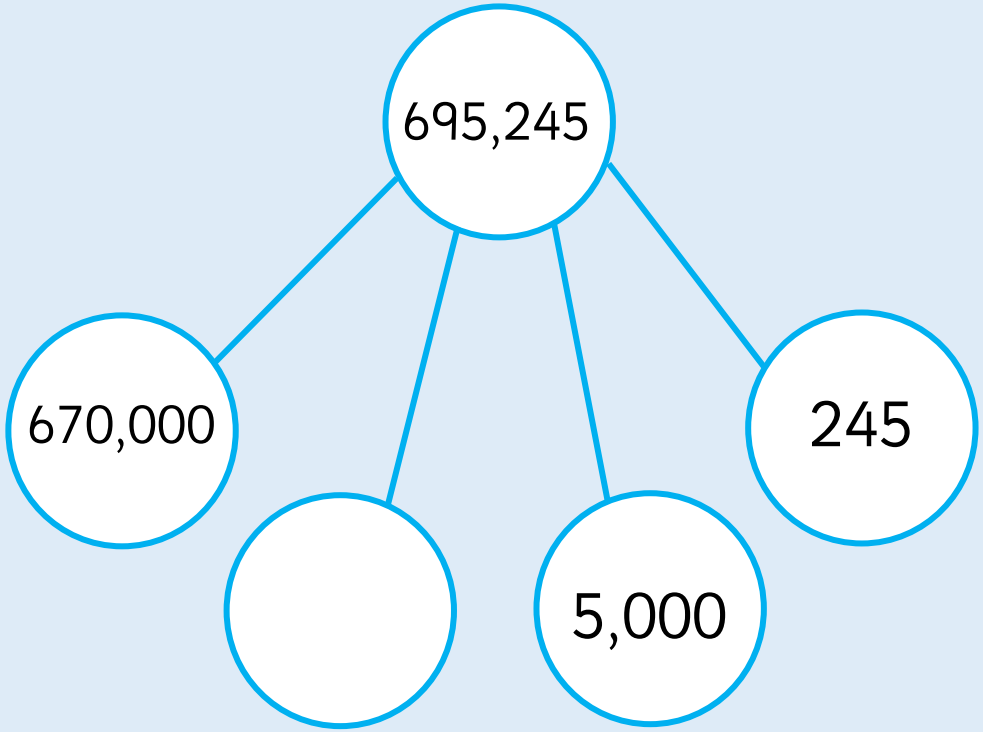
Complete the following part-whole diagrams.

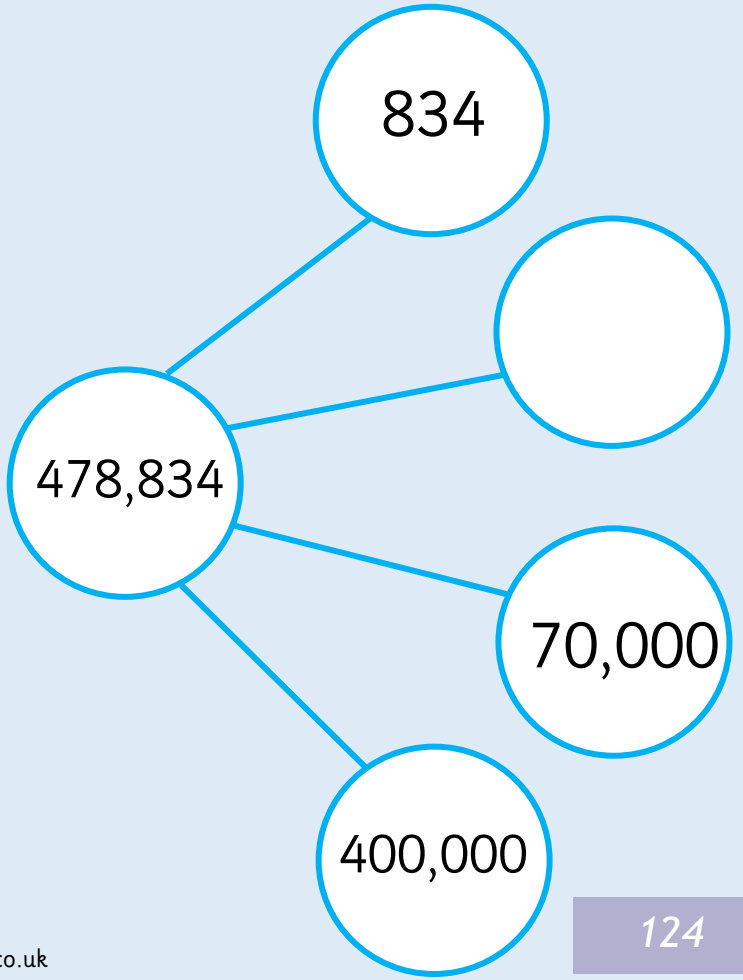




Activity 2 Numbers to One Million

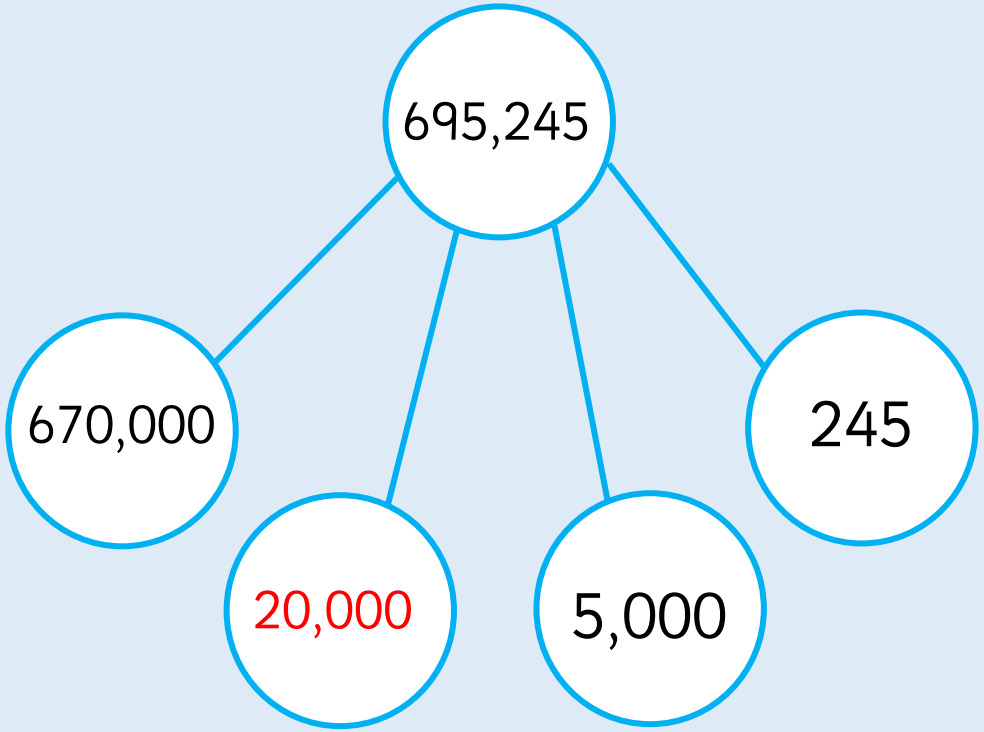
Complete the following part-whole diagrams.

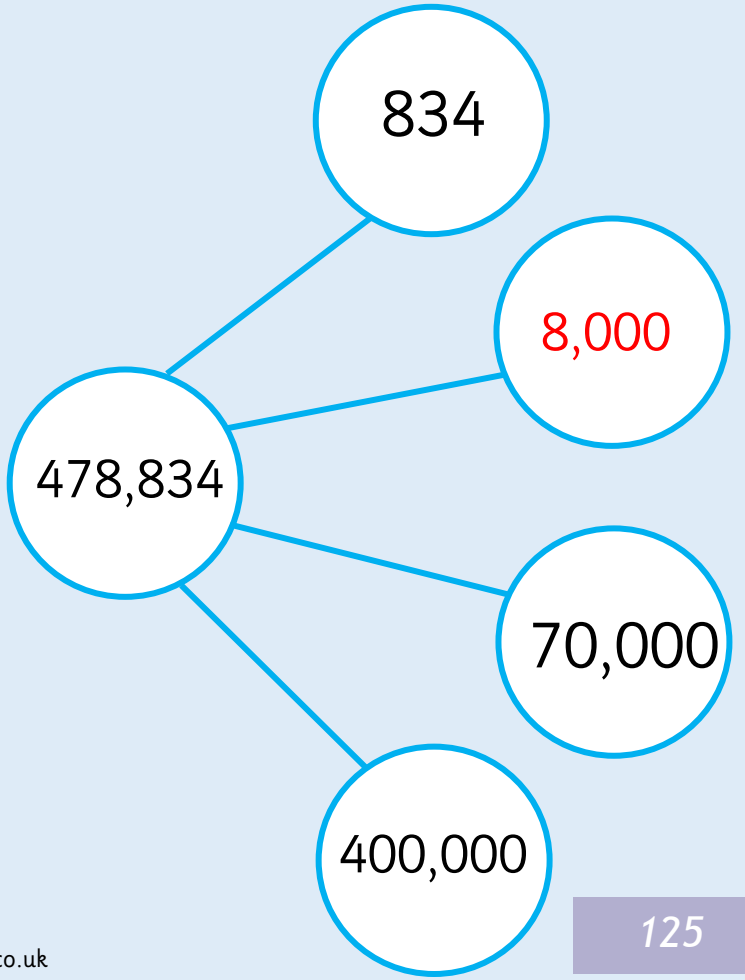




Activity 2 Numbers to One Million

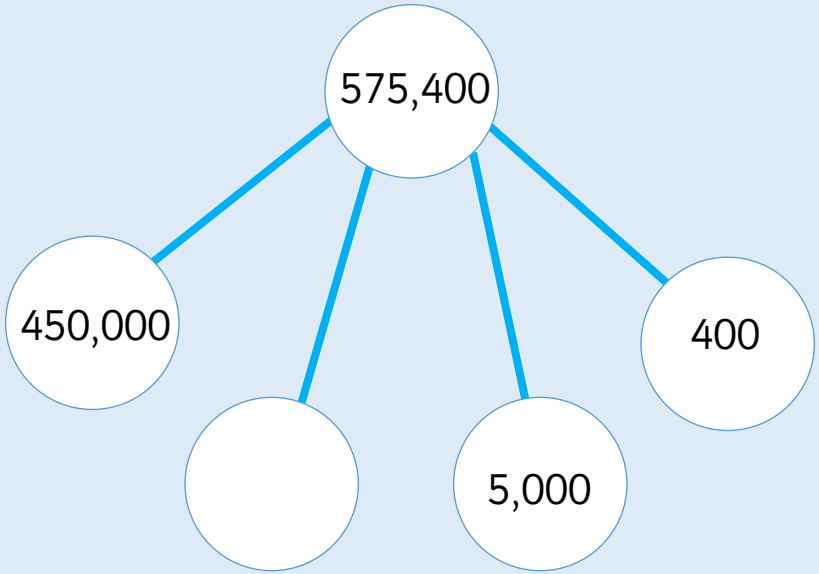
Complete the following part-whole diagrams.

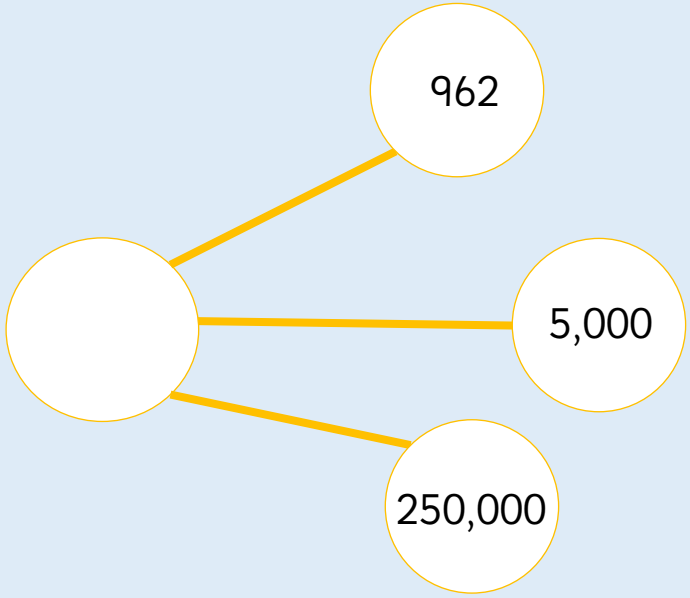




Activity 2 Numbers to One Million

Complete the following part-whole diagrams.



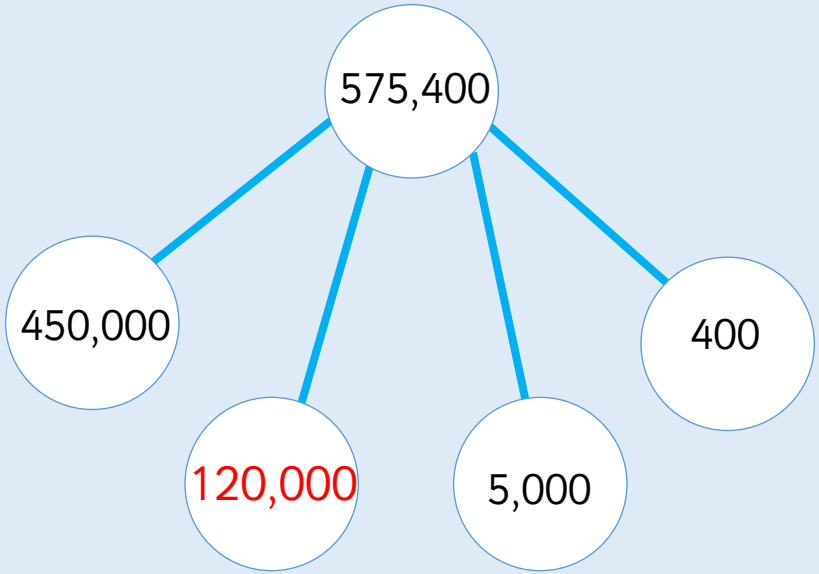


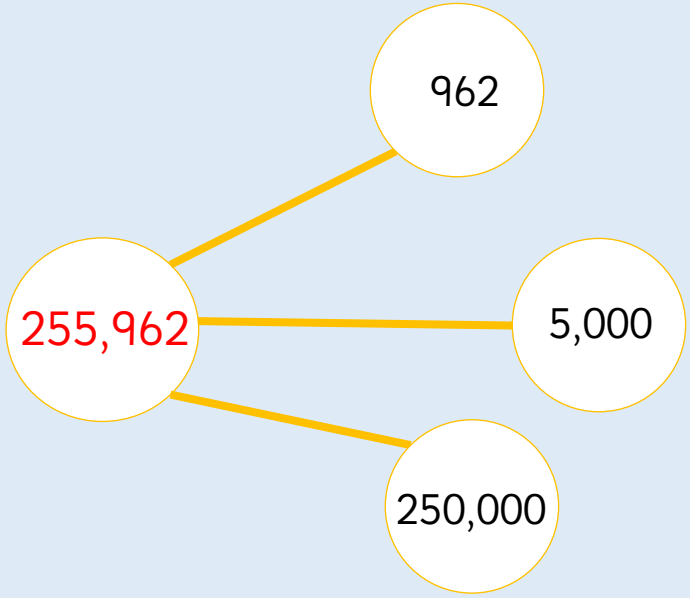
?

Show me 800,500 in three different ways.

Activity 2 Numbers to One Million

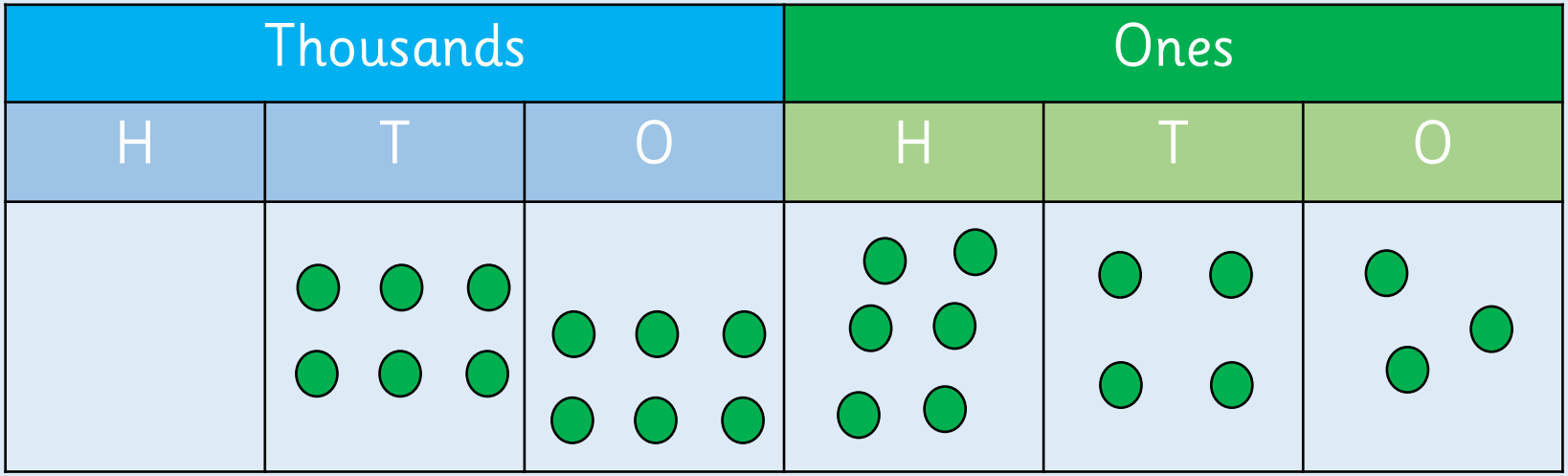
Complete the following part-whole diagrams.





Activity 3 Numbers to One Million

Tia has the number below.



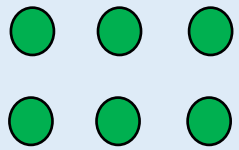
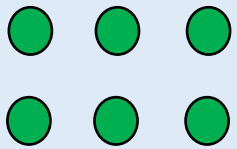
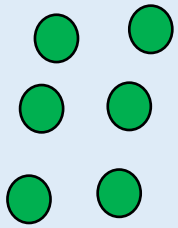
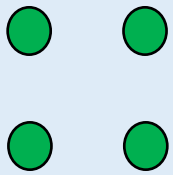
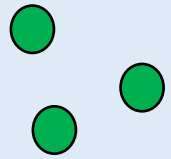
She adds 4 counters to the hundreds column.
What is her new number?

?

How else can the numbers be represented?

Activity 3 Numbers to One Million

Tia has the number below.

Thousands			Ones		
H	T	O	H	T	O
					

The number changes from 66,643 to 67,043

She adds 4 counters to the hundreds column.
What is her new number?

?

How else can the numbers be represented?

Discuss

Numbers to One Million

If one million is the whole, what could the parts be?

Show me 345,105 in three different ways.

Where do the commas go in the numbers?
How does the place value grid help?

How else can the numbers be represented?

Counting in Powers of 10



5

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Activity 1 Counting in Powers of 10

Complete the sequence.

_____, _____, 12, _____, 32, _____, 52, _____, _____, 82

The rule for the sequence is:



?

Can you create rules for your own sequence?

Activity 1 Counting in Powers of 10

Complete the sequence.

__-8__, __2__, 12, __22__, 32, __42__, 52, __62__, __72__, 82

The rule for the sequence is: + 10



?

Can you create rules for your own sequence?

Activity 2 Counting in Powers of 10

Circle and correct the mistake in each sequence.

7,875, 8,875, 9,875, 11,875, 12,875, 13,875, …

864,664, 764,664, 664,664, 554,664, 444,664, …

?

What patterns do you notice when you compare sequences increasing or decreasing in 10s, 100s, 1,000s etc?

Activity 2 Counting in Powers of 10

Circle and correct the mistake in each sequence.

10,875

7,875, 8,875, 9,875, 11,875, 12,875, 13,875, …

564,664, 464,664

864,664, 764,664, 664,664, 554,664, 444,664, …

?

What patterns do you notice when you compare sequences increasing or decreasing in 10s, 100s, 1,000s etc.?

Activity 2 Counting in Powers of 10

Circle and correct the mistake in each sequence.

9,638, 10,638, 11,638, 12,639, 13,638

732,332, 632,332, 532,332, 442,332, 332,332



Activity 2 Counting in Powers of 10

Circle and correct the mistake in each sequence.

12,638

9,638, 10,638, 11,638, (12,639,) 13,638

432,332

732,332, 632,332, 532,332, (442,332,) 332,332



Activity 3 Counting in Powers of 10

Here is a Gattegno chart showing 32,450

1	2	3	4	5	6	7	8	9
10	20	30	40	50	60	70	80	90
100	200	300	400	500	600	700	800	900
1000	2000	3000	4000	5000	6000	7000	8000	9000
10000	20000	30000	40000	50000	60000	70000	80000	90000

+10	−10	+100	−100	+1000	−1000	+10000	−10000

You will be given a target number to make on the chart.
You'll then choose one of the powers of ten cards. Adjust your number accordingly.

? *What happens to the pattern when you move into negatives?*

Discuss

Counting in Powers of 10

What happens to the pattern when you move into negatives?

What patterns do you notice when you compare sequences increasing or decreasing in 10s, 100s, 1,000s etc.?

Can you create a rule for your own sequence?

Compare and Order 5



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Activity 1 Compare and Order

Put the number cards in order of size.

13,010

13,100

13,011

13,110

13,111

?

In order to compare, what do we need to know?

Activity 1 Compare and Order

Put the number cards in order of size.

13,010

13,100

13,011

13,110

13,111

13,010 , 13,011 , 13,100 , 13,110 , 13,111

Activity 1 Compare and Order

Put the number cards in order of size.

14,100

14,010

10,410

14,111

14,101

Activity 1 Compare and Order

Put the number cards in order of size.

14,100

14,010

10,410

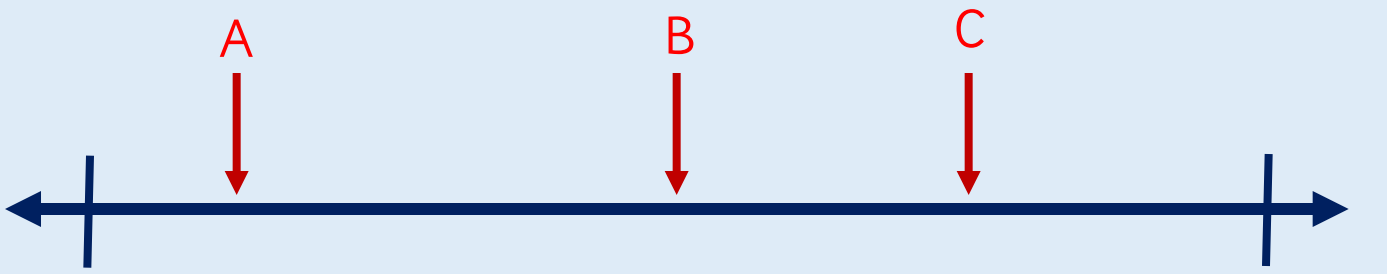
14,111

14,101

10,410 , 14,010 , 14,100 , 14,101 , 14,111

Activity 2 Compare and Order

Estimate the values of A, B and C.

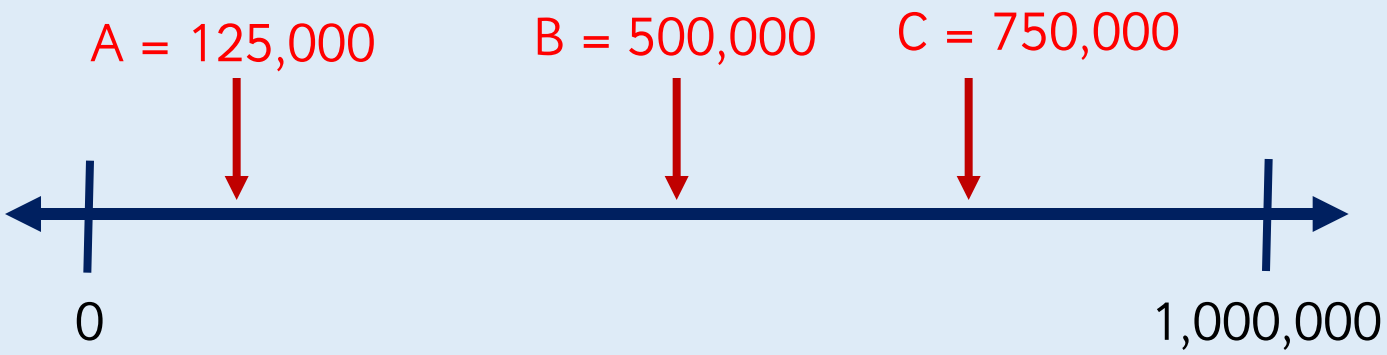




What is the value of each digit?

Activity 2 Compare and Order

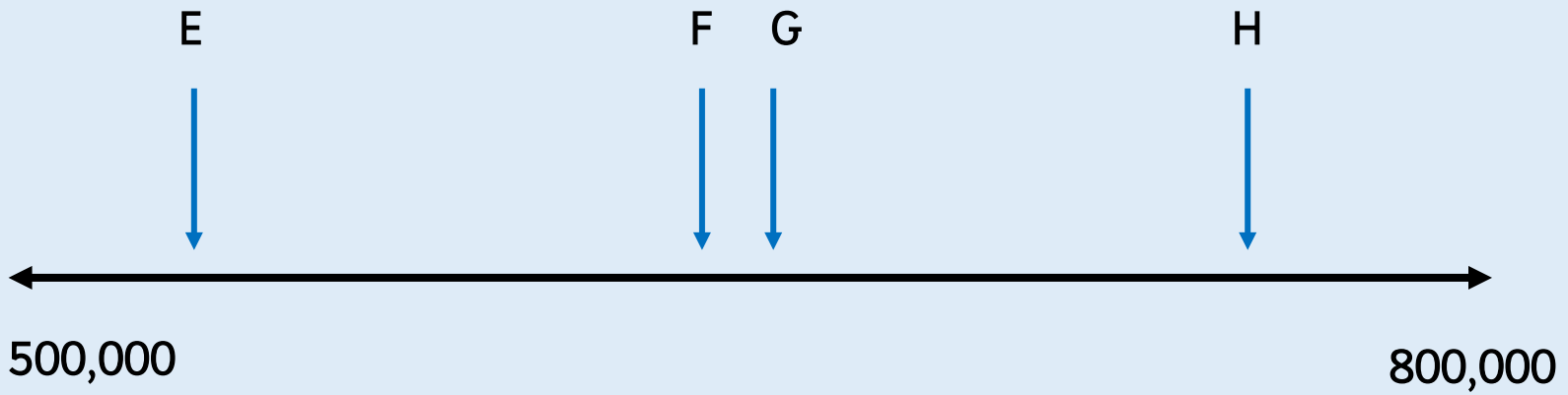
Estimate the values of A, B and C.



Activity 2 Compare and Order

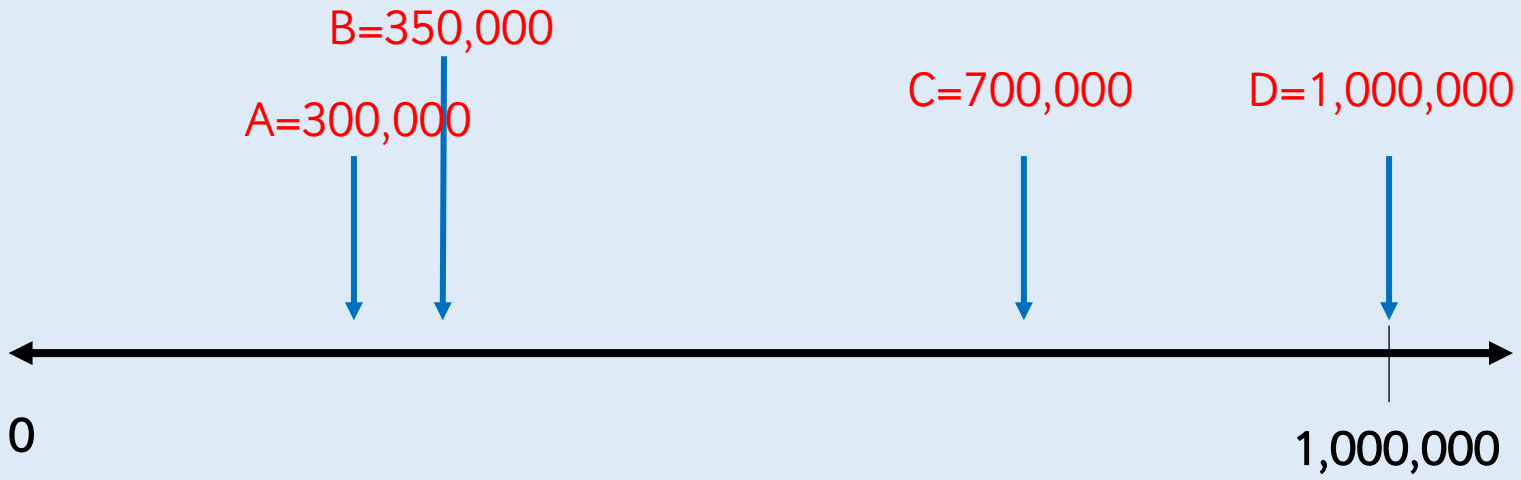
Estimate the values of the letters.

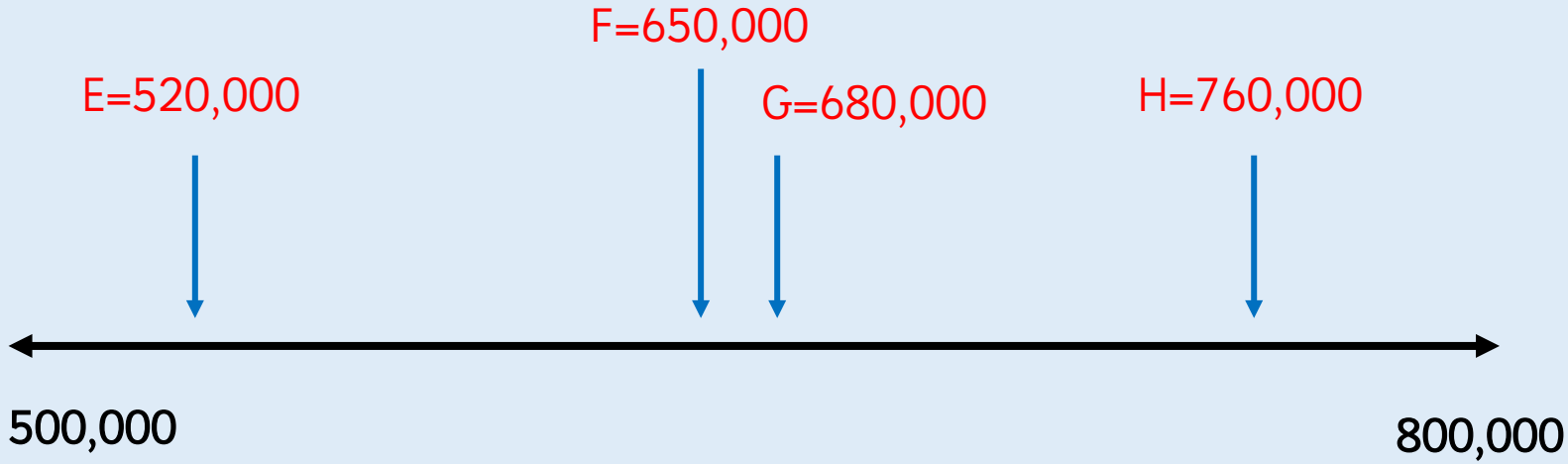




Activity 2 Compare and Order

Estimate the values of the letters.





Activity 3 Compare and Order

Here is a table showing the population in areas of Yorkshire.

Halifax	88,134
Brighouse	32,360
Leeds	720,492
Huddersfield	146,234
Wakefield	76,886
Bradford	531,200

Use <, > or = to make the statements correct.

The population of Halifax _____ the population of Wakefield.

Double the population of Brighouse _____ the population of Halifax.

?

What is the value of _____ in this number?

Activity 3 Compare and Order

Here is a table showing the population in areas of Yorkshire.

Halifax	88,134
Brighouse	32,360
Leeds	720,492
Huddersfield	146,234
Wakefield	76,886
Bradford	531,200

Use <, > or = to make the statements correct.

The population of Halifax ___>___ the population of Wakefield.

Double the population of Brighouse ___<___ the population of Halifax.

Activity 3 Compare and Order

Here is a table showing the population in areas of Yorkshire.

Halifax	55,673
Brighouse	13,564
Leeds	888,945
Huddersfield	234,222
Bradford	499,234

Use <, > or = to make the statements correct.

The population of Leeds is _____ than the population of Huddersfield.

Double the population of Huddersfield is _____ than the population of Halifax.

Activity 3 Compare and Order

Here is a table showing the population in areas of Yorkshire.

Halifax	55,673
Brighouse	13,564
Leeds	888,945
Huddersfield	234,222
Bradford	499,234

Use <, > or = to make the statements correct.

The population of Leeds is ___>___ than the population of Huddersfield.

Double the population of Huddersfield is ___>___ than the population of Halifax.

Discuss

Compare and Order

In order to compare, what do we need to know?

What is the value of each digit?

What is the value of _____ in this number?

What is the value of the whole?

Can you suggest other parts that make the whole?

Can you write a story to support your part-whole mode?

Round within a Million

5

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Activity 1 Round within a Million

Round these populations to the nearest 100,000.

City	Population	Rounded to the nearest 100,000
Leeds	720,492	
Durham	87,559	
Sheffield	512,827	
Birmingham	992,000	

?

How many digits does one million have?

Activity 1 Round within a Million

Round these populations to the nearest 100,000.

City	Population	Rounded to the nearest 100,000
Leeds	720,492	700,000
Durham	87,559	100,000
Sheffield	512,827	500,000
Birmingham	992,000	1,000,000

Activity 1 Round within a Million

Round these populations to the nearest 100,000.

City	Population	Rounded to the nearest 100,000
Manchester	587,239	
Liverpool	325,672	
Leeds	472,582	
Birmingham	984,231	
Bristol	434,124	

Activity 1 Round within a Million

Round these populations to the nearest 100,000.

City	Population	Rounded to the nearest 100,000
Manchester	587,239	600,000
Liverpool	325,672	300,000
Leeds	472,582	500,000
Birmingham	984,231	1,000,000
Bristol	434,124	400,000

Activity 2 Round within a Million

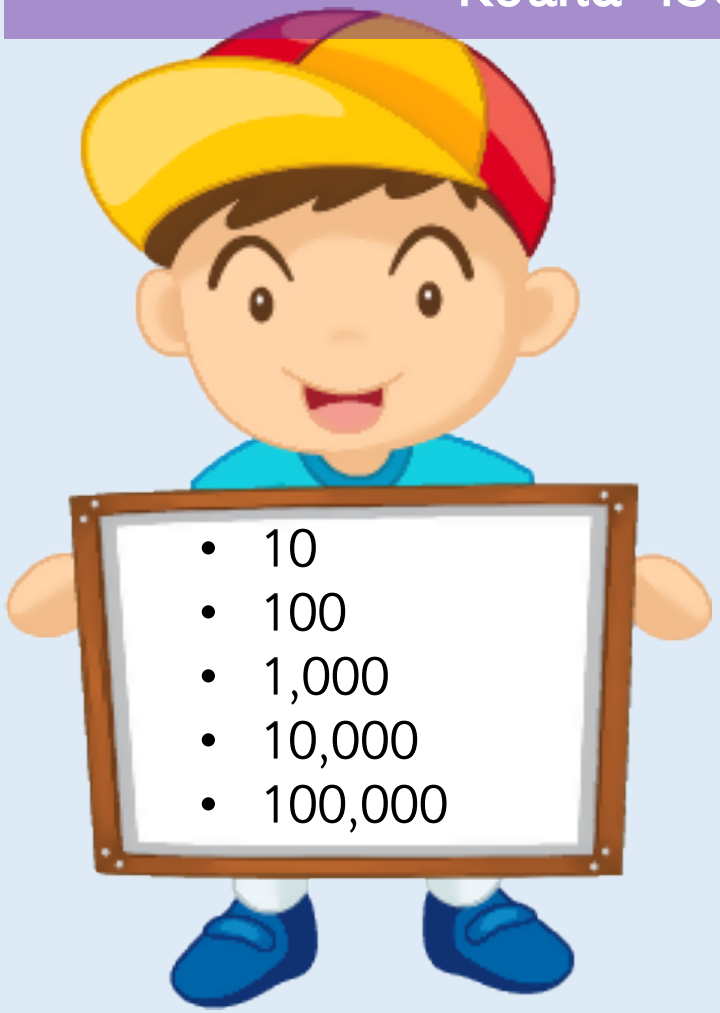
Round 450,985 to the nearest:



Which digits do you need to look at when rounding to the nearest 100,000?

Activity 2 Round within a Million

Round 450,985 to the nearest:



- 10 → 450,990
- 100 → 451,000
- 1,000 → 451,000
- 10,000 → 450,000
- 100,000 → 500,000

Activity 2 Round within a Million

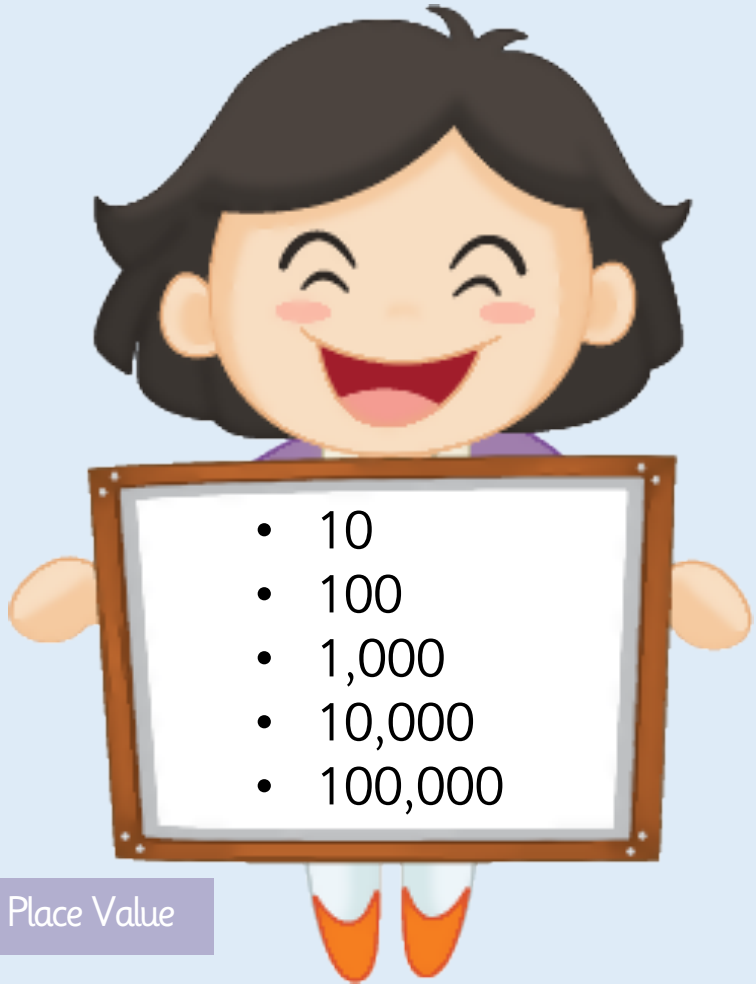
Round 780,218 to the nearest:





Activity 2 Round within a Million

Round 780,218 to the nearest:



- 10 → 780,220
- 100 → 780,200
- 1,000 → 780,000
- 10,000 → 780,000
- 100,000 → 800,000

Activity 3 Round within a Million

At a festival, 311,712 people attend across the weekend. Tickets come in batches of 100,000.

How many batches should the organisers buy?
Explain why this goes against the rounding rule.



?

Can you think of another situation where the rule doesn't apply?

Activity 3 Round within a Million

At a festival, 311,712 people attend across the weekend. Tickets come in batches of 100,000.

How many batches should the organisers buy?
Explain why this goes against the rounding rule.

The rounded number of people that will attend is 300,000.
So based on the rounded number of attendees the organisers should buy 3 batches of tickets.
But 300,000 tickets will not be enough for 311,712 people to attend, so they have to buy 4 batches of 100,000 and round up.

Discuss

Round within a Million

How many digits does one million have?

Partition these numbers. Show me.

Which digits do you need to look at when rounding to the nearest 10? 100? 1,000? 10,000? 100,000?

How do you know which is the greatest value? Show me.

Negative Numbers



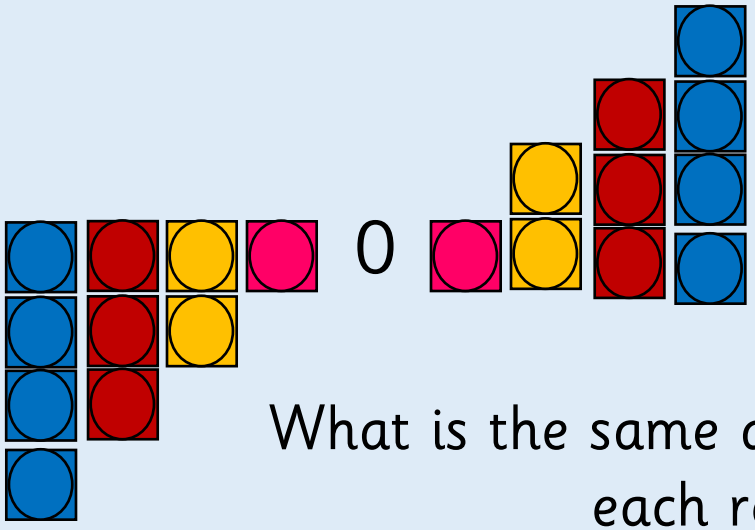
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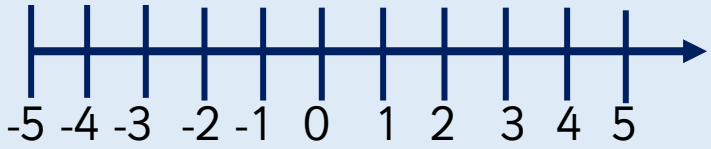
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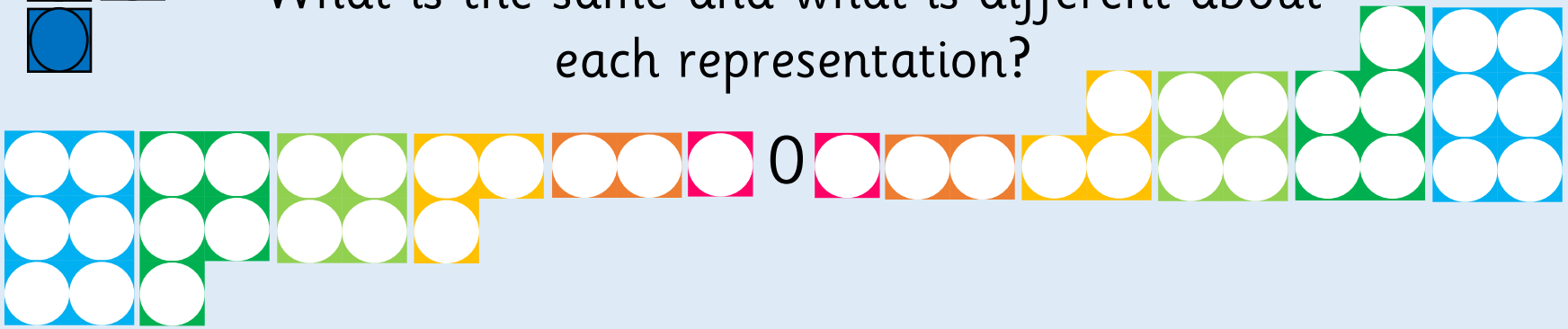
Activity 1 Negative Numbers

Here are three representations for negative numbers.





What is the same and what is different about each representation?

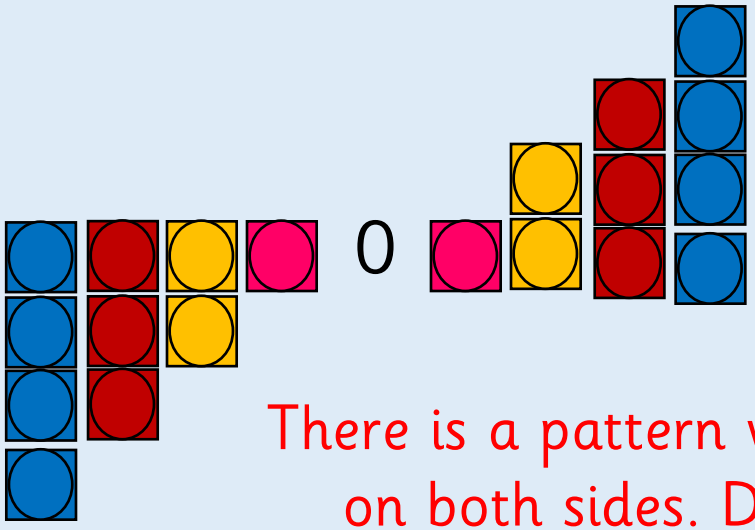


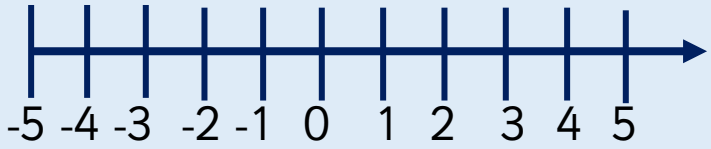
?

Do we include zero when counting backwards?

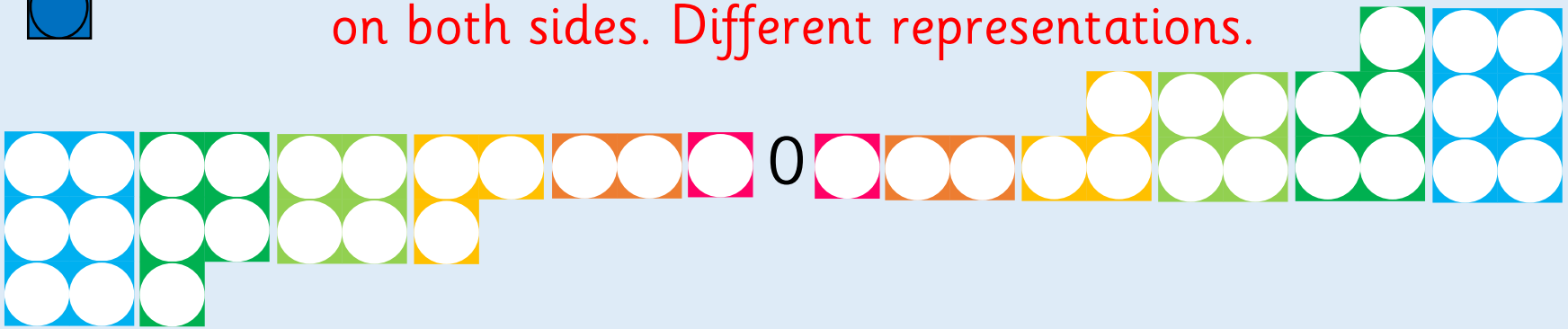
Activity 1 Negative Numbers

Here are three representations for negative numbers.





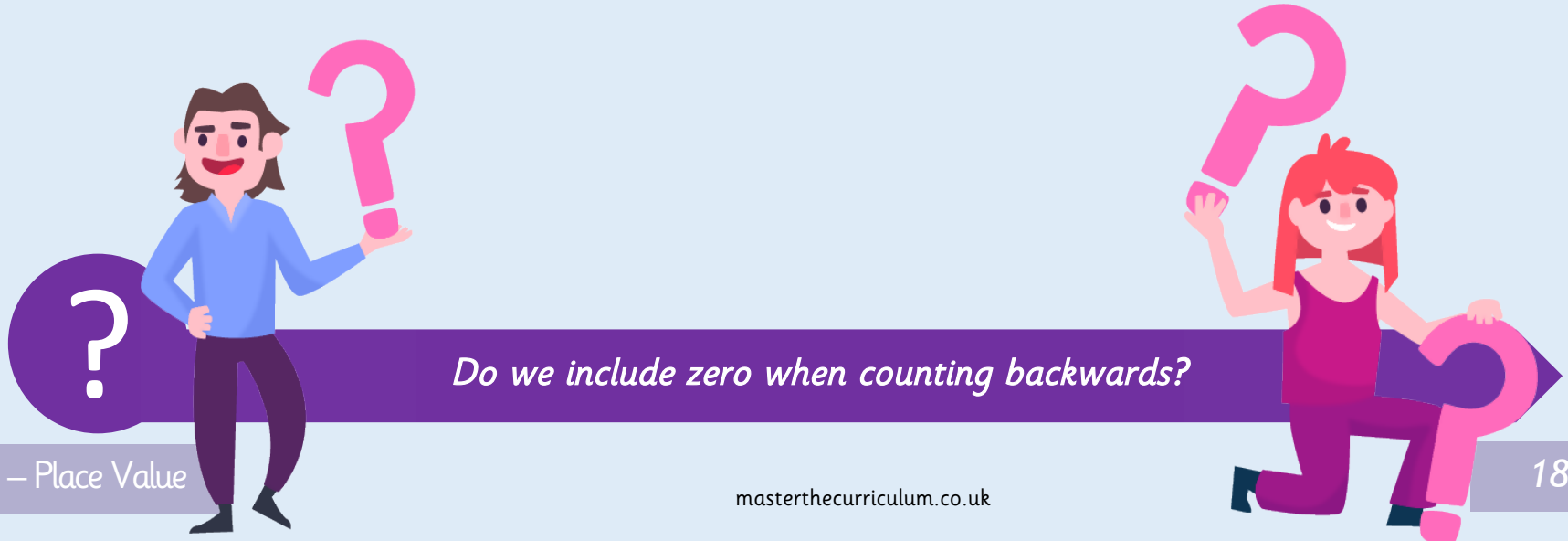
There is a pattern when increasing/decreasing on both sides. Different representations.



Activity 2 Negative Numbers

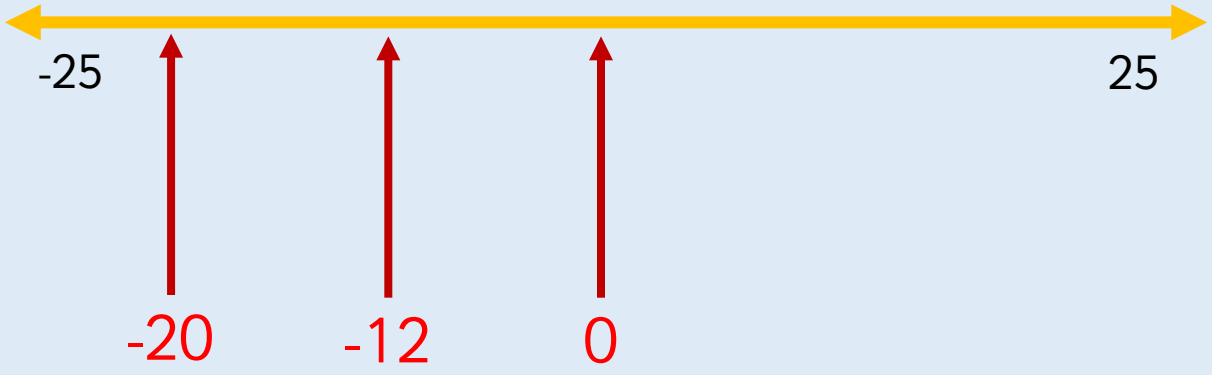
Estimate and label where 0, -12, and -20 will be on the number line.





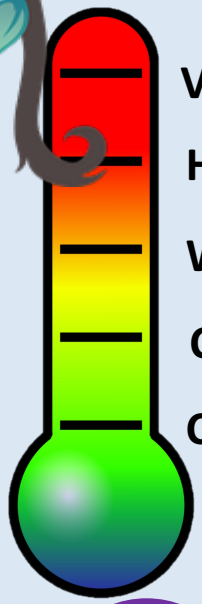
Activity 2 Negative Numbers

Estimate and label where 0, -12, and -20 will be on the number line.



Activity 3 Negative Numbers

Esin visits a zoo. The rainforest room has a temperature of 34°C. The Arctic room has a temperature of -22°C. Show the difference in room temperatures on a number line.





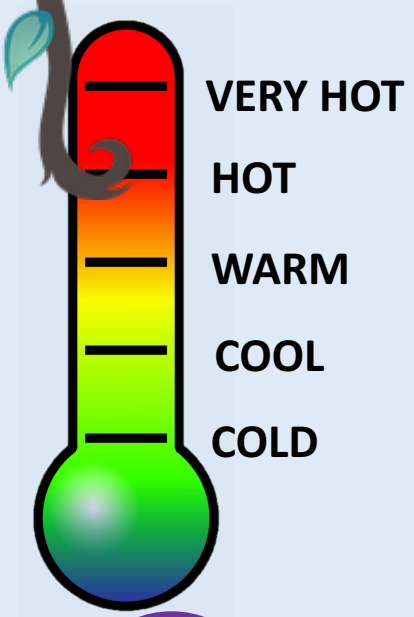


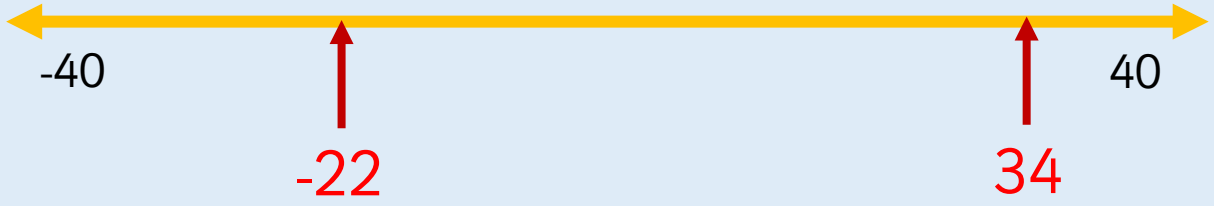
?

Which is coldest? Warmest?

Activity 3 Negative Numbers

Esin visits a zoo. The rainforest room has a temperature of 34°C. The Arctic room has a temperature of -22°C. Show the difference in room temperatures on a number line.







The difference is 56°C



?

Which is coldest? Warmest?

Discuss Negative Numbers

Do we include zero when counting backwards?

Which is coldest? Warmest?

What was the temperature increase? Decrease?