Autumn

Scheme of learning

Year 3/4

#MathsEveryoneCan

Y3/4 yearly overview

The yearly overview provides suggested timings for each block of learning, which can be adapted to suit different term dates or other requirements.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number **Place value**				Number **Addition and subtraction**				Number **Multiplication and division A**			Measurement **Area**
Spring	Number **Multiplication and division B**				Measurement **Length and perimeter**				Number **Fractions A**		Measurement **Mass and capacity**	Number **Fractions B**
Summer	Measurement **Time**				Number **Decimals**				Measurement **Money**	Geometry **Shape**	Geometry **Position and direction**	**Statistics**

White Rose MATHS

Autumn Block 1

Place value

Small steps

Step 1	Hundreds, tens and ones
Step 2	Represent numbers to 1,000
Step 3	Partition numbers to 1,000
Step 4	Thousands
Step 5	Represent numbers to 10,000
Step 6	Partition numbers to 10,000
Step 7	Flexible partitioning
Step 8	Find 1, 10, 100 or 1,000 more or less

Small steps

Step 9	Number line to 1,000
Step 10	Number line to 10,000
Step 11	Estimate on a number line
Step 12	Compare numbers
Step 13	Order numbers
Step 14	Round to the nearest 10
Step 15	Round to the nearest 100
Step 16	Round to the nearest 1,000

Small steps

Step 17	Round to the nearest 10, 100 or 1,000
Step 18	Roman numerals

Hundreds, tens and ones

Notes and guidance

In this small step, children explore the structure of 100 as well as count in 100s.

Children should understand that 10 tens are equivalent to 1 hundred. By unitising the hundred, they should be able to state the number of tens that make up any 3-digit multiple of 100

Once children are confident, they look at the structure of a 3-digit number by considering how many hundreds, tens and ones it is made up of, using place value counters. This resource will be new to Year 3 children and they should be encouraged to consider the similarities and differences between place value counters and other resources, such as base 10

By describing numbers such as 253 as being made up of 2 hundred counters, 5 ten counters and 3 one counters, children can more easily begin to think of this as 2 hundreds, 5 tens and 3 ones.

Things to look out for

- When working with place value counters, the fact that the physical size of the object does not reflect its value may cause some difficulties.

Key questions

- How many tens are there in 100/240?
- How do you know which column to put the counter in?
- How many hundreds, tens and ones is _____ made up of?

Possible sentence stems

- _____ can be made using _____ hundred counters _____ ten counters and _____ one counters.
- _____ is made up of _____ hundreds _____ tens and _____ ones.

Single age small step links

- Hundreds, tens and ones (Y3)
- Hundreds (Y3)

- N/A

National Curriculum links

- Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) (Y3)
- Count from zero in multiples of 4, 8, 50 and 100 (Y3)

Hundreds, tens and ones

Key learning

- How many marbles are there?

- Complete the sentences.

  There are _____ tens in 100

  There are _____ hundreds in 500

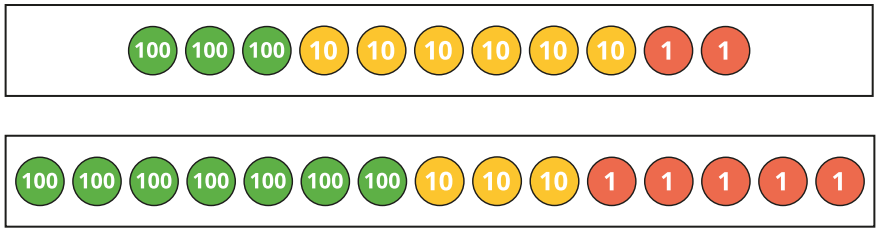
  There are _____ tens in 500

- Use base 10 to make 143

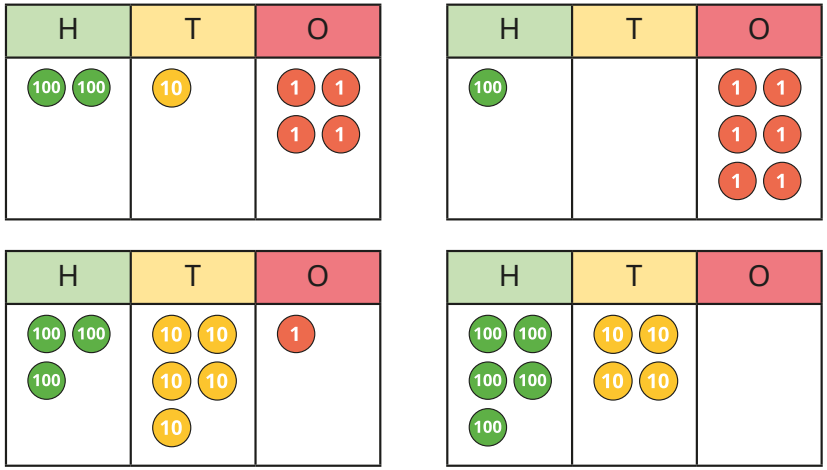
  Use place value counters to make 143

  What is the same? What is different?

- What numbers are shown?



- What numbers are shown?



  How many hundreds are there in each number?

  How many tens are there in each number?

  How many ones are there in each number?

- Use a place value chart to help you describe each number.

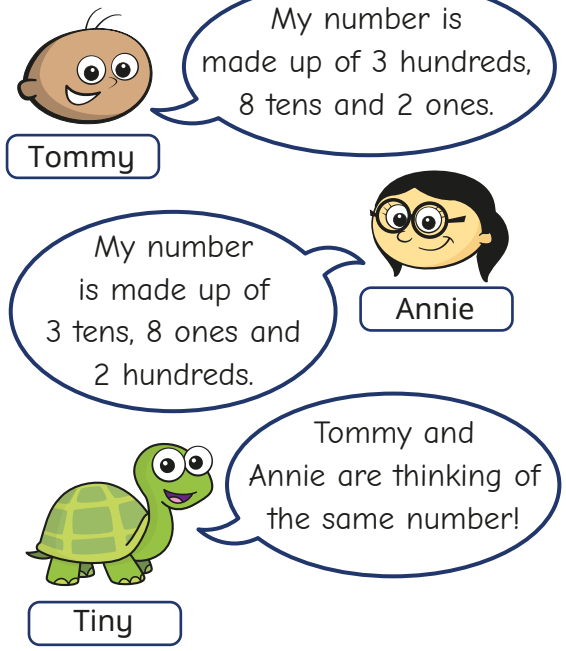
281	304	720	500

  _____ is made up of _____ hundreds, _____ tens and _____ ones.

Hundreds, tens and ones

Reasoning and problem solving

Tommy and Annie are each thinking of a number.



Explain the mistake Tiny has made.

What numbers are Tommy and Annie thinking of?

Tiny has not noticed that the parts are in a different order.

Tommy: 382

Annie: 238

Here is a number shown on a place value chart.

Hundreds	Tens	Ones
●	● ●	● ●

What number is shown?

How many hundreds, tens and ones are there?

What other numbers can be made using exactly five counters?

How many hundreds, tens and ones are there in each number?

122

1 hundred, 2 tens and 2 ones

multiple possible answers, e.g.

5, 32, 113, 212, 311, 401, 500

Represent numbers to 1,000

Notes and guidance

In this small step, children build on their understanding of hundreds, tens and ones to represent numbers to 1,000 in a variety of ways. This is predominantly Year 3 curriculum content, but provides essential foundations for later learning on numbers up to 10,000

Using base 10 to start with helps children to see the relative sizes of numbers, as well as the comparable sizes of hundreds, tens and ones. Once confident, children can then begin to use place value counters, where the counters are the same size regardless of the number represented. Year 3 children may require greater exposure to base 10 compared to Year 4 children to ensure that this vital understanding is secure.

Children should be able to describe the number of hundreds, tens and ones a number is made up of.

Things to look out for

- Children may not recognise that when there are 10 or more ones or tens, they need to make an exchange.
- Children may not understand the purpose of placeholders or use them appropriately.

Key questions

- What is the value of each base 10 piece/place value counter?
- How many hundreds/tens/ones are there?
- How many ones/tens make 1 ten/hundred?
- What do you do if there are no tens/ones?

Possible sentence stems

- There are _____ hundreds, _____ tens and _____ ones. The number is _____
- When a number has no _____, I use _____ as a placeholder.

Single age small step links

- Represent numbers to 100 (Y3)
- Represent numbers to 1,000 (Y3)

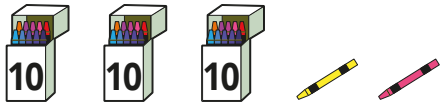
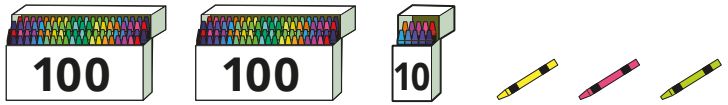
- Represent numbers to 1,000 (Y4)

National Curriculum links

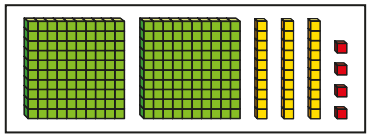
- Read and write numbers up to 1,000 in numerals and in words (Y3)
- Identify, represent and estimate numbers using different representations (Y3 and Y4)

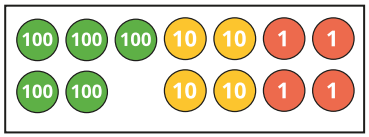
Represent numbers to 1,000

Key learning

- How many crayons are there?
  - 
  - 

- Complete the sentences to describe each number.

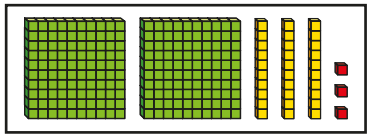


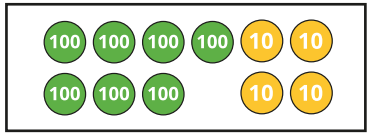


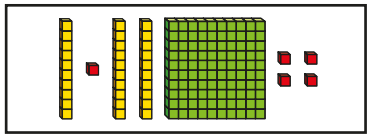
There are _____ hundreds, _____ tens and _____ ones.

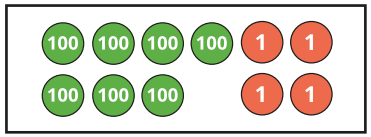
The number is _____

- What numbers are shown?









- Use base 10 to show each number.

71	231	452

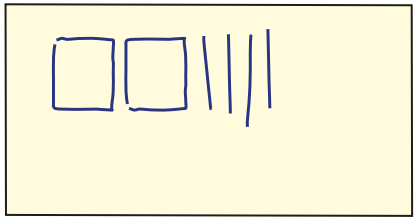
- Use place value counters to show each number.

138	240	406

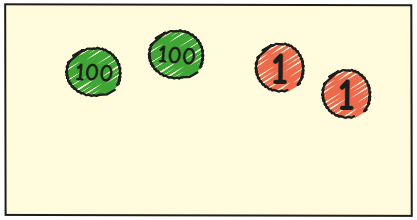
- Scott is drawing numbers.

  Complete his drawings.

362

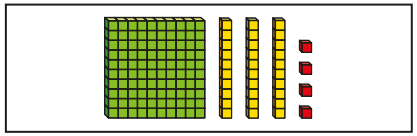


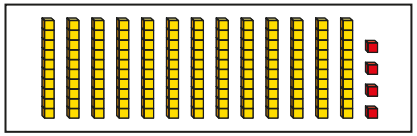
335



- These two numbers are the same.

  Explain why.



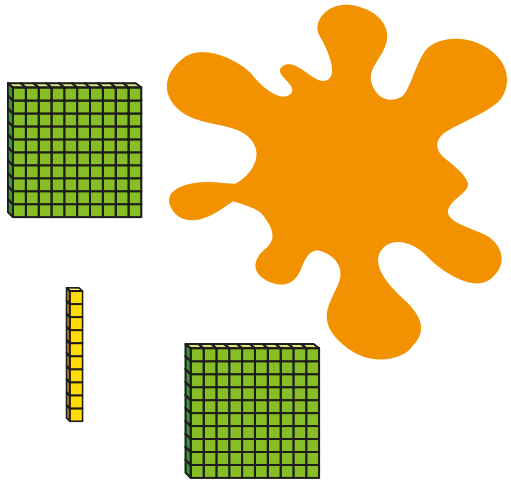


Represent numbers to 1,000

Reasoning and problem solving

Dani uses base 10 to make the number 235

Some of the base 10 pieces are covered up.

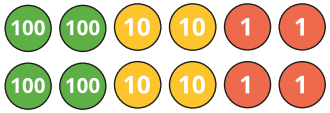


What amount is covered up?

Use base 10 to make the missing amount in different ways.

25

Here are some place value counters.



Rosie picks five counters.

What numbers could Rosie have made?

Compare answers with a partner.

18 possible numbers, e.g.

320, 302, 131, 41

Here are four digit cards.

3	1	0	5

How many different 3-digit numbers can you make using the digit cards?

Use base 10 or place value counters to make each number.

18 possible numbers, e.g.

310, 105, 531

Partition numbers to 1,000

Notes and guidance

In this small step, children partition numbers up to 1,000 into hundreds, tens and ones.

Children represent numbers in a part-whole model and identify missing parts and wholes. They write numbers in expanded form, using a part-whole model as support where needed, and identify the number of hundreds, tens and ones in a 3-digit number. To build on learning from the previous step, examples that include zero as a placeholder should be explicitly explored. Children should be able to identify the value of any given digit in a 3-digit number.

Base 10 should be used to support children's understanding of the relative size of numbers before moving on to using place value counters. Year 3 children may need greater exposure to such representations.

Things to look out for

- Children may not correctly assign place value to each digit of a number. For example, they may write 514 = 5 + 1 + 4
- Where the parts of a part-whole model are not given in value order, children may incorrectly interpret the number.
- Children may omit zeros needed as placeholders.

Key questions

- How many hundreds/tens/ones are there in _____?
- What is the value of the missing part? How do you know?
- What is the value of the digit _____ in the number _____?

Possible sentence stems

- _____ has _____ hundreds _____ tens and _____ ones.
  _____ = _____ + _____ + _____

Single age small step links

- Partition numbers to 100 (Y3)
- Partition numbers to 1,000 (Y3)

- Partition numbers to 1,000 (Y4)

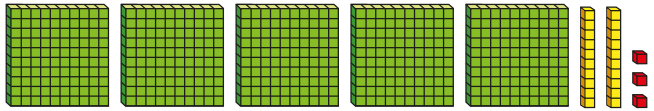
National Curriculum links

- Read and write numbers up to 1,000 in numerals and in words (Y3)
- Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) (Y3)
- Identify, represent and estimate numbers using different representations (Y3 and Y4)

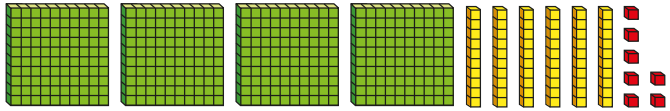
Partition numbers to 1,000

Key learning

Use the representations to help you complete the number sentences.



523 = 500 + _____ + _____



467 = _____ + _____ + _____

381 = 300 + _____ + _____

- Use base 10 or place value counters to make each number.

123	420	605	900

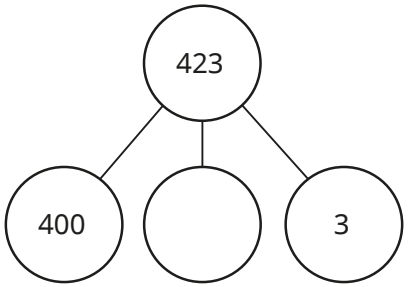
Complete the sentences to describe each number.

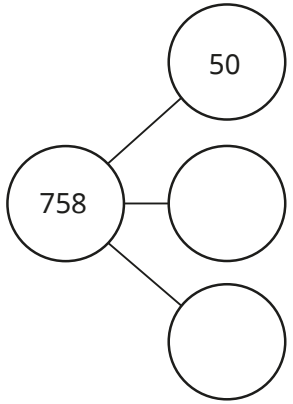
There are _____ hundreds, _____ tens and _____ ones.

The number is _____

_____ = _____ + _____ + _____

- Complete the part-whole models.





- Complete the number sentences.
  - 190 = _____ + _____
  - _____ = 200 + 5
  - 927 has 9 _____, 2 _____ and _____ ones.
  - 158 has _____ hundred, _____ tens and _____ ones.

- What is the value of the hundreds digit in 715?

  What is the value of the tens digit in 260?

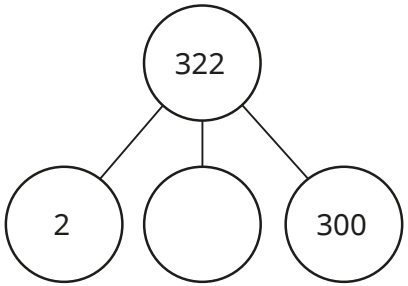
  What is the value of the ones digit in 32?

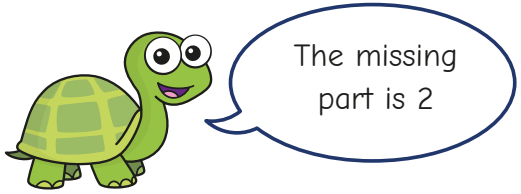
- Write in numerals the number that has 7 hundreds, 4 tens and 1 one.

Partition numbers to 1,000

Reasoning and problem solving

Tiny is completing a part-whole model.



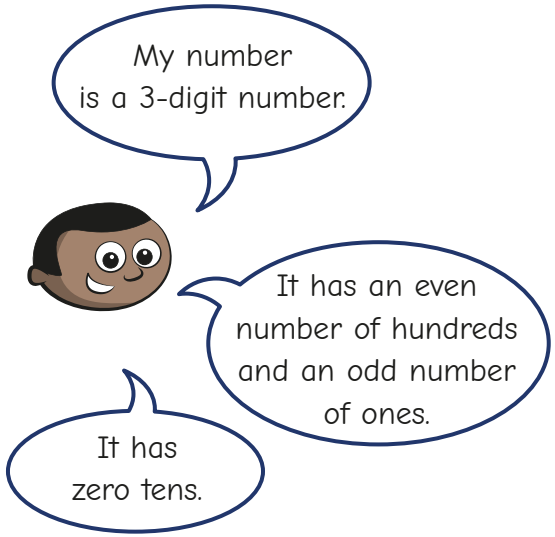


Explain the mistake that Tiny has made.

What is the missing part?

20

Mo is thinking of a number.



What could Mo's number be?

Find three posibilities and partition them.

multiple possible answers, e.g.

201 = 200 + 1

403 = 400 + 3

605 = 600 + 5

Thousands

Notes and guidance

Building on previous steps where children explored numbers up to 1,000, they now explore numbers beyond 1,000

Children start by identifying the number of thousands from pictures. They count in 1,000s forwards and backwards from any given multiple of 1,000, initially using number tracks as support.

Children look at the composition of multiples of 1,000 by exploring how many hundreds they are made up of. They unitise the hundred and state the number of hundreds that make up any 4-digit multiple of 100 or 1,000, for example "20 hundreds are equal to 2,000". Base 10 and place value counters in a ten frame are useful resources to show the connection between the number of hundreds that are equal to a multiple of a thousand. As this is the first time that Year 3 children are introduced to thousands, they may need greater exposure to such representations.

Things to look out for

- Children may not appreciate that 1,000 is 10 times the size of 100
- When they are meant to be counting in 1,000s, children may count in the more familiar 100s.

Key questions

- How many thousands are there in 6,000?
- How many hundreds are there in 6,000?
- Counting on in 1,000s from 3,000, what is the next number?
- If you count back in 1,000s from 8,000, will you say 5,000? How do you know?

Possible sentence stems

- The next/previous multiple of 1,000 is _____
- 1 thousand is equal to _____ hundreds, so _____ thousands is equal to _____ hundreds.
- _____ thousands can be written in numerals as _____

Single age small step links

- N/A

- Thousands (Y4)

National Curriculum links

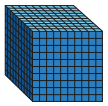
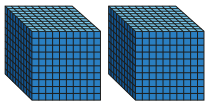
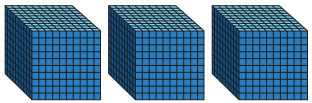
- Count in multiples of 6, 7, 9, 25 and 1,000 (Y4)

Thousands

Key learning

- How many marbles are there?

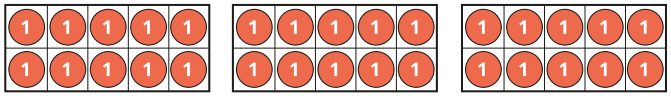
Write your answer in numerals and words.

- What numbers are shown?
  - 
  - 
  - 

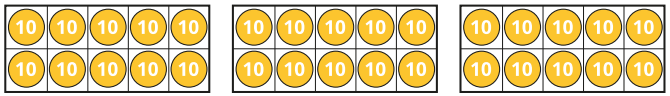
- Complete the number tracks.

3,000	4,000			
		7,000	8,000	9,000

- Complete the sentences to match the ten frames.



_____ ones = _____ tens



_____ tens = _____ hundreds

_____ hundreds = _____ thousands

What do you notice?

- Complete the sentences.
  - 4 thousand = 4,000

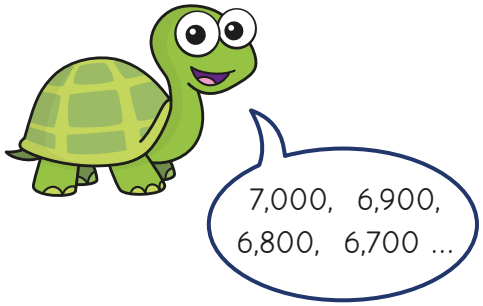
    There are _____ hundreds in 4 thousand.
  - _____ thousand = 6,000

    There are 60 hundreds in _____ thousand.

Thousands

Reasoning and problem solving

Tiny is counting back in 1,000s from 7,000



Explain the mistake that Tiny has made.

Tiny has counted back in 100s, not 1,000s.

Tiny should say, "7,000, 6,000, 5,000 ..."

Is the statement true or false?

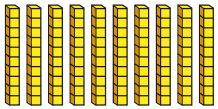
> When counting in 1,000s, the numbers will always have four digits.

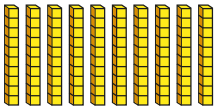
Explain your answer.

False

Jack, Kim and Sam are asked to represent 2,000

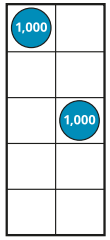
Jack





Kim

Sam



Who is correct?

Explain your answer.

Kim and Sam

Represent numbers to 10,000

Notes and guidance

In this small step, children represent numbers to 10,000

Children use different representations, such as base 10, place value charts and Gattegno charts, which help to highlight the relative sizes of the parts, and the place value of the digits, in the numbers. Year 3 children may require greater exposure to manipulatives such as base 10 to secure their understanding of the size of thousands in comparison to hundreds, tens and ones.

It may be helpful to discuss how and why we use a comma when writing numbers, as it can help with reading and writing greater numbers.

Children should experience questions that include zero as a placeholder and represent a blank column in a place value chart.

Things to look out for

- Numbers may be written incorrectly, for example 2,456 as 2000400506
- Children may forget to use zero as a placeholder.

Key questions

- What number is shown?
- How many thousands/hundreds/tens/ones are there?
- What is the value of each digit?

Possible sentence stems

- There are _____ thousands _____ hundreds _____ tens and _____ ones.
  The number is _____

Single age small step links

- Represent numbers to 1,000 (Y3)
- Represent numbers to 10,000 (Y4)

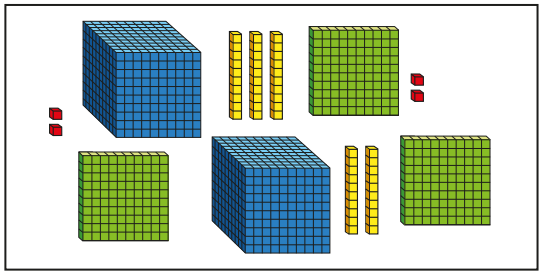
National Curriculum links

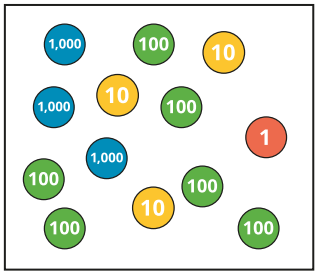
- Read and write numbers up to 1,000 in numerals and in words (Y3)
- Identify, represent and estimate numbers using different representations (Y3 and Y4)
- Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones) (Y4)

Represent numbers to 10,000

Key learning

- Complete the sentences for each number.

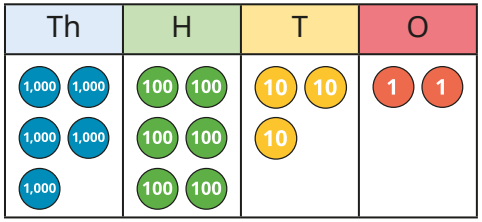




There are _____ thousands, _____ hundreds, _____ tens and _____ ones.

The number is _____

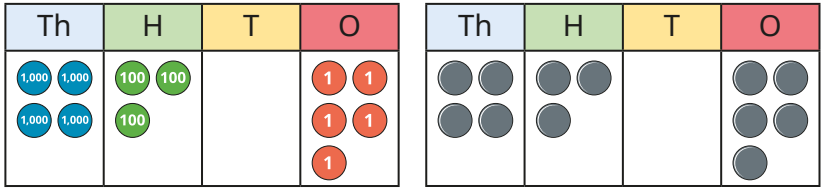
- What number is shown on the place value chart?



- Use base 10 or place value counters to show each number.

1,263	3,829	2,751	5,151

- What numbers are represented on the place value charts?



Write your answers in words and numerals.

What is the same and what is different about the place value charts?

- Use place value counters to represent each number on a place value chart.

3,102	4,052	6,260	5,003

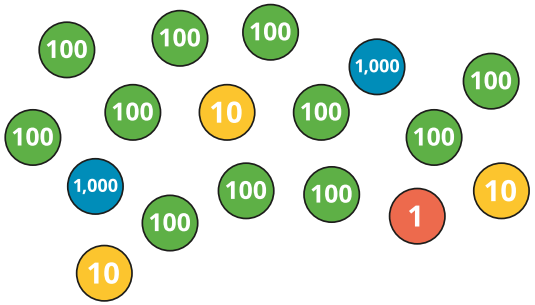
- What number is shown on the Gattegno chart?

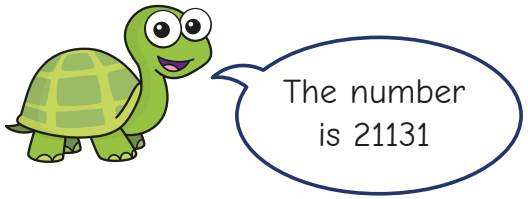
1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

Represent numbers to 10,000

Reasoning and problem solving

Tiny uses place value counters to make a number.



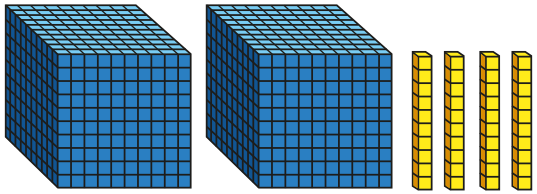


Do you agree with Tiny?

Explain your answer.

No

Esther has these pieces of base 10



What 4-digit numbers can she make?

2,040 1,040
2,030 1,030
2,010 1,010
2,000 1,000

Use exactly five counters to make as many 4-digit numbers as possible.

Write each number in numerals.

Th	H	T	O

multiple possible answers, e.g.

5,000

4,001

1,112

Partition numbers to 10,000

Notes and guidance

In this small step, children partition numbers up to 10,000 by identifying the number of thousands, hundreds, tens and ones. They should give their answers using numerals, words and in expanded form, for example 1,234, 1 thousand, 2 hundreds, 3 tens and 4 ones or 1,000 + 200 + 30 + 4. Ensure that Year 3 children are confident with partitioning numbers to 1,000 before progressing to partitioning numbers to 10,000

Base 10 and place value counters continue to be used to support children in partitioning numbers. Year 3 children may require greater exposure to such representations. Part-whole models are a useful representation to recognise the value of each digit as well as to identify any missing parts in a calculation.

Children should experience questions that include zero as a placeholder. Emphasise that it cannot be omitted, in order to address the misconception that, for example, 4,006 = 46

Things to look out for

- Children may not associate the digits with their value and just write, for example, 2,536 = 2 + 5 + 3 + 6
- Partitioned numbers that are presented "out of order" may lead to errors, for example 3,000 + 2 + 50 + 600 = 3,256

Key questions

- How many thousands/hundreds/tens/ones are there?
- What is the value of the missing part? How do you know?
- What does a zero in a place value column tell you?

Possible sentence stems

- _____ has _____ thousands _____ hundreds _____ tens and _____ ones.
  _____ = _____ + _____ +_____ +_____

Single age small step links

- Partition numbers to 1,000 (Y3)
- Partition numbers to 10,000 (Y4)

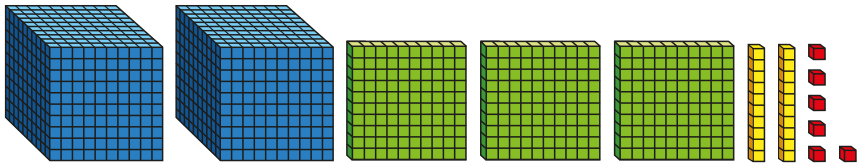
National Curriculum links

- Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones) (Y4)
- Identify, represent and estimate numbers using different representations (Y3 and Y4)

Partition numbers to 10,000

Key learning

- Complete the number sentences.



2,326 = 2,000 + _____ + _____ + _____

Thousands	Hundreds	Tens	Ones
1,000 1,000 1,000	100 100	10 10 10 10 10 10	1 1 1 1

3,264 = 3,000 + _____ + _____ + _____

Thousands	Hundreds	Tens	Ones

5,931 = _____ + _____ + _____ + _____

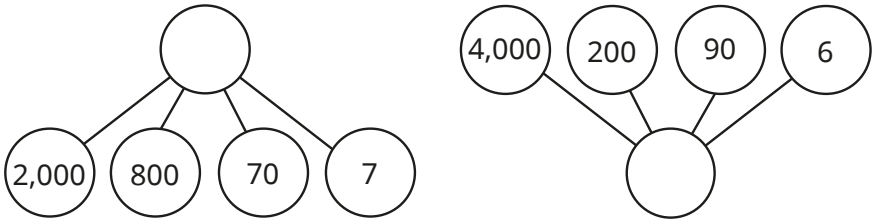
- Use a Gattegno chart to complete the number sentences.

1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

There are _____ thousands, _____ hundreds, _____ tens and _____ ones.

The number is _____

- Complete the part-whole models.



- Complete the number sentences.

3,443 = 3 thousands + 4 hundreds + _____ + _____

_____ = 1,000 + 600 + 5

_____ = 200 + 90 + 5,000

Partition numbers to 10,000

Reasoning and problem solving

Tiny is partitioning 5,703

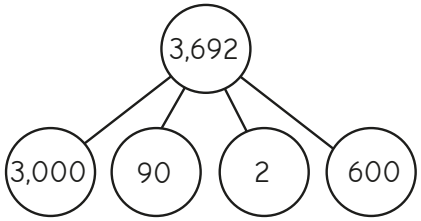
5,703 = 500 + 70 + 3

Explain the mistake that Tiny has made.

Tiny has not assigned the correct value to each digit.

There are no tens.

Aisha uses a part-whole model to partition 3,692

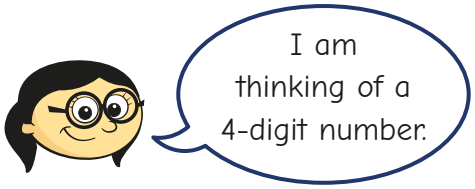


Has she partitioned the number correctly?

Explain your answer.

Yes

The order of the parts does not matter, as long as they have the correct value.



Use the clues to work out Annie's number.

- There are the same number of hundreds and tens.
- The 4-digit number is even.
- The tens digit is 1
- The thousands digit is one more than the ones digit.
- The sum of the digits is 19

Think of another 4-digit number and challenge a partner to work out your number from clues.

9,118

Flexible partitioning

Notes and guidance

Previously, children have partitioned numbers up to 10,000 in a standard way, considering how many thousands, hundreds, tens and ones there are in a number. In this step, Year 3 children flexibly partition numbers to 1,000, whereas Year 4 children progress to flexibly partition numbers up to 10,000, understanding that the whole number can be split into parts in many different ways.

Children use numerals, words and expanded form to flexibly partition numbers. A key focus should be understanding that, for example, 6,000 + 400 + 20 + 9 = 5,000 + 1,400 + 20 + 9, as this is crucial to understanding addition and subtraction of 4-digit numbers in future blocks.

The representations used in previous steps can provide support, arranging place value counters or base 10 to appreciate that the different partitions give the same number.

Ensure that links are made to the vocabulary of "exchanging" when demonstrating how to flexibly partition numbers.

Things to look out for

- Children may just combine digits when identifying a number that has been partitioned in a non-standard way, for example 2,000 + 1,300 + 60 + 8 = 21,368

Key questions

- What different multiples of 1,000 could be the first part? How does this affect the values of the other parts?
- How can you write the number using a part-whole model?
- What can you exchange the thousands/hundreds/tens/ones digit for?

Possible sentence stems

- _____ is equal to _____ thousands, _____ hundreds, _____ tens and _____ ones or _____ thousands, _____ hundreds, _____ tens and _____ ones.

Single age small step links

- Flexible partitioning of numbers to 1,000 (Y3)
- Flexible partitioning of numbers to 10,000 (Y4)

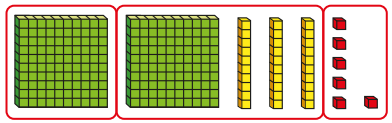
National Curriculum links

- Recognise the place value of each digit in a 3-digit number (thousands, hundreds, tens and ones) (Y3)
- Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones) (Y4)

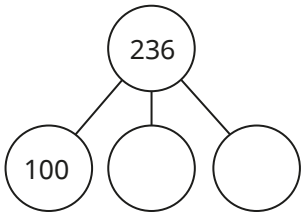
Flexible partitioning

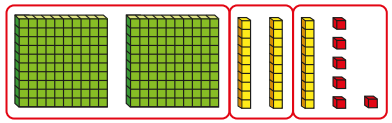
Key learning

- Complete the part-whole models and number sentences.

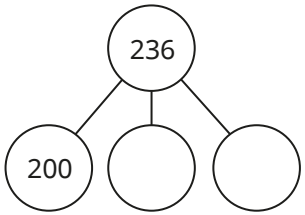


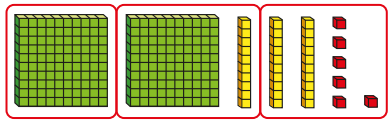
236 = 100 + _____ + _____



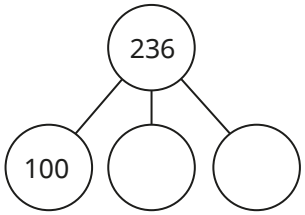


236 = 200 + _____ + _____





236 = 100 + _____ + _____



How else can you partition 236?

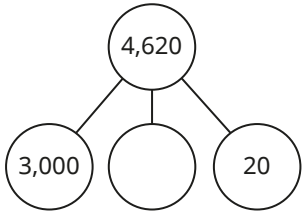
- Use the place value chart to complete the number sentences.

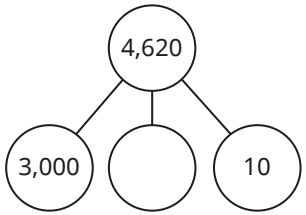
Thousands	Hundreds	Tens	Ones
1,000 1,000 1,000	100 100 100 100	10 10 10 10 10 10	1 1 1 1 1 1 1 1

3,468 = 3,000 + 400 + _____ + 18

3,468 = 2,000 + _____ + 60 + 8

- Complete the part-whole models.





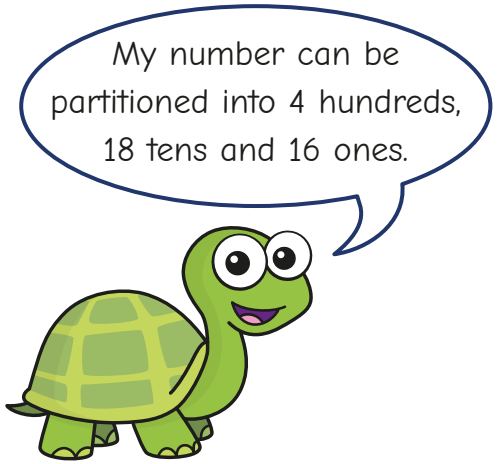
- Complete the number sentences.
  - 816 = 700 + _____ + 6
  - 2,816 = 1,000 + _____ + 10 + _____
  - 9,570 = _____ + 270 + _____

Is there more than one way of completing each sentence?

Flexible partitioning

Reasoning and problem solving

Tiny is thinking of a number.



Complete the number sentence to partition Tiny's number in a different way.

_____ = _____ + _____ + _____+ _____

multiple possible answers, e.g.

596 = 100 + 400 + 80 + 16

Which is the odd one out?

5,200

5 thousands + 20 tens

4 thousands + 12 hundreds

1,000 + 400 + 200

520 tens

Explain how you know.

1,000 + 400 + 200 = 1,600

Partition 2,835 in five different ways.

Compare answers with a partner.

What is the same?

What is different?

multiple possible answers, e.g.

2,000 + 700 + 130 + 5

1,000 + 1,800 + 20 + 15

Find 1, 10, 100 or 1,000 more or less

Notes and guidance

In this small step, children find 1, 10, 100 and 1,000 more or less than a given number with up to four digits.

Using base 10, place value counters and plain counters in a place value chart will support understanding, particularly when multiples of 10/100/1,000 are crossed. Year 3 children may require greater exposure to concrete resources allowing them to see "more" or "less" as physically adding or removing pieces of equipment.

It is important to explore examples that result in a number with zero as a placeholder, as this concept needs regular reinforcing. Draw attention to which place value columns change and which stay the same in each example. This allows children to generalise that, for example, when finding 100 more/less, the ones and tens never change, the hundreds always change and the thousands sometimes change.

Things to look out for

- Calculations that cross a boundary may cause confusion.
- In questions such as "10 more than _____ is 297", children may find 10 more than 297

Key questions

- When finding 1/10/100/1,000 more/less, which place value columns does this affect?
- Do you need to make an exchange?

Possible sentence stems

- _____ is _____ more/less than _____
- When finding _____ more/less the _____ column will always/sometimes/never change.

Single age small step links

- Find 1, 10 or 100 more or less (Y3)
- Find 1, 10, 100, 1,000 more or less (Y4)

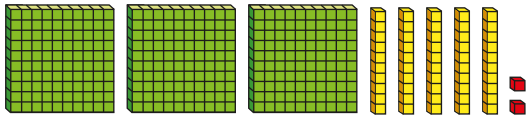
National Curriculum links

- Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number (Y3)
- Find 1,000 more or less than a given number (Y4)

Find 1, 10, 100 or 1,000 more or less

Key learning

- Complete the sentences.



The number is _____

1 less than the number is _____

10 less than the number is _____

100 less than the number is _____

- Complete the sentences.

Thousands	Hundreds	Tens	Ones
1,000 1,000 1,000 1,000	100 100 100 100 100 100	10 10 10 10 10 10 10	1 1 1 1 1

The number is _____

1 more than the number is _____

10 more than the number is _____

100 more than the number is _____

1,000 more than the number is _____

- The place value chart shows that 100 more than 3,941 is 4,041

Thousands	Hundreds	Tens	Ones
1,000 1,000 1,000 1,000	100 100 100 100 100 100 100 100 100 100	10 10 10 10	1

Use this method to find the values.

10 more than 392	100 more than 8,913	1 more than 2,499

- The place value chart shows that 10 less than 1,502 is 1,492

Thousands	Hundreds	Tens	Ones
1,000	100 100 100 100 ~~100~~	10 10 10 10 10 10 10 10 10 ~~10~~	1 1

Use this method to find the values.

10 less than 2,904	100 less than 3,042

Find 1, 10, 100 or 1,000 more or less

Reasoning and problem solving

Tommy is thinking of a number.

What is Tommy's number?

Explain your thinking.

340

One counter has fallen off the place value chart.

Th	H	T	O
●● ●		●●	●●● ●

What could the number have been?

List all the possibilities.

4,025
3,125
3,035
3,026

Complete the function machines.

input			output
8,949	→	+ 1,000 →	
350	→	→	349
	→	– 100 →	925

9,949

– 1

1,025

Are the statements always true, sometimes true or never true?

When you find 10 more or less than a number, the hundreds column changes.

When you find 100 more or less than a number, the ones column changes.

Explain your reasoning.

sometimes true

never true

Number line to 1,000

Notes and guidance

In this small step, children build on their understanding of number lines from previous years, focusing on using the number line to 100 and then to 1,000. It is important that children explore a variety of examples, including number lines that do not start from zero and number lines with increments other than 1,10 or 100

Children label, identify and find missing values on blank or partially completed number lines. Using everyday scales, such as rulers and measuring jugs, can be helpful.

When looking at partially completed number lines, it is important that children become confident in finding the difference between the start and end points and dividing to find the value of each interval. Explicit examples should be used that have a varying number of intervals and unmarked values in different positions.

Things to look out for

- Children may count the number of divisions, rather than the intervals.
- Children may incorrectly count the number of intervals and therefore label the positions of numbers incorrectly.

Key questions

- What is the start point value? What is the end point value?
- How many intervals are there? What is each interval worth?
- What is the number line counting up in? How do you know?

Possible sentence stems

- The difference in value between the start and end of the number line is _____
- There are _____ intervals on the number line.
  Each interval is worth _____

Single age small step links

- Number line to 100 (Y3)
- Number line to 1,000 (Y3)

- Number line to 1,000 (Y4)

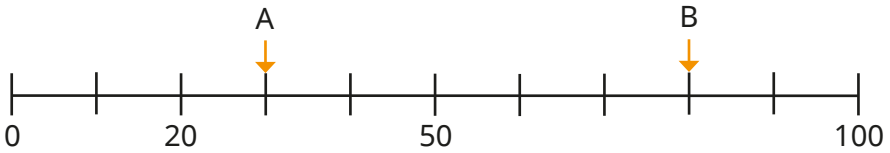
National Curriculum links

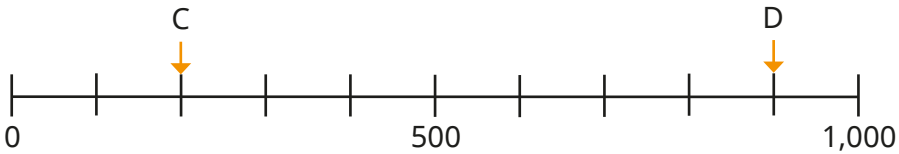
- Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number (Y3)
- Identify, represent and estimate numbers using different representations (Y3 and Y4)

Number line to 1,000

Key learning

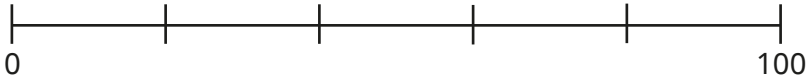
- What numbers are the arrows pointing to?

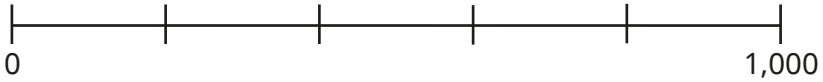




- Complete the sentences for each number line.

Label the number lines.



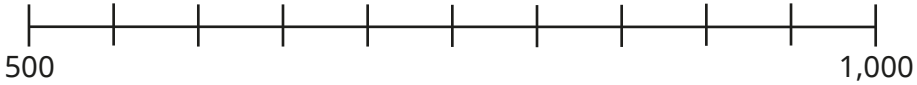


The difference in value between the start and the end of the number line is _____

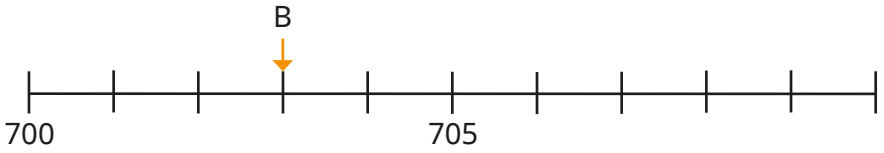
There are _____ intervals.

_____ ÷ _____ = _____

- Draw an arrow to show where each number belongs on the number line.

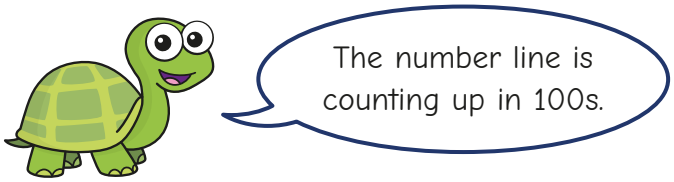


- What numbers are the arrows pointing to?



Number line to 1,000

Reasoning and problem solving

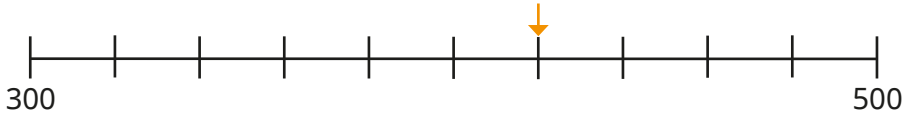


Do you agree with Tiny?

Talk about your answer with a partner.

No

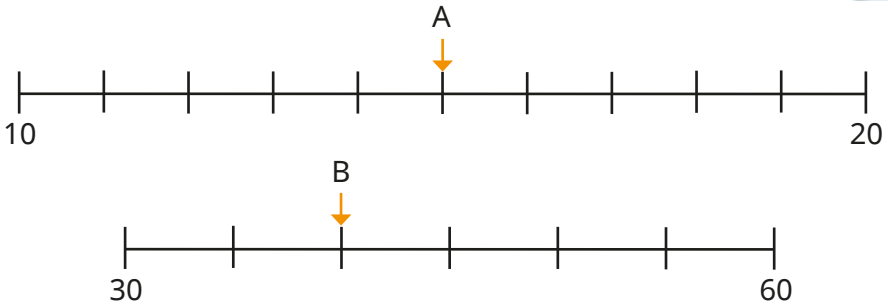
What number is the arrow pointing to?



How did you work this out?

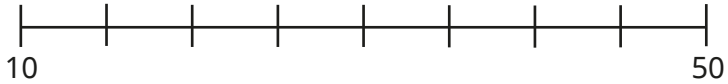
420

What numbers are the arrows pointing to?

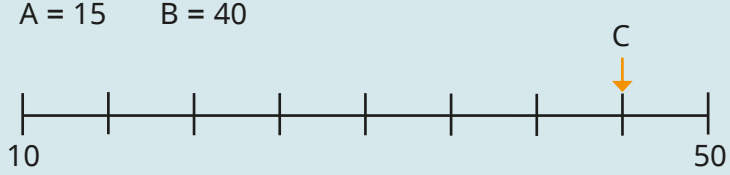


A + B + C = 100

Draw an arrow to show where C belongs on the number line.



A = 15 B = 40



Number line to 10,000

Notes and guidance

Building on previous learning of number lines to 1,000, children now move on to look at number lines to 10,000. Year 3 children may spend some time consolidating number lines to 1,000, while Year 4 children focus on number lines to 10,000

Children label, identify and find missing values on blank or partially completed number lines. Using everyday scales, such as rulers and measuring jugs, can be helpful.

When looking at partially completed number lines, it is important that children become confident in finding the difference between the start and end points and dividing to find the value of each interval. Examples should be used that have a varying number of intervals and unmarked values in different positions. Children should also be able to work out the value at the midpoint of an interval.

Things to look out for

- Children may assume that the increments on the number line are each worth one unit, focusing solely on the starting number.
- Children may count the number of divisions, rather than the intervals.

Key questions

- What are the values at the start and end points of the number line?
- How many intervals are there? What is each interval worth?
- What other numbers can you mark on the number line?

Possible sentence stems

- The difference in value between the start and end point of the number line is _____
- There are _____ intervals. Each interval is worth _____

Single age small step links

- Number line to 1,000 (Y3)

- Number line to 1,000 (Y4)
- Number line to 10,000 (Y4)

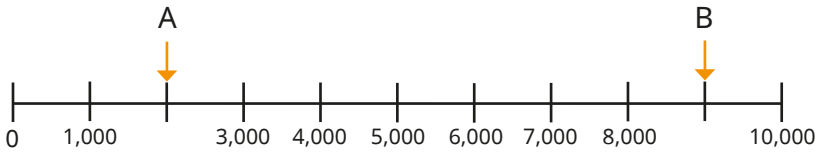
National Curriculum links

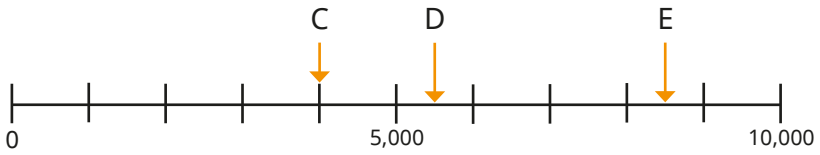
- Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number (Y3)
- Identify, represent and estimate numbers using different representations (Y3 and Y4)

Number line to 10,000

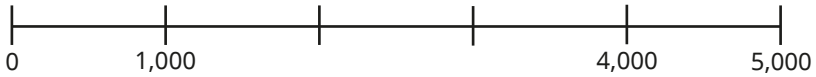
Key learning

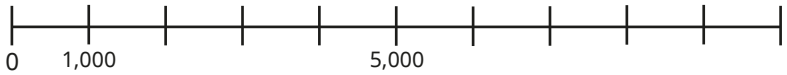
- What numbers are the arrows pointing to?

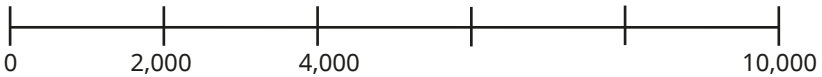




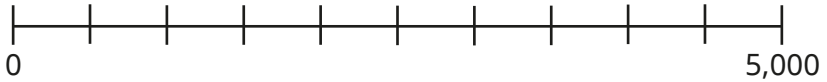
- Complete the number lines.

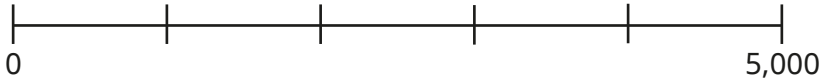




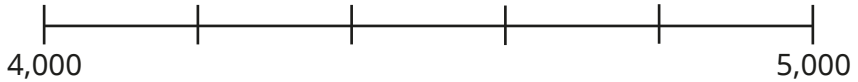


- Label the number lines.



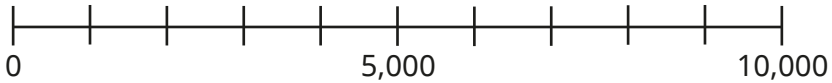


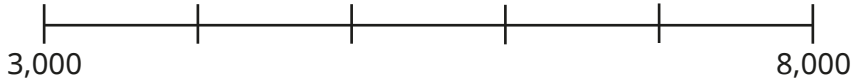
- Label 4,900 and three other numbers on the number line.



Compare answers with a partner.

- Draw an arrow to show the position of 5,500 on each number line

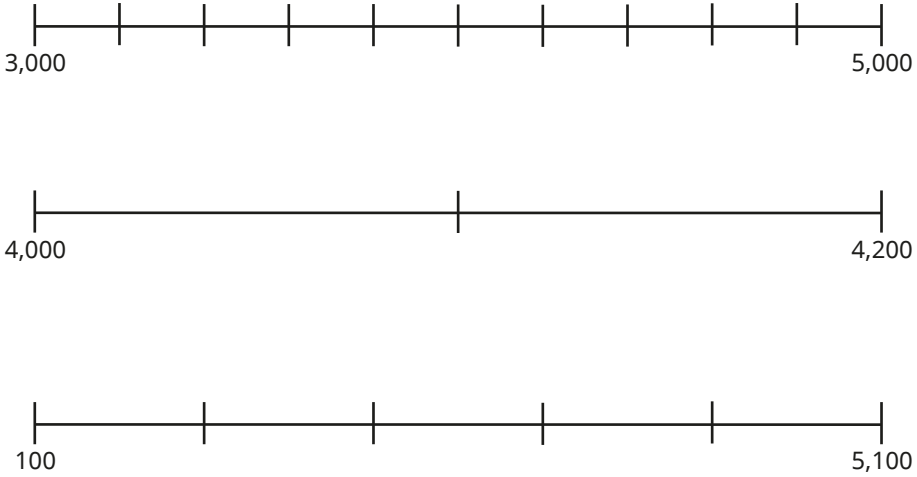




Number line to 10,000

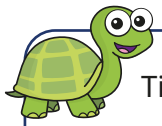
Reasoning and problem solving

Label 4,100 on each number line.

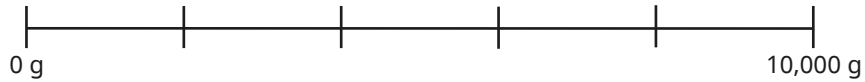


What do you notice?

Children should draw an arrow in the correct position on each number line.



Tiny is working out the missing values on a scale.



10,000 – 0 = 10,000

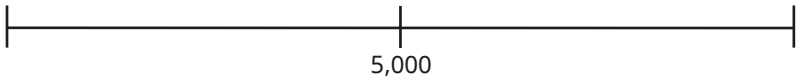
10,000 ÷ 6 = ?

Explain the mistake that Tiny has made.

There are 6 divisions, but only 5 intervals.

Tiny needs to divide by 5

What could the start and end numbers be?



multiple possible answers, e.g. 4,000 and 6,000

Estimate on a number line

Notes and guidance

Building on the previous small step, children now estimate the position of numbers on number lines.

Children use their existing number sense to complete their estimates and explain their thinking. Initially, they consider key intervals that are factors of 1,000 and 10,000, including but not limited to multiples of 100 and 1,000. Thinking beyond this, they should try to be as accurate as possible, using their knowledge of the midpoint of intervals and which of the two divisions a number is closer to. For example 6,429 is closer to 6,000 than 7,000 and it is less than halfway between the two points. This will be a useful skill later in the block when children look at rounding.

Children should understand that their answer may not be exactly the same as their partner's, as they are only able to estimate the positions or values. Year 3 children may focus on consolidating estimating on a number line to 1,000, while Year 4 children focus on estimating on a number line to 10,000

Things to look out for

- Children may misinterpret the scale, for example thinking that a mark close to 10,000 is 9,999 when 9,000 is more appropriate.

Key questions

- What other numbers could you mark on accurately?
- Which division is the arrow close to?
- How would splitting the line into more intervals help?
- How accurate do you think your estimate is?

Possible sentence stems

- _____ is closer to _____than _____, so the position of _____ on the number line is closer to _____ than _____

Single age small step links

- Estimate on a number line to 1,000 (Y3)
- Estimate on a number line to 10,000 (Y4)

National Curriculum links

- Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number (Y3)
- Identify, represent and estimate numbers using different representations. (Y3 and Y4)

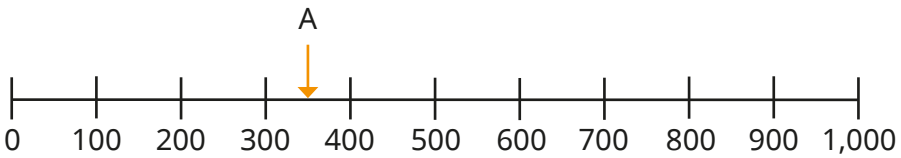
Estimate on a number line

Key learning

- Mark the midpoint of each number line.

  What number does each midpoint represent?

- What number is the arrow pointing to?



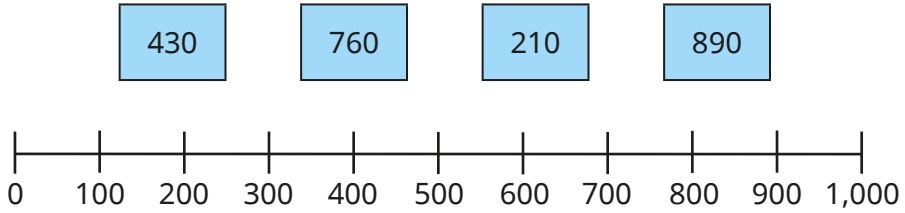
  Is the number 320 to the left or right of the arrow?

  Is the number 370 to the left or right of the arrow?

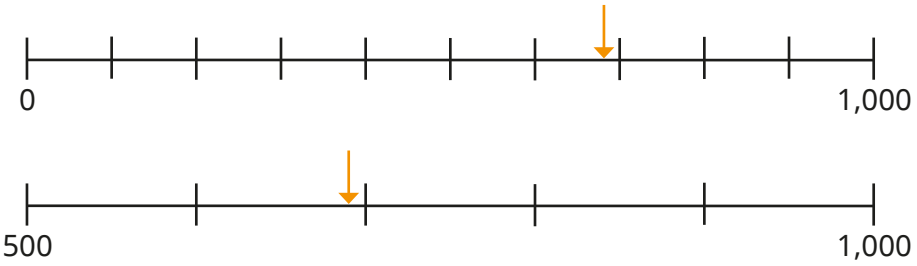
  How do you know?

  Draw arrows to estimate where 320 and 370 belong on the number line.

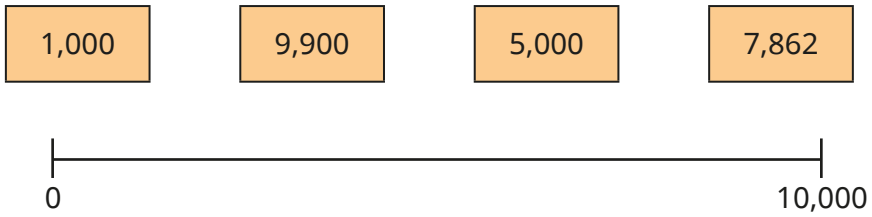
- Estimate where the numbers belong on the number line.



- Estimate the numbers that the arrows are pointing to.



- Estimate where the numbers belong on the number line.

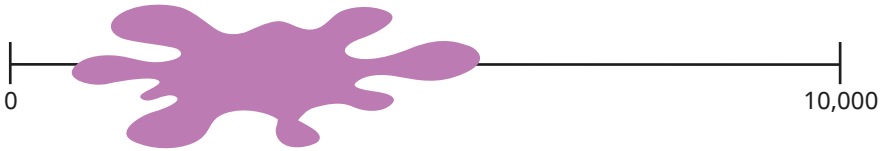


  Compare methods with a partner.

Estimate on a number line

Reasoning and problem solving

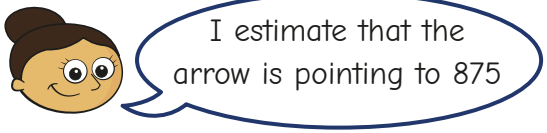
Miss Rose has spilt some paint on the number line.



Estimate three numbers that could appear under the paint.

Explain your answers.

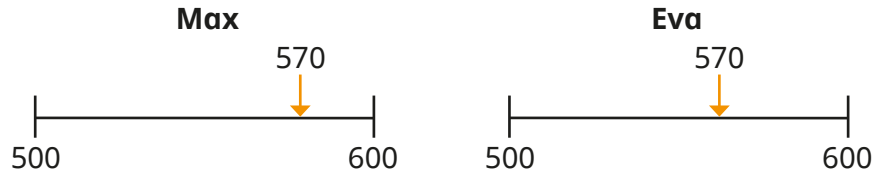
numbers between 1,000 and 5,500



Explain why Dora cannot be correct.

The arrow is pointing between 850 and 900. It is pointing before the midpoint, which is at 875

Max and Eva have estimated where 570 belongs on the same number line.



Can Max and Eva both be correct?

Talk about it with a partner.

Yes

- C is greater than A.
- C is less than half of B.

Give three possible values for C.

e.g. A = 2,500 B = 7,000 C = between 2,500 and 3,500

Compare numbers

Notes and guidance

In this small step, children compare numbers using language such as greater/smaller than and less/more than.

Children use concrete resources, pictorial representations, words and symbols, so that they are confident with the language used and are able to visualise the numbers that they are comparing. They can then progress to using the inequality symbols < , > and =, which they have encountered in previous years.

Demonstrate to children that when comparing numbers, they need to start with the greatest place value. If the digit in the greatest place value column is the same, they need to look at columns to the right until they find different digits.

Year 3 children should begin by comparing numbers to 1,000 before progressing to comparing numbers to 10,000. Year 4 children could be challenged to solve more complex problems involving comparing numbers.

Things to look out for

- Children may interpret the inequality symbols incorrectly, confusing < and >.
- When comparing numbers, children may compare the smallest place value column first.

Key questions

- What is the value of the _____ digit in _____ ?
- How many thousands/hundreds/tens/ones are there?
- What strategy did you use to compare the two numbers?
- When comparing two numbers, if the first digits are equal in value, what do you look at next?

Possible sentence stems

- _____ is greater/less than ____ because ...
- If the digits in the _____ column are the same, I need to look in the _____ column.

Single age small step links

- Compare numbers to 1,000 (Y3)
- Compare numbers to 10,000 (Y4)

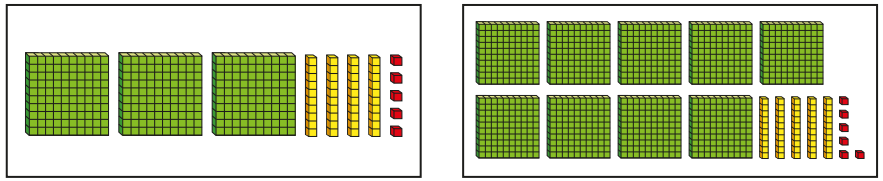
National Curriculum links

- Compare and order numbers up to 1,000 (Y3)
- Order and compare numbers beyond 1,000 (Y4)

Compare numbers

Key learning

- Which is the greater number? How do you know?



Complete the sentences.

_____ is less than _____ _____ is greater than _____

- Use place value counters to make and compare the numbers.

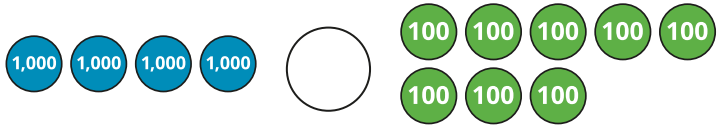
2,367 3,267

Th	H	T	O

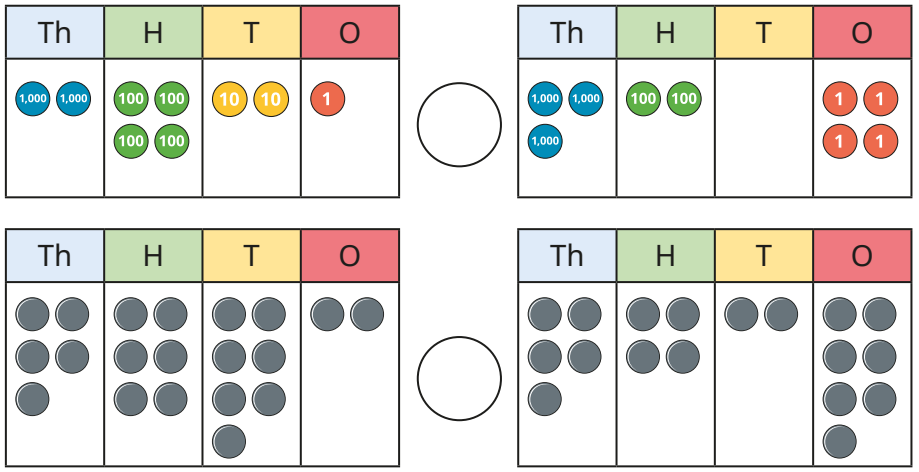
Th	H	T	O

2,367 is _____ than 3,267

- Write <, > or = to compare the numbers.



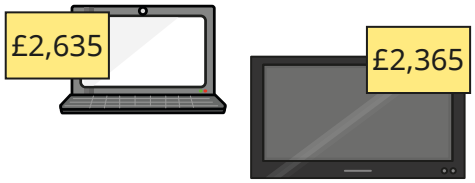
- Write <, > or = to compare the numbers.



- A laptop costs £2,635

A TV costs £2,365

Which item is more expensive?



- Complete the statements.

Th	H	T	O
5	0	5	6
5	0	1	8

5,056 is _____ than 5,018

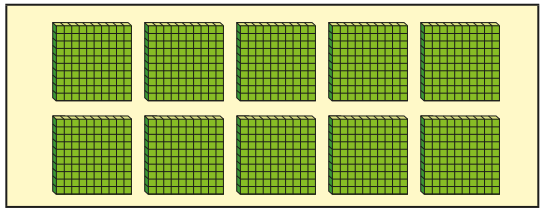
5,056 ◯ 5,018

Compare numbers

Reasoning and problem solving

Sort the cards into the table.

2 thousands	998
100 more than 989	800 + 70 + 5
one thousand, two hundred and four	



Numbers 1,000 or greater	Numbers less than 1,000

1,000 or greater:

2 thousands

100 more than 989

one thousand, two hundred and four

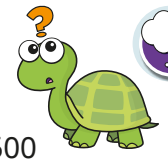
1,000 (base 10)

less than 1,000:

800 + 70 + 5

998

Tiny is thinking of a number.



- It is greater than 3,500 but less than 4,300
- The digits sum to 12

What number could Tiny be thinking of?

Give four possible answers.

multiple possible answers, e.g.

3,621

3,810

3,900

4,152

Here are four digit cards.

1	5	9	8

What is the greatest number you can make, using three of the digits?

What is the smallest number you can make, using all four digits?

985

1,589

Order numbers

Notes and guidance

In this small step, children order a set of numbers up to 10,000. Year 3 children will begin by ordering numbers up to 1,000 before progressing to ordering numbers to 10,000

Children order numbers both from the smallest to the greatest and from the greatest to the smallest. They should be encouraged to use "greatest" rather than "biggest" or "largest", and Year 4 children will also use "ascending" and "descending".

A secure understanding of place value is vital for this step, as children need to understand the value of a digit that is in a particular column. For example, a digit in the hundreds column is worth more than a digit in the tens column.

Base 10 and place value counters are used to represent numbers to help children make comparisons.

Things to look out for

- Children may need to be reminded of the meanings of the words "ascending" and "descending".
- When comparing numbers with different numbers of digits, children may focus only on the first digit of each number and not consider the place value of the digit.

Key questions

- Which number is the greatest/smallest? How do you know?
- When comparing two numbers with the same number of digits, if the first digits are equal in value, what do you look at next?
- What is different about comparing numbers with the same number of digits and comparing numbers with different numbers of digits?

Possible sentence stems

- _____ is greater/less than _____, so _____ thousand is greater/less than _____ thousand.

Single age small step links

- Order numbers to 1,000 (Y3)
- Order numbers to 10,000 (Y4)

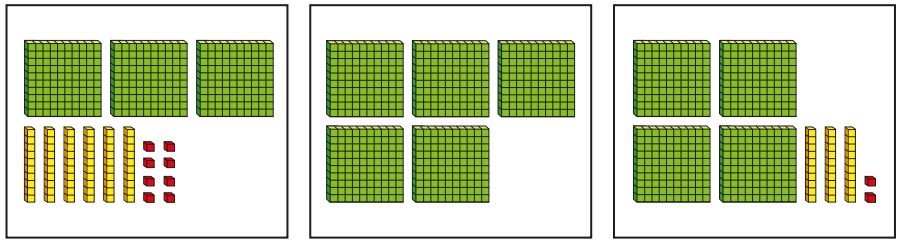
National Curriculum links

- Compare and order numbers up to 1,000 (Y3)
- Order and compare numbers beyond 1,000 (Y4)

Order numbers

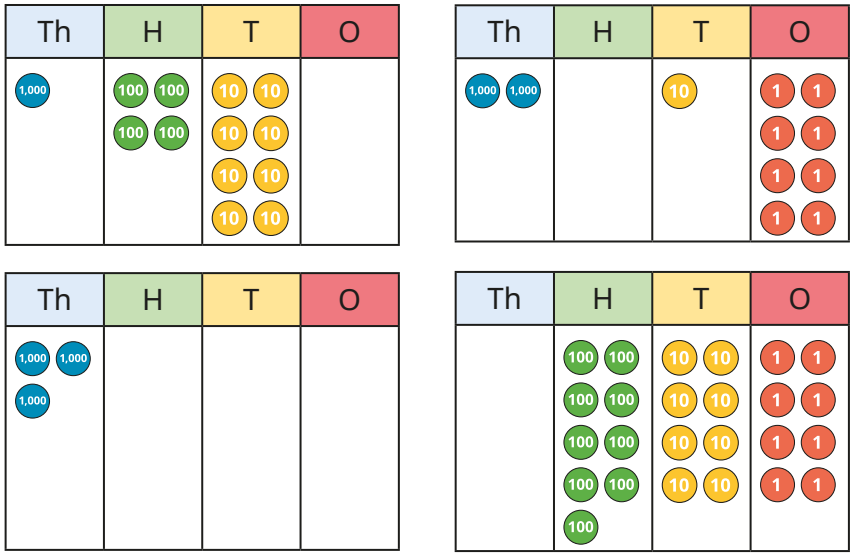
Key learning

- What numbers are shown?



Write the numbers in order. Start with the smallest number.

- Eva uses place value counters to make four numbers.



Put the numbers in descending order.

- Use base 10 or place value counters to make each number.

4,440	400	948

Write the numbers in order. Start with the smallest number.

Write the numbers in order again. Start with the greatest number.

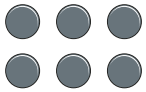
- Write the numbers in ascending order.

Th	H	T	O
2	2	8	1

Th	H	T	O
2	2	0	8

Th	H	T	O
3	0	0	0

- Put six counters in a place value chart to make six different numbers.



Write your numbers in ascending order.

- Write the measurements in order. Start with the smallest measurement.

4,283 m	6,391 m	841 m	6,491 m

Order numbers

Reasoning and problem solving

Teddy writes six numbers in descending order.

He spills ink on two of the numbers.

2,105, [ink] 792, 528, [ink] 316

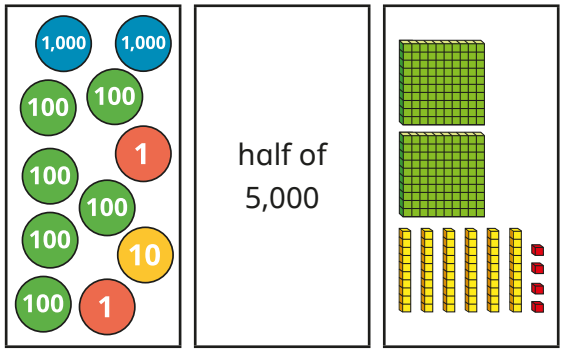
What could the hidden numbers be?

Explain how you know.

first number: between 2,104 and 793

second number: between 527 and 317

Put the numbers in ascending order.



264 (base 10)

2,500 (half of 5,000)

2,612 (counters)

Is the statement always true, sometimes true or never true?

> When ordering numbers, you have to look at every digit in every place value column.

Explain your answer.

sometimes true

Tiny writes five numbers in ascending order.

1,632 4,252 4,579 847 9,934

smallest greatest

What mistake has Tiny made?

Tiny has focused on the first digit and not necessarily its value.

847 is a 3-digit number and is the smallest.

Round to the nearest 10

Notes and guidance

In this small step, children round numbers to the nearest 10. They begin by rounding 2-digit numbers, as it is clearer what the previous and next multiples of 10 are. When building on this, and starting to round 3-digit numbers, it is important to include examples that have zero as a placeholder in the tens column, for example 203, as children can often think that 200 is not a multiple of 10 because it is a multiple of 100

Number lines can be used not only to identify the previous and next multiple of 10, but also to show which multiple of 10 a number is closer to. As this is the first time that Year 3 children are introduced to rounding, they may require greater exposure to number lines, while Year 4 children may begin to make generalisations. Children should understand the convention that when the ones digit is 5, they round to the next multiple of 10

Avoid using language such as "round up" and "round down", as this can lead to misconceptions.

Things to look out for

- Children may look at the wrong column when deciding which way to round.
- Children may think that, for example, 52 "rounds down" and give the result as 42 or 40

Key questions

- What is the multiple of 10 before/after _____ ?
- Which multiple of 10 is _____ closer to? How do you know?
- Which numbers rounded to the nearest 10 result in zero?
- Which place value column do you need to look at to decide which multiple to round to?

Possible sentence stems

- The two multiples of 10 the number lies between are _____ and _____

  _____ is closer to _____ than _____

  _____ rounded to the nearest 10 is _____

Single age small step links

- N/A

- Round to the nearest 10 (Y4)

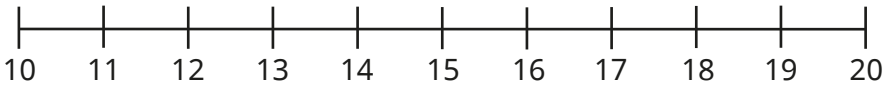
National Curriculum links

- Round any number to the nearest 10, 100 or 1,000 (Y4)

Round to the nearest 10

Key learning

- Use the number line to help you complete the sentences.



  - 14 is closer to _____ than _____

    14 rounded to the nearest 10 is _____
  - 18 is closer to _____ than _____

    18 rounded to the nearest 10 is _____

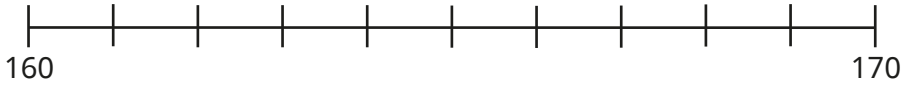
- Complete the number line and the sentences.

  - 52 is closer to _____ than _____

    52 rounded to the nearest 10 is _____
  - 55 is the same distance from _____ as it is from _____

    55 rounded to the nearest 10 is _____

- Use the number line to help you complete the sentences.



  - 167 rounded to the nearest 10 is _____
  - 163 rounded to the nearest 10 is _____
  - 160 rounded to the nearest 10 is _____
  - 165 rounded to the nearest 10 is _____

- Round each number to the nearest 10

32	76	125	843	590	8

- Which numbers round to 430 to the nearest 10?

428 **400** **431** **425** **435** **340** **430**

- Which numbers do **not** round to 60 to the nearest 10?

63 **54** **65** **59** **60** **55** **50**

Round to the nearest 10

Reasoning and problem solving

Whitney and Dexter are rounding 472 to the nearest 10

It rounds to 480 because 7 is greater than 5

Whitney

It rounds to 470 because 2 is less than 5

Dexter

Who is correct?

Explain your answer.

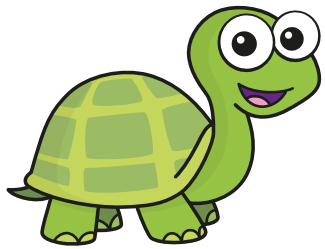
Dexter

When rounded to the nearest 10, there are 250 children in a school.

How many children could there be?

245, 246, 247, 248, 249, 250, 251, 252, 253 or 254

325 can round to 320 or 330 to the nearest 10



What mistake has Tiny made?

Round 325 to the nearest 10

If the ones digit is a 5, the number rounds to the next multiple of 10

330

Round to the nearest 100

Notes and guidance

Building on the previous step, children now begin to round numbers to the nearest 100

Children begin by focusing on rounding 3-digit numbers, as it is clearer what the previous and next multiples of 100 are. Number lines continue to be used, particularly to support Year 3 children. It is important to discuss what is the same and what is different when rounding numbers to 10 and 100. Children can then begin to understand that when asked to round to a given number, they need to look at the next place value column to the right.

It is helpful to use examples that are less than 50, so children can see that these round to the previous multiple of 100, which is zero.

As in the previous step, avoid using language such as "round up" and "round down", as this can lead to misconceptions.

Things to look out for

- Children may look at the wrong column to decide which way to round, and use the hundreds column instead of the tens column.
- Children may focus on rules about "up" and "down" instead of looking at multiples of 100, for example rounding 432 to 402 or 332

Key questions

- What is the multiple of 100 before/after _____ ?
- Which multiple of 100 is _____ closer to? How do you know?
- Which numbers rounded to the nearest 100 result in zero?
- Which place value column do you need to look at to decide which multiple to round to?

Possible sentence stems

- The two multiples of 100 that the number lies between are _____ and _____

  _____ is closer to _____ than _____

  _____ rounded to the nearest 100 is _____

Single age small step links

- N/A
- Round to the nearest 100 (Y4)

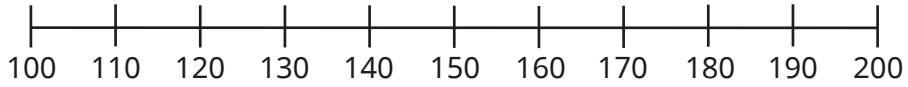
National Curriculum links

- Round any number to the nearest 10, 100 or 1,000 (Y4)

Round to the nearest 100

Key learning

- Use the number line to help you complete the sentences.

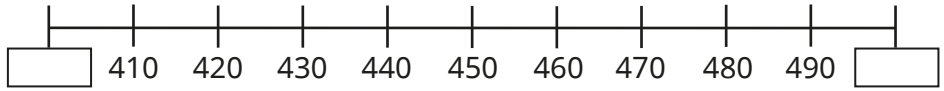


  - 120 is closer to _____ than _____

    120 rounded to the nearest 100 is _____
  - 170 is closer to _____ than _____

    170 rounded to the nearest 100 is _____

- Complete the number line and the sentences.

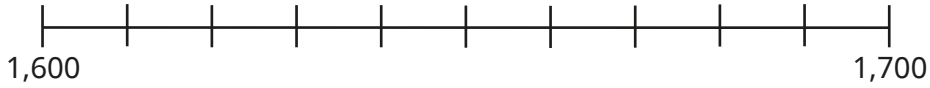


  - 480 is closer to _____ than _____

    480 rounded to the nearest 100 is _____
  - 433 is closer to _____ than _____

    433 rounded to the nearest 100 is _____

- Use the number line to help you complete the sentences.



  - 1,620 rounded to the nearest 100 is _____
  - 1,629 rounded to the nearest 100 is _____
  - 1,680 rounded to the nearest 100 is _____
  - 1,683 rounded to the nearest 100 is _____
  - 1,650 rounded to the nearest 100 is _____

  What do you notice?

- Round each number to the nearest 100

320	4,680	960
1,527	681	2,967

  What do you notice?

- Which numbers round to 1,200 to the nearest 100?

1,000 **1,240** **1,222** **1,130** **1,180**

Round to the nearest 100

Reasoning and problem solving

To the nearest 100, there are 800 people at a football match.

What is the smallest number of people that could be at the football match?

What is the greatest number of people that could be at the football match?

How would your answers change if the number of people at the football match was 800 when rounded to the nearest 10?

750

849

795

804

To the nearest 100, there are 2,600 people at a concert.

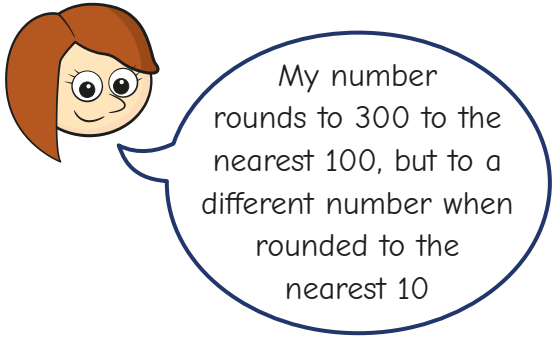
The sum of the digits in the number is 12

How many people could there be?

multiple possible answers, e.g.

2,550, 2,622, 2,640, 2613

Rosie is thinking of a number.



What number could Rosie be thinking of?

How many answers can you find?

250 to 294

305 to 349

Round to the nearest 1,000

Notes and guidance

Building on the previous small steps, children now round numbers to the nearest 1,000

Children begin by discussing which multiple of 1,000 a number is closest to. They can then identify that if the digit in the hundreds column is between zero and 4, they round to the previous multiple of 1,000, but if the digit in the hundreds column is 5 or above, they round to the next multiple of 1,000

As in the previous steps, number lines show children which multiple of 1,000 a number is closer to. Year 3 children will predominantly round using the number line representation, while Year 4 children should be encouraged to look at the value of the digits in the hundreds column to round a number to the nearest 1,000

Children can make links with rounding numbers to the nearest 10 or 100, but this will be explored further in the next step.

Things to look out for

- Children may look at the wrong column to decide which way to round and use the thousands column instead of the hundreds column.

Key questions

- What is the multiple of 1,000 before/after _____ ?
- Which multiple of 1,000 is _____ closer to? How do you know?
- Which numbers rounded to the nearest 1,000 result in zero?
- Which place value column do you need to look at to decide which multiple to round to?

Possible sentence stems

- The two multiples of 1,000 that the number lies between are _____ and _____

  _____ is closer to _____ than _____

  _____ rounded to the nearest 1,000 is _____

Single age small step links

- N/A

- Round to the nearest 1,000 (Y4)

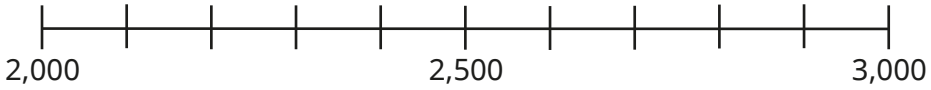
National Curriculum links

- Round any number to the nearest 10, 100 or 1,000 (Y4)

Round to the nearest 1,000

Key learning

- Use the number line to help you complete the sentences.



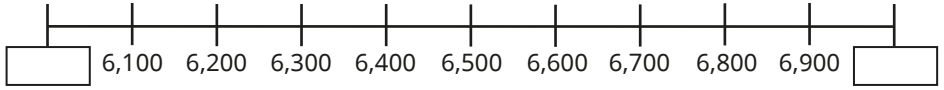
  - 2,400 is closer to _____ than _____

    2,400 rounded to the nearest 1,000 is _____

  - 2,859 is closer to _____ than _____

    2,859 rounded to the nearest 1,000 is _____

- Complete the number line.



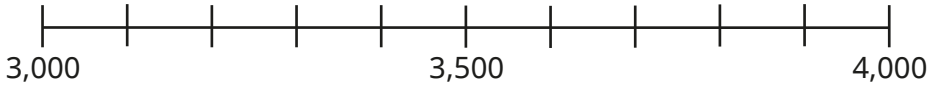
  - Draw an arrow to show 6,250 on the number line.

    6,250 rounded to the nearest 1,000 is _____

  - Draw an arrow to show 6,980 on the number line.

    6,980 rounded to the nearest 1,000 is _____

- Use the number line to help you complete the sentences.



  - 3,430 is closer to _____ than _____

    3,430 rounded to the nearest 1,000 is _____

  - 3,602 is closer to _____ than _____

    3,602 rounded to the nearest 1,000 is _____

  - 3,500 is the same distance from _____ as it is from _____

    3,500 rounded to the nearest 1,000 is _____

- Round each number to the nearest 1,000

1,460	7,300	265	9,678	4,444

- Which numbers round to 7,000 to the nearest 1,000?

7,099 **5,094** **6,999** **7,250** **8,750** **7,631**

Round to the nearest 1,000

Reasoning and problem solving

Each of the numbers round to 5,000 to the nearest 1,000

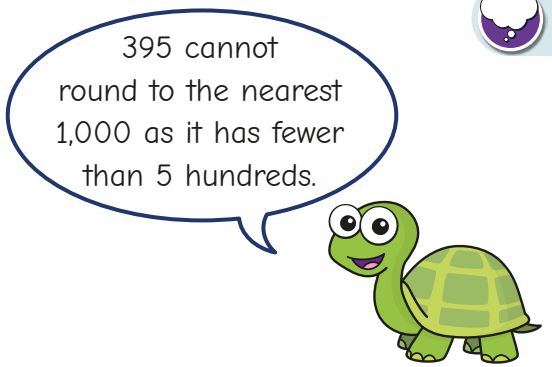
4,__03 4,9__1 5,19__

4,67__ 5,3__8 4,__82

The same digit is missing from each number.

What could the missing digit be?

5, 6, 7, 8 or 9



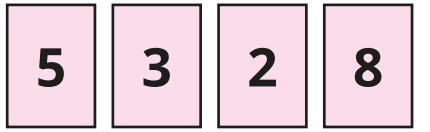
Do you agree with Tiny?

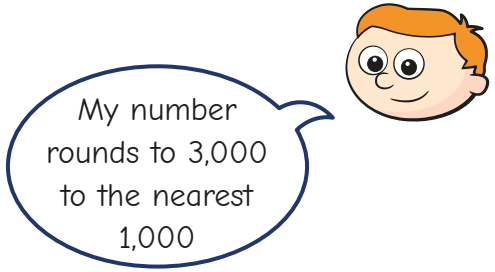
Explain your answer.

No

395 rounded to the nearest 1,000 is zero.

Ron uses the cards to make a 4-digit number.





What number could Ron have made?

Is there more than one possibility?

2,538

2,583

2,835

2,853

3,258

3,285

Round to the nearest 10, 100 or 1,000

Notes and guidance

In this small step, children round to the nearest 10, 100 or 1,000, choosing the appropriate columns to look at.

Discuss with children what is the same and what is different when rounding numbers to the nearest 10, 100 or 1,000. Ensure children understand that when asked to round to a given number, they need to look at the place value column to the right of that of the required accuracy to decide whether to round to the previous or next multiple. It is worth discussing with children when each degree of accuracy is more appropriate.

As with previous steps, encourage children to use number lines to support them when rounding to the nearest 10, 100 or 1,000, particularly Year 3 children, who may struggle to visualise the previous and next multiple.

Things to look out for

- When rounding numbers to different degrees of accuracy, children may look at the incorrect place value column(s).
- When rounding the same number to different degrees of accuracy, children may not always use the starting number but, for example, round it to the nearest 10, then round this value to the nearest 100 and so on.

Key questions

- What is the multiple of 10/100/1,000 before/after _____ ?
- Which multiple of 10/100/1,000 is _____ closer to? How do you know?
- What is the same and what is different about rounding to the nearest 10, 100 or 1,000?

Possible sentence stems

- The two multiples of 10/100/1,000 that the number lies between are _____ and _____

  _____ is closer to _____ than _____

  _____ rounded to the nearest 10/100/1,000 is _____

Single age small step links

- N/A

- Round to the nearest 10, 100 or 1,000 (Y4)

National Curriculum links

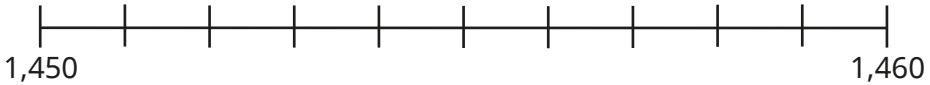
- Round any number to the nearest 10, 100 or 1,000 (Y4)

Round to the nearest 10, 100 or 1,000

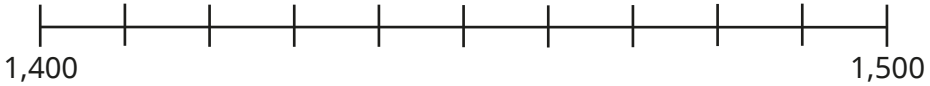
Key learning

- Draw an arrow to mark 1,452 on each number line.

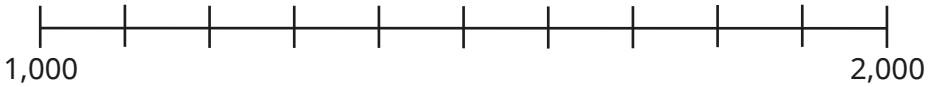
  Complete the sentences.



  1,452 rounded to the nearest 10 is _____

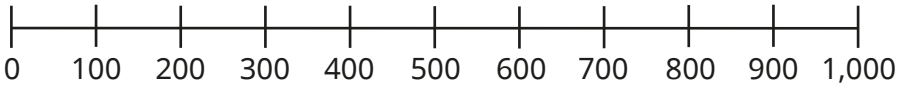


  1,452 rounded to the nearest 100 is _____



  1,452 rounded to the nearest 1,000 is _____

- Use the number line to help you complete the sentences.



  368 rounded to the nearest 10 is _____

  368 rounded to the nearest 100 is _____

  368 rounded to the nearest 1,000 is _____

- Complete the table.

Number	3,691	854	8,062	5,555
Rounded to the nearest 10				
Rounded to the nearest 100				
Rounded to the nearest 1,000				

- Complete the sentences.

  3,999 rounded to the nearest 10 is _____

  3,999 rounded to the nearest 100 is _____

  3,999 rounded to the nearest 1,000 is _____

  What do you notice?

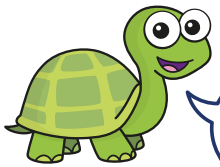
- A baker uses 2,753 g of sugar.

  Round the mass of sugar to the nearest 10 g, 100 g and kilogram.

  Which do you think is the most appropriate way of rounding the number? Why?

Round to the nearest 10, 100 or 1,000

Reasoning and problem solving



3,824 rounded to the nearest 100 is 4,000

What mistake has Tiny made?

What is the correct answer?

Tiny has rounded to the nearest 1,000 instead of the nearest 100

3,800

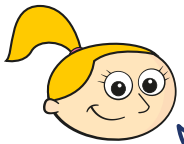
Would you round to the nearest 10, 100 or 1,000?

number of people at a music concert

number of people on a bus

number of books in a school library

Discuss this as a class.



Eva

My number rounds to 2,000 when rounded to the nearest 10, 100 or 1,000

My number also rounds to 2,000 when rounded to the nearest 1,000

Mo

But it rounds to 1,500 when rounded to the nearest 10 or 100

What could Eva and Mo's numbers be?

Compare answers with a partner.

Eva's number could be between 1,995 and 2,004

Mo's number could be between 1,500 to 1,504

Roman numerals

Notes and guidance

This small step introduces children to Roman numerals and the Roman number system. They learn that I represents 1, V represents 5, X represents 10, L represents 50 and C represents 100

Children explore the similarities and differences between the Roman number system and our number system, understanding that the Roman system does not have a zero and does not use placeholders.

By the end of this step, children should understand that numbers in the Roman number system follow these principles: letters are not usually written four times (for example, 4 is written as IV, instead of IIII and 40 is written as XL, instead of XXXX); if a lower value digit is written to the left of a higher value digit, it is subtracted (for example, IX = 10 – 1) and if it is written to the right, it is added (for example, XI = 10 + 1).

Children in Year 3 may spend more time focusing on Roman numbers to 12, using the context of a clock face, while children in Year 4 will look at Roman numerals to 100

Things to look out for

- Children may think that numbers like 99 can be written as IC instead of XCIX

Key questions

- What letters are used in the Roman number system?
- What rules do you use when converting numbers to Roman numerals?
- How do you know what order to write the letters in when using Roman numerals?

Possible sentence stems

- The letter _____ represents the number _____

Single age small step links

- Roman numerals to 12 (Y3)
- Roman numerals (Y4)

National Curriculum links

- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (Y3)
- Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value (Y4)

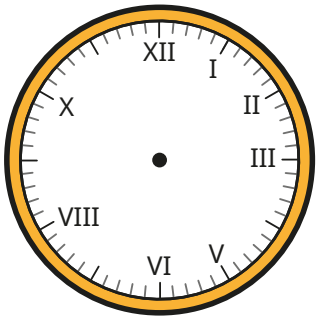
Roman numerals

Key learning

- Match the numbers to the Roman numerals.

1	2	3	4	5	6	10	12
II	V	VI	X	I	XII	III	IV

- Write Roman numerals to complete the clock face.

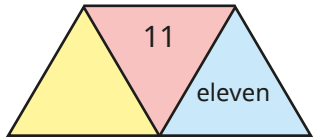


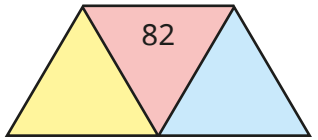
- Four numbers are written in Roman numerals.

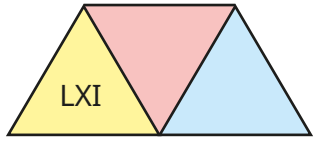
XL	XXI	LXXVI	XCV

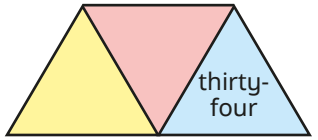
What are the numbers?

- Each diagram should show a number in numerals, words and Roman numerals. Complete the diagrams.









- Complete the calculations.
  - L + L = _____
  - IX + VII = _____
  - C – XX = _____
  - X × V = _____

- Write <, > or = to complete the statements.

99 ◯ C 11 ◯ IX C – L ◯ L

LX ◯ XL 7 + 5 ◯ XII XCIX ◯ C

Roman numerals

Reasoning and problem solving

Tiny writes the number 9 in Roman numerals.

VIIII

Explain Tiny's mistake.

Write the number 9 in Roman numerals.

IX

Work out the calculation, giving your answer in Roman numerals.

LXXII + XXVIII

Use Roman numerals to make up some other calculations that have the same answer.

C

multiple possible answers, e.g.

X × X

XC + X

XXV × IV

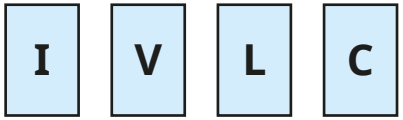
Is the statement true or false?

XXX + III = XXXIII, so
XXXIII + XXXIII = XXXIIIXXXIII

Explain your answer.

False

Which of these Roman numerals is never written to the left of X?



V