Autumn

Scheme of learning

Year 5/6

#MathsEveryoneCan

Y5/6 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**		Number **Fractions A**				Number **Multiplication and division B**	
Spring	Number **Multiplication and division B**	Number **Fractions B**		Number **Decimals A**		Measurement **Area, perimeter and volume**		Number **Decimals B**			Number **Fractions, decimals and percentages**	
Summer	**Ratio**	**Algebra**		Geometry **Shape**			Geometry **Position and direction**		**Statistics**		Measurement **Converting units**	

White Rose MATHS

Autumn Block 1

Place value

Small steps

Step 1	Roman numerals to 1,000
Step 2	Numbers to 100,000
Step 3	Numbers to 1,000,000
Step 4	Read and write numbers to 1,000,000
Step 5	Numbers to 10,000,000
Step 6	Read and write numbers to 10,000,000
Step 7	Powers of 10
Step 8	Partition numbers to 10,000,000

Small steps

Step 9	Number line to 10,000,000
Step 10	Compare and order any integers
Step 11	Round within 100,000
Step 12	Round any integer
Step 13	Count through zero
Step 14	Compare and order negative numbers
Step 15	Calculate with negative numbers

Roman numerals to 1,000

Notes and guidance

In Lower Key Stage 2, children learnt about Roman numerals to 100. In this small step, they explore Roman numerals to 1,000, and the symbols D (500) and M (1,000) are introduced.

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

Children use their knowledge of M and D to recognise years using Roman numerals. Asking children to write the date in Roman numerals is one way to reinforce the concept daily. This is predominantly Year 5 curriculum content, but provides essential opportunities for Year 6 children to consolidate their understanding of Roman numerals.

Things to look out for

- Children may mix up which letter stands for which number.
- Children may add the individual values together instead of interpreting the values based on their position, for example interpreting CD as 600 instead of 400
- Children may think that numbers such as 990 can be written as XM instead of CMXC.

Key questions

- What rules do you use when converting numbers to Roman numerals?
- What letters are used in the Roman number system? What does each letter represent?
- How do you know what order to write the letters when using Roman numerals?
- How is the Roman number system similar to/different from our number system?

Possible sentence stems

- The letter _____ represents the number _____

Single age small step links

- Roman numerals to 1,000 (Y5)

- N/A

National Curriculum links

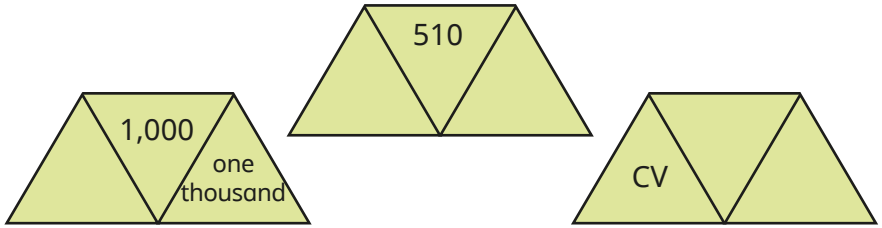
- Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals (Y5)

Roman numerals to 1,000

Key learning

- Each diagram should show a number in Roman numerals, digits and words.

  Complete the diagrams.



- Match the Roman numerals to the numbers.

CDL	650
DCC	280
CMXC	450
CCLXXX	990
CDXX	700
DCL	420

- Here is a date written in Roman numerals.

  XV / IX / MMXXIII

  - What day of the month is shown?
  - What month is shown?
  - What year is shown?

- Here are the end credits of two films.

  The Roman numerals show the year the films were made.

  - In what year was the older film made?
  - In what year was the more recent film made?
  - How long was there between the making of the two films?

    Give your answer in Roman numerals.

Roman numerals to 1,000

Reasoning and problem solving

Work out DCL + CCCL.

Give your answer in Roman numerals.

Write five calculations, using Roman numerals, that give the same answer.

Compare answers with a partner.

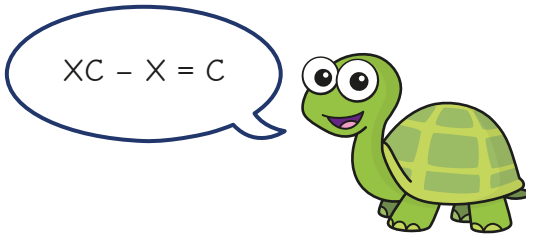
M

multiple possible answers, e.g.

C × X

D × II

D + D



Do you agree with Tiny?

Explain your answer.

No

Is the statement true or false?

> In Roman numerals,
> 200 is CC,
> so 400 is CCCC.

Explain your answer.

False

The numbers in the sequence are increasing by CXX each time.

		DCXL		

Work out the missing numbers in the sequence.

CD, DXX,

DCCLX, DCCCLXXX

Numbers to 100,000

Notes and guidance

In this small step, children explore numbers up to 100,000

Children explore the ten-thousands column in a place value chart to develop their understanding of multiples of 10,000. This is the first time that Year 5 children will be exposed to this and provides a foundation for their learning of numbers to 1,000,000

Place value counters and plain counters are used in place value charts, allowing for discussion about the values of the columns and to support understanding of the construction of numbers.

Children can use number lines to support them counting in multiples of 10,000 and estimating the positions of numbers such as 60,309. This will prepare them for the use of number lines when rounding in later steps. They also explore partitioning of numbers, with Year 6 children partitioning in both standard and non-standard ways.

Things to look out for

- Children may find numbers with several placeholders difficult, for example 50,010
- Children may need support in when to use "and" when saying numbers, for example in 17,200 and 17,020

Key questions

- What is the value of each digit in the number?
- Counting in 1,000s/10,000s, what would you say before/after _____?
- If 56,000 is the whole, what could the parts be?

Possible sentence stems

- The value of the _____ in _____ is _____
- The column before/after the _____ column is the _____ column.

Single age small step links

- Numbers to 10,000 (Y5)
- Numbers to 100,000 (Y5)

- N/A

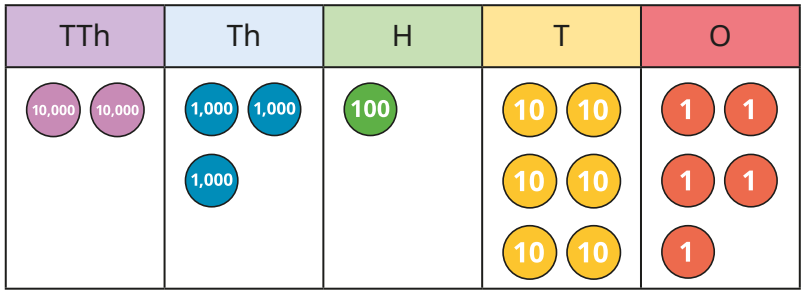
National Curriculum links

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit (Y5)
- Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 (Y5)

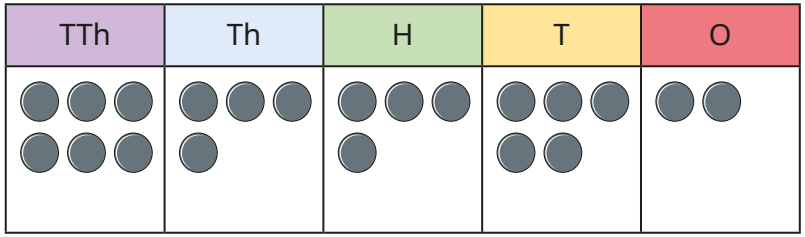
Numbers to 100,000

Key learning

- What number is shown on the place value chart?



- A number is shown on the place value chart.



  - What number is represented?

Two counters are removed from the hundreds column.

  - What number is represented now?

Three counters are then added to the thousands column.

  - What number is represented now?

- Use counters to make the numbers on a place value chart.

6,100	26,384	53,020

- Count up in 10,000s from 30,000 to 90,000

  Count down in 10,000s from 75,000 to 25,000

  Count down in 10,000s from 80,555 to 10,555

- Work out the missing numbers.
  - 76,000 = 70,000 + _____
  - _____ = 50,000 + 4,000 + 600 + 5
  - _____ = 13,000 + 500 + 2
  - 82,346 = 70,000 + _____ + 300 + _____
  - 60,804 = _____ + 400 + _____ + 4

  Do any of the questions have more than one possible answer?

- Complete the sentences.

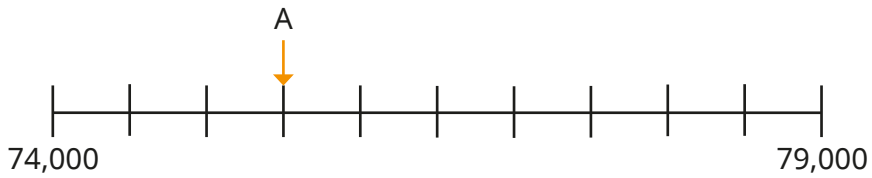
  10 hundreds can be exchanged for 1 _____

  1 ten-thousand can be exchanged for 10 _____

Numbers to 100,000

Reasoning and problem solving

Here is a number line.



What is the value of A?

What is 1,000 less than the value of A?

What is 10,000 greater than the value of A?

What number is Tommy thinking of?

75,500 | 74,500 | 85,500 | 79,500

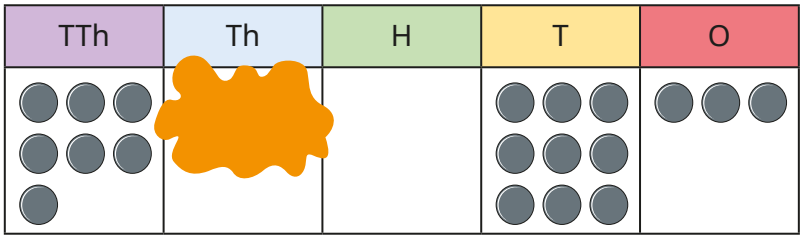
List all the 5-digit numbers you can make using the digit cards.

0	0	9	0	3

39,000, 30,900, 30,090, 30,009, 93,000, 90,300, 90,030, 90,003

A number is shown on a place value chart.

Some counters are hidden in the thousands column.



Write all the possible numbers that could be shown.

71,093, 72,093, 73,093, 74,093, 75,093, 76,093

Numbers to 1,000,000

Notes and guidance

In this small step, children explore numbers to 1,000,000

Children learn that the pattern for thousands in a place value chart follows the same pattern as that of the ones: ones, tens, hundreds, (one) thousands, ten thousands, hundred thousands. Place value charts, Gattegno charts and place value counters can all be used to support understanding of the relationships between columns and the construction of numbers. Year 5 children may require greater exposure to standard place value charts compared to Year 6 children.

Children can also practise counting forwards and backwards in powers of 10 from a given start point, for example, "Count in 10,000s from 340,000 to 520,000".

Things to look out for

- Children may find it difficult to conceptualise such large numbers, as they lie outside their everyday experience.
- Children may find numbers with several placeholders (for example, 500,020) difficult.
- Children may think that place value columns are ordered ones, tens, hundreds, thousands, millions.

Key questions

- What is the value of each digit in this number?
- When do you use placeholders in numbers?
- Where do the commas go when writing one million in numerals?

Possible sentence stems

- The value of the _____ in _____ is _____
- The column before/after the _____ column is the _____ column.

Single age small step links

- Numbers to 1,000,000 (Y5)
- Numbers to 1,000,000 (Y6)

National Curriculum links

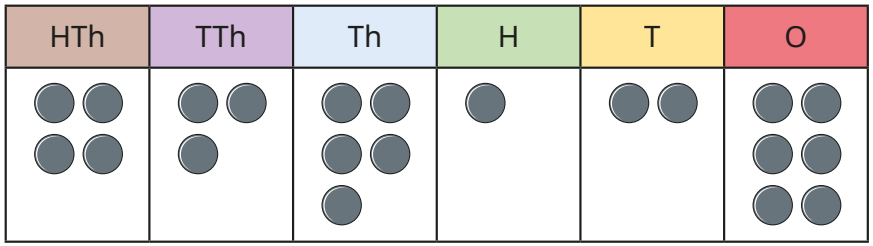
- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit (Y5)
- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (Y6)

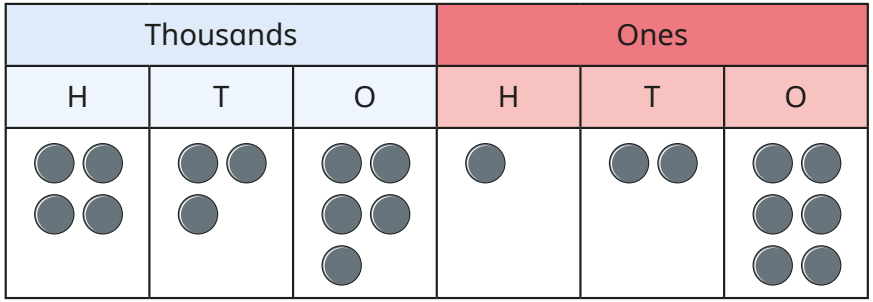
Numbers to 1,000,000

Key learning

- What number is shown in each place value chart?

  Give your answers in numerals.





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

- Use counters to make the numbers on a place value chart.

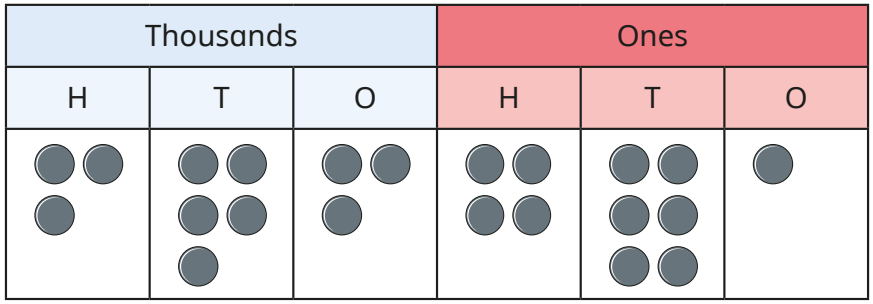
  581,382 | 340,361 | 50,810

- Count in 100,000s from zero to 1 million.

  Count down in 1,000s from 22,496 to 4,496

  Count up in 10,000s from 102,000 to 212,000

- What number is shown in the place value chart?



  What will the number be if you add three counters to the thousands column?

  What will the number be if you remove three counters from the hundred-thousands column?

  What will the number be if you remove four counters from the hundreds column?

- What is the value of the digit 2 in each number?
  - 532,045
  - 6,420
  - 125,693

Numbers to 1,000,000

Reasoning and problem solving

Mo uses exactly five counters to make a 6-digit number.

HTh	TTh	Th	H	T	O

- The number is greater than 200,000 but less than 400,000
- It has more thousands than it does hundreds.

What could Mo's number be?

Talk about your answers with a partner.

15 possible numbers, e.g. 302,000 203,000 202,100

What number is shown in the Gattegno chart?

100,000	200,000	300,000	400,000	500,000	600,000	700,000	800,000	900,000
10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000
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

Decrease the number shown by 40,000

Increase the number shown by 300,200

Challenge a partner to find other increases and decreases of the number.

572,846 | 532,846 | 873,046

Read and write numbers to 1,000,000

Notes and guidance

In the previous small step, children explored representing numbers up to 1,000,000. In this small step, they develop their skill at reading and writing large numbers in words, which has been touched on in earlier steps. While the spelling of the individual words is important, the focus of the step is the structure of the written words, for example we read and write 6,500 as "six thousand, five hundred" but 6,050 as "six thousand and fifty".

Using a comma as a separator helps with reading and writing numbers in two parts. Part-whole models and place value charts are useful representations to support this.

Ensure that children in Year 5 are comfortable with smaller 4- and 5-digit numbers before they move on to 6-digit numbers. To add extra challenge for Year 6, children could focus on furthering their understanding of placeholders in a number, as these can often be more difficult to read and write.

Things to look out for

- Children who find the "teen" numbers difficult may have problems with numbers such as 515,713
- Children may need support in when to use "and" when saying numbers.

Key questions

- When a number is written with commas, what do the digits before/after each comma represent?
- How can this number be represented using a part-whole model? How does this help you to write the number in words?
- When do you use the word "and" when reading or writing a number?

Possible sentence stems

- The number before/after the comma is _____
  This part of the number is said/written as _____

Single age small step links

- Read and write numbers to 1,000,000 (Y5)

- N/A

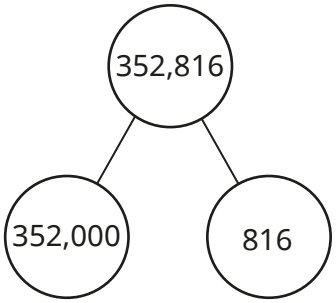
National Curriculum links

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit (Y5)
- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (Y6)

Read and write numbers to 1,000,000

Key learning

- Tiny is using a part-whole model to help write the number 352,816 in words.



three hundred and fifty-two, eight hundred and sixteen

What mistake has Tiny made?

Write 352,816 correctly in words.

- 31,059 is shown in the place value chart.

Thousands			Ones		
H	T	O	H	T	O
	●●●	●		●●● ●●	●●● ●●● ●●●

Write the number 31,059 in words.

How does the place value chart help you?

- Write the numbers in words.

1,096 | 11,960 | 119,690 | 109,690 | 119,609

You could use a place value chart to help you.

- Write the numbers in numerals.

six hundred and fifteen thousand and twelve

six hundred and five thousand and two

six hundred and sixteen thousand and seven

- A number is made up of 13 ten-thousands and 15 tens.

Show the number on a place value chart.

Write the number in numerals and words.

- Write the number 500,000 in words.

Compare answers with a partner.

Is there more than one way?

Read and write numbers to 1,000,000

Reasoning and problem solving

Write as many different numbers as you can, using each word no more than once.

You do not need to use all the words each time.

hundred	thousand	
three	and	seven

multiple possible answers e.g.

three

seven hundred

three hundred and seven thousand

seven hundred thousand and three

Max puts nine counters on a place value chart with six columns.

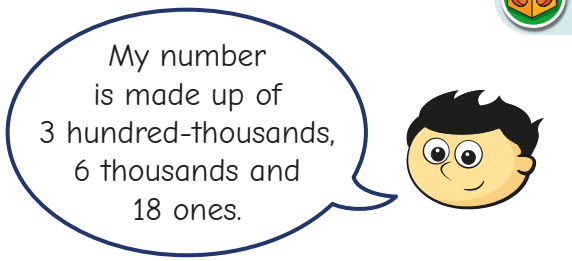
What 6-digit numbers could Max have made?

Write three possible answers in numerals and words.

multiple possible answers e.g.

200,043, two hundred thousand and forty-three

Jack is thinking of a number.



What is 10,000 less than Jack's number?

What is 2 more than Jack's number?

Give your answers in words.

two hundred and ninety-six thousand and eighteen

three hundred and six thousand and twenty

When written in words, what is the first 6-digit number that includes the letter "y"?

one hundred thousand and twenty

Numbers to 10,000,000

Notes and guidance

In this small step, children build on previous learning to explore numbers up to 10,000,000. Numbers do not all have to be over 1,000,000 in this step; children should continue to experience smaller numbers alongside 7-digit numbers, particularly Year 5 children.

Establish that, like thousands, a million can be considered to be a unit. Discuss the placement of commas and other separators to help children to understand the value of the digits.

Children recognise large numbers using a variety of models, such as place value charts and part-whole models. Year 5 children may require greater exposure to place value charts to support their understanding of large numbers.

Children partition numbers in both standard and non-standard ways.

Things to look out for

- Children may struggle with where to position the commas.
- Children may think that place value columns go in the order ones, tens, hundreds, thousands, millions.
- Children may find numbers with several placeholders difficult, for example 3,008,005

Key questions

- Where do the commas go when writing 7-digit numbers? How does this connect to place value charts?
- What is the value of each digit in the number 4,562,750?
- When do you use placeholders in numbers?

Possible sentence stems

- The value of the _____ in _____ is _____
- The column before/after the _____ column is the _____ column.

Single age small step links

- Numbers to 1,000,000 (Y5)
- Numbers to 10,000,000 (Y6)

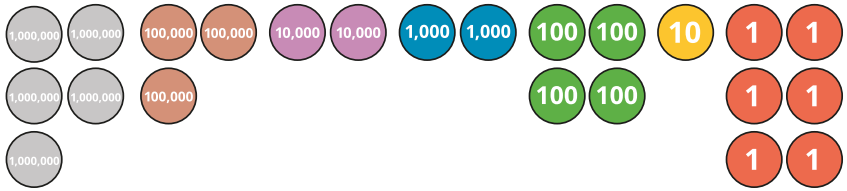
National Curriculum links

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit (Y5)
- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (Y6)

Numbers to 10,000,000

Key learning

- What number is shown?



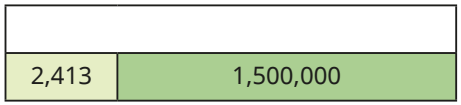
- Match the numbers to the representations.

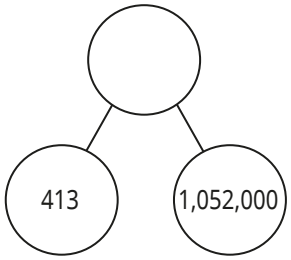
1,502,413

1,052,413

1,500,413

M	HTh	TTh	Th	H	T	O
●	● ● ● ●			● ● ● ●	●	● ● ●





- Here is a number in a place value chart.

Millions	Thousands			Ones		
O	H	T	O	H	T	O
4	2	8	7	2	9	5

What number is 500,000 greater than the number shown?

What number is 8,000 greater than the number shown?

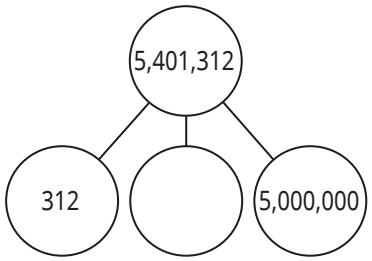
What number is 2 million less than the number shown?

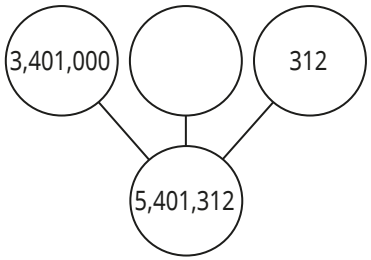
- Count down in 1,000s from 231,059 to 211,059

Count up in 10,000s from 931,059 to 1,131,059

Count up in 100,000s from 813,059 to 2,213,059

- Complete the part-whole models.



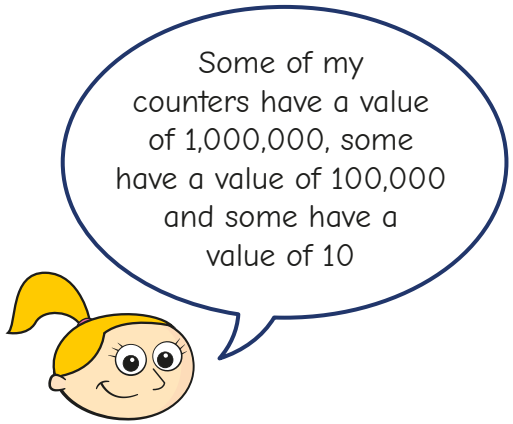


How else could you partition the number 5,401,312?

Numbers to 10,000,000

Reasoning and problem solving

Eva has some place value counters.



Eva picks four counters.

What different numbers greater than 1,000,000 can she make, using all of her counters?

Eva wants to make a number that is greater than 7 million.

What is the fewest number of counters that she needs?

4,000,000
3,100,000
3,000,010
2,200,000
2,000,020
2,100,010
1,300,000
1,000,030
1,200,010
1,100,020

8 counters

Dora makes the number 3,412,520

She is trying to find 400,000 less than her number.

She thinks that the answer is 12,520

Is Dora correct?

Explain how you know.

No

Fill in the missing numbers.

934,092 + 100,000 = _____

3,602,802 = 600,000 + _____ + 2 + 800

529,309 = 4,529,309 – _____

3,135,616 = _____ – 2,020,000

1,034,092
3,002,000
4,000,000
5,155,616

Read and write numbers to 10,000,000

Notes and guidance

In this small step, children read and write up to 7-digit numbers in words, building on the learning in Step 4

Children in Year 5 may require extra consolidation of learning on 6-digit numbers before they move onto 7-digit numbers, whereas Year 6 children could focus on furthering their understanding of placeholders in a number.

The focus of this step is learning the structure of how numbers are said and written in words, for example 16,293 as "sixteen thousand, two hundred and ninety-three" rather than just "one-six-two-nine-three". Using a comma as a separator helps children to read and write large numbers by tackling them in sections. This can be supported visually/concretely with place value charts, part-whole models and Gattegno charts, particularly for Year 5 children.

Children should also be able to write numbers such as "three and a half million" in both words and numerals.

Things to look out for

- Children who find the "teen" numbers difficult may have problems with numbers such as 3,019,113
- Children may find reading and writing numbers with placeholders difficult, for example 4,509,009

Key questions

- When a number is written with commas, what does it tell you about the size of the number?
- What do the numbers before/after this comma represent?
- When do you use "and" when reading or writing a number?

Possible sentence stems

- The digit before/after the first/second comma is _____
- This part of the number is said/written as _____
- The whole number is said/written as _____

Single age small step links

- Read and write numbers to 1,000,000 (Y5)
- Read and write numbers to 10,000,000 (Y6)

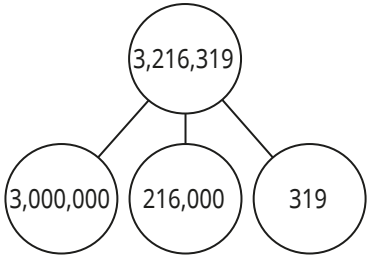
National Curriculum links

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit (Y5)
- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (Y6)

Read and write numbers to 10,000,000

Key learning

- Tiny is using a part-whole model to help identify the different parts in a number.

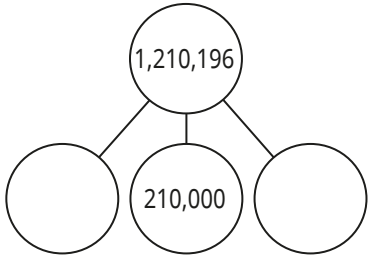


three million and two hundred and sixteen and three hundred and nineteen

What mistakes has Tiny made?

Write 3,216,319 correctly in words.

- Complete the part-whole model to show the number 1,210,196



Write the number 1,210,196 in words.

- Here is a number in a place value chart.

Millions	Thousands			Ones		
O	H	T	O	H	T	O
3	6	7	1	9	4	2

Write the number in words.

- A number is made up of 4 millions, 2 hundred-thousands, 3 hundreds and 5 ones.

Show the number on a place value chart.

Write the number in words and numerals.

- Write the numbers in numerals.

five million, thirty-six thousand and fifteen

five million, three hundred and six thousand and fifteen

five million, thirty-six thousand and fifty

- Write the number "seven and a half million" in numerals.

Write the number "five and a quarter million" in numerals.

Read and write numbers to 10,000,000

Reasoning and problem solving

Use some of the digit cards and the clues to work out the number.

5	3	0	6	1	0	8	4

- The number has six digits.
- The ten-thousands and tens columns have the same digit.
- The ones digit is double the hundreds digit.
- The number is less than five hundred and thirty thousand and eighty.

Find as many possible solutions, giving your answers in words and numerals.

Compare answers with a partner.

multiple possible answers, e.g. 504,306 – five hundred and four thousand, three hundred and six.

Here is a number shown on a Gattegno chart.

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

Write in words the number that is:

- 4 less than this number
- 400 less than this number
- 40 greater than this number

three million, four hundred and one; three million and five; three million, four hundred and forty-five

Powers of 10

Notes and guidance

In this small step, children further develop their understanding of place value by exploring the relationship between numbers in different columns.

As well as adjacent columns, children look at columns that are further apart, for example considering the number of tens needed to make 1,000 and then multiples of 1,000. They use their place value knowledge to identify integers that are 10, 100 and 1,000 times the size, or one-tenth, one-hundredth, one-thousandth the size of other integers. Place value charts and Gattegno charts are useful for modelling the effects of repeated multiplication and division by powers of 10

For Year 5, the focus is on the place value of the digits rather than performing calculations. However, Year 6 children should recognise that multiplying or dividing by 10 twice/three times has the same effect as multiplying or dividing by 100/1,000 respectively.

Things to look out for

- Children may think that the overall effect of, for example, × 10 followed by × 10 is × 20
- Children may assume that numbers on a Gattegno chart increase by a factor of 10 horizontally.

Key questions

- How can you tell if a number is a power of 10?
- Is this number a multiple of a power of 10? How can you tell?
- If you move a digit one/two places to the left in a place value chart, how many times greater is the value of the digit?

Possible sentence stems

- There are _____ hundreds in 1,000 and _____ thousands in _____, so there are _____ hundreds in _____
- _____ is _____ the size of _____

Single age small step links

- Powers of 10 (Y5)
- Powers of 10 (Y6)

National Curriculum links

- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (Y6)
- Solve number problems and practical problems that involve all of the above (Y5 and Y6)

Powers of 10

Key learning

- Make the number 324 on a place value chart.

Thousands			Ones		
H	T	O	H	T	O

  - Now make the number 3,240

    What is the same and what is different?
  - Now make the number 32,400

    What is the same and what is different?
  - Now make the number 324,000

    What is the same and what is different?

- How many tens are there in 100?

  How many tens are there in 500?

  How many tens are there in 530?

  How many hundreds are there in 1,000?

  How many hundreds are there in 7,000?

  How many hundreds are there in 7,400?

  How many tens are there in 7,400?

- What number is shown on the Gattegno chart?

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

  Use the chart to make the number 100 times the size of the number shown.

  Use the chart to make the number one-tenth the size of the number shown.

- Dexter thinks that the number 1,000 times the size of 4,500 is four and a half million.

  Do you agree with Dexter? Explain your answer.

- Complete the statements.

  _____ cm is the same length as 4,300 m.

  _____ cm is the same length as 4,300 mm.

Powers of 10

Reasoning and problem solving

Large areas are measured in hectares.

1 hectare = 10,000 m^2

The area of the Eden Park stadium in New Zealand is 18 hectares.

What is the area of Eden Park in m^2?

How many plots with an area of 100 m^2 could be made in Eden Park?

180,000 m^2

1,800

100,000 × 10 = 1,000,000

How many other calculations using just ones and zeros can you find that have the answer 1,000,000?

How many other calculations using just ones and zeros can you find that have the answer 10,000,000?

multiple possible answers, e.g.

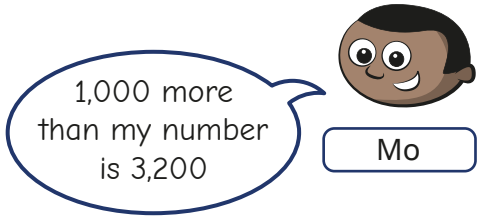
1,000 × 1,000

100 × 100 × 100

100 × 100 × 1,000

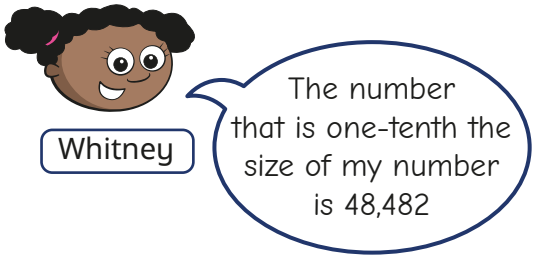
10 × 10,000 × 100

Mo is thinking of a number.



What number is 1,000 times the size of Mo's number?

Whitney is thinking of a number.



What number is 100 less than Whitney's number?

2,200,000

484,720

Partition numbers to 10,000,000

Notes and guidance

Children will have already had experience with partitioning numbers. In this small step, they extend their knowledge to include numbers to 10,000,000

Start with standard partitioning (for example, ten-thousands, thousands, hundreds, tens and ones), before exploring flexible partitioning where children will partition a number in different ways (for example, 28,371 = 10,000 + 18,000 + 200 + 160 + 11). Year 5 children may need extra support to extend their understanding to the additional place value columns. Concrete resources, such as place value counters on a place value chart, can be helpful in consolidating this knowledge, especially when children are flexibly partitioning numbers. The use of partitioning (for example, changing 75 to 60 + 15), as well as using the vocabulary of "exchange", will support children in formal methods for addition and subtraction.

Things to look out for

- Children may reorder the digits incorrectly when partitioning or recombining numbers with many digits.
- Children may need additional support to understand non-standard partitioning of numbers.

Key questions

- If you have 10 hundreds/thousands/ten-thousands, what can these be exchanged for?
- How does knowing that 9 + 6 = 15 help you work out 9 tens + 6 tens? What about 9 thousands + 6 thousands?
- How else can you say/write "13 hundreds" or "13 thousands"?

Possible sentence stems

- The value of the digit _____ is _____
- I can partition the number into _____ or _____

Single age small step links

- Partition numbers to 1,000,000 (Y5)

- N/A

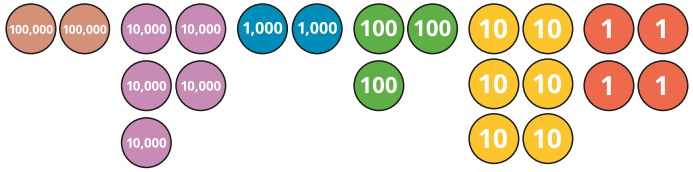
National Curriculum links

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit (Y5)
- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (Y6)

Partition numbers to 10,000,000

Key learning

- Partition the numbers into thousands, hundreds, tens and ones.
  - 5,678 = _____ + _____ + _____ + _____
  - 4,391 = _____ + _____ + _____ + _____
- Complete the number sentences.
  - _____ = 50,000 + 1,000 + 300 + 80 + 9
  - 725,240 = _____ + 20,000 + 5,000 + _____ + 40
  - 6,000,213 = _____ + 200 + 10 + _____
- Use the place value counters to help you complete the partitions.



252,364 = 200,000 + 50,000 + _____ + _____ + 60 + 4

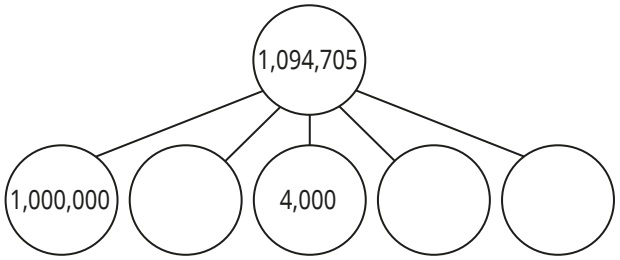
252,364 = 100,000 + _____ + 12,000 + 300 + 10 + _____

252,364 = 100,000 + 30,000 + _____ + 100 + _____ + 24

Is there more than one answer for any of these?

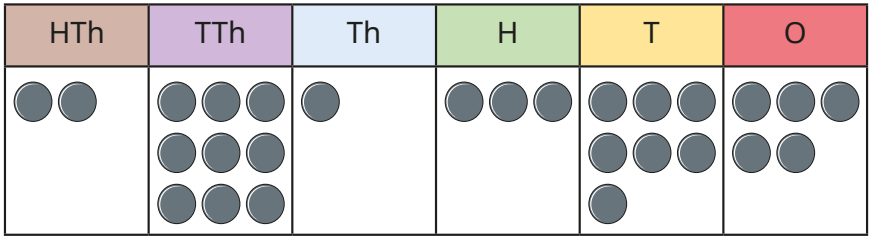
Find other ways to partition the number.

- Complete the part-whole model for 1,094,705



Find three more ways of partitioning 1,094,705 into five parts.

- Use the counters and the place value chart to write two number sentences that partition the number in different ways.



What is the same about your two number sentences?
What is different?

- Huan is partitioning 86,172

> 86,172 = 80 + 600,000 + 100 + 7 + 2

Explain why Huan's workings are incorrect.

Partition numbers to 10,000,000

Reasoning and problem solving

Ron is partitioning a number written in Roman numerals.

MDLXX =
M + D + XX + XX + XX + X

Is Ron correct?

Find some other ways of partitioning the number using Roman numerals.

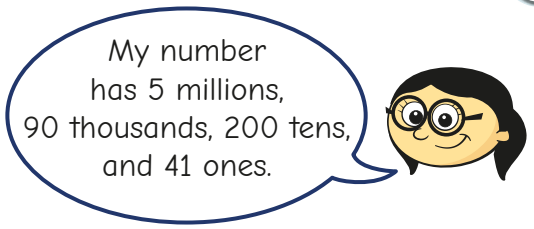
Yes

multiple possible answers, e.g.

D + D + D + L + XX

MC + CD + XL + XXX

Annie is thinking of a number.



Partition Annie's number in a different way.

Compare answers with a partner.

multiple possible answers, e.g.

5,092,041 = 4,000,000 + 1,040,000 + 50,000 + 2,040 + 1

Which is the odd one out?

930,000	93 ten-thousands
9,300 hundreds	800,000 + 130,000
930 tens	9 hundred-thousands and 3 ten-thousands

930 tens is the odd one out, as it is equal to 9,300

The rest are equal to 930,000

Tiny has these counters.

Tiny exchanges some of the counters.

What mistake has Tiny made?

What counters should Tiny have exchanged?

11 hundreds counters for 1 thousands counter and 1 hundreds counter

Number line to 10,000,000

Notes and guidance

In this small step, children explore number lines to 10,000,000

If appropriate, start with a recap of number lines up to 10,000, before moving on to numbers up to 10,000,000. Children label partially completed number lines, identify labelled points and show the position of a given number. They look at both the exact placement of multiples of 10,000 or 100,000 and the approximate placement of numbers such as 245,678

Children should understand that half a million is equal to 500,000 and know that the midpoints between divisions on the number line to 10,000,000 can be written as, for example, "three and a half million" or "3,500,000". Recognising the value of the midpoint between two multiples on a number line is key to their understanding and will support the use of number lines when rounding numbers in later steps.

Things to look out for

- Children may confuse the number of intervals and the number of divisions.
- Children may not use the correct multiples when looking at midpoints, for example thinking that the midpoint between 1,000,000 and 2,000,000 is 1,000,005

Key questions

- What are the values of the start and the end of the number line?
- What is each interval worth?
- What is the midpoint between _____ and _____?

Possible sentence stems

- The difference in value between the start and end points is _____
  There are _____ intervals.
  The number line is counting up in _____

Single age small step links

- Number line to 1,000,000 (Y5)
- Number line to 10,000,000 (Y6)

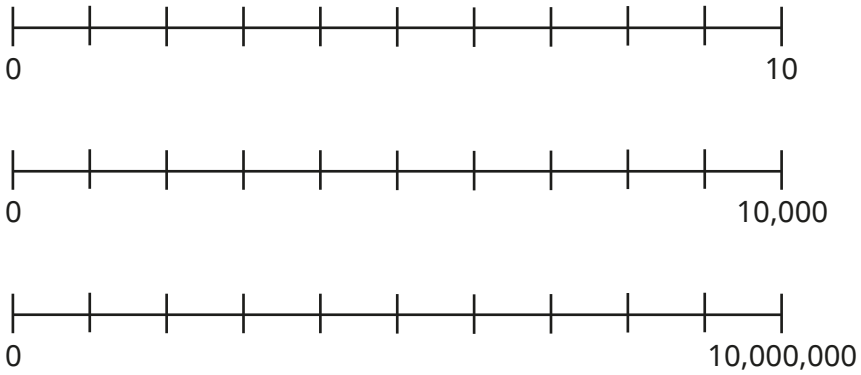
National Curriculum links

- Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 (Y5)
- Solve number problems and practical problems that involve all of the above (Y5 and Y6)

Number line to 10,000,000

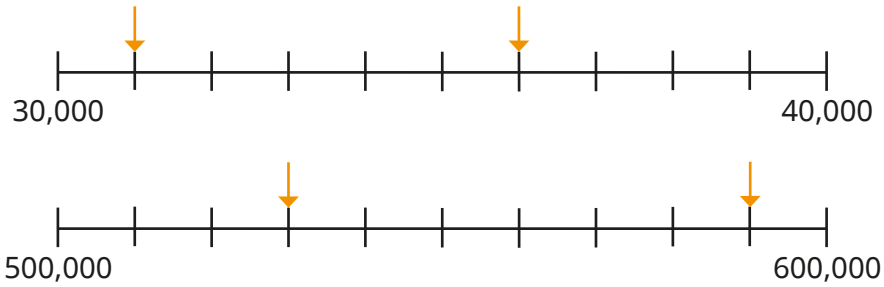
Key learning

- Label the divisions on the number lines.

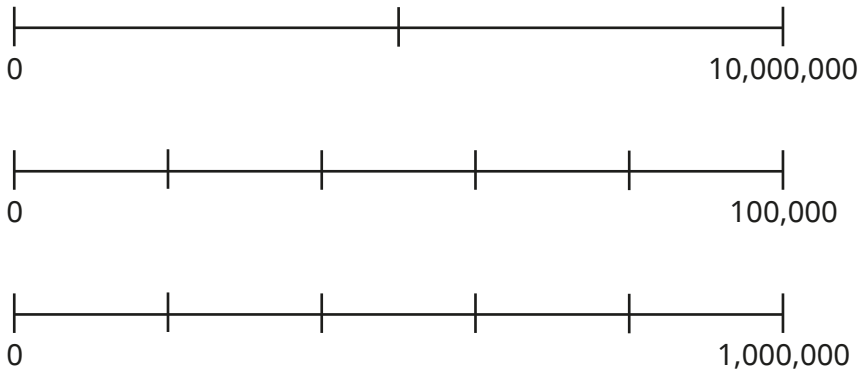


What is the same and what is different about the number lines?

- What numbers are the arrows pointing to?

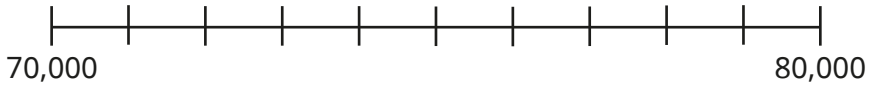


- Label the divisions on the number lines.

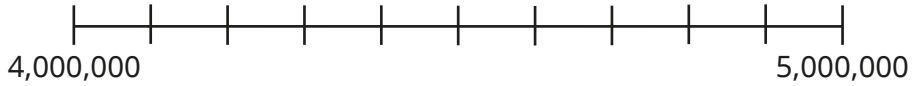


- Estimate the positions of the numbers on the number lines.

72,500 | 76,250 | 74,900 | 78,068



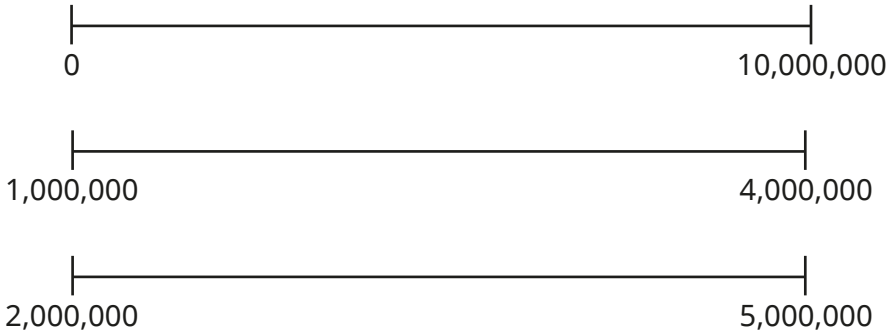
4 and a half million | 4,750,000 | 4,280,000



Number line to 10,000,000

Reasoning and problem solving

Estimate the position of 2,500,000 on each number line.



Explain your method.

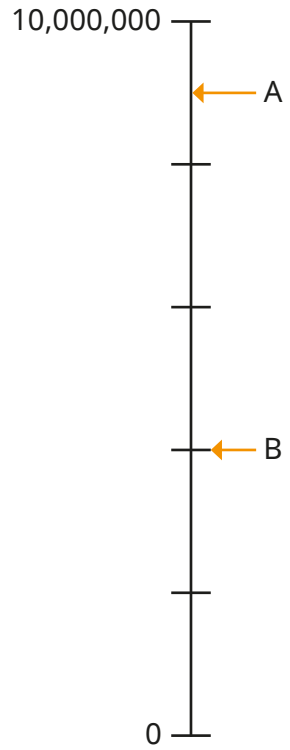
Think of a number that would only appear on one of the number lines.

Think of a number that would appear on exactly two of the number lines.

multiple possible answers, e.g. 490,000 and 5,000,001

multiple possible answers, e.g. 1,500,000 and 4,250,000

Find the difference between A and B.



Compare methods with a partner.

5,000,000

Compare and order any integers

Notes and guidance

In this small step, children compare and order integers up to 10,000,000

Children compare numbers with the same number of digits and with different number of digits, using their knowledge of place value columns. They can use a variety of representations, but the main focus is to compare and order using the place value of the digits within the numbers. Year 5 children may require greater exposure to the representations as well as focusing on 5- and 6-digit numbers to gain confidence.

As in previous years, children should use the inequality symbols < , > and = as well as precise mathematical vocabulary such as "greater than" and "less than".

Things to look out for

- Children may just look at the size of the leading digits and not consider the place values of the digits.
- Children may need to be reminded of the meanings of the inequality symbols as well as the words "ascending" and "descending".
- Placeholders can cause difficulty when working with large numbers.

Key questions

- When comparing two numbers with the same number of digits, if their first digits are equal in value, what do you look at next?
- What is the difference between ascending and descending order?

Possible sentence stems

- The first place value column I need to look at is _____
- _____ is greater/less than _____, so _____ is greater/less than _____

Single age small step links

- Compare and order numbers to 100,000 (Y5)
- Compare and order numbers to 1,000,000 (Y5)

National Curriculum links

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit (Y5)
- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (Y6)

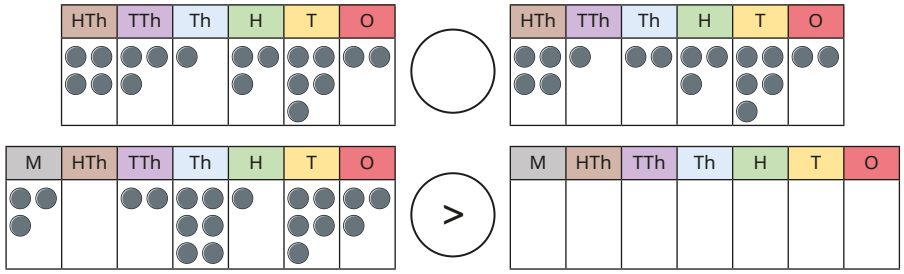
Compare and order any integers

Key learning

- Identify the greater number in each pair.
  - 299,896 and 304,021
  - 357,214 and 357,412
  - 46,800 and 40,680
  - 6,372,189 and 6,373,289

  Explain your choices.

- Complete the statements to make them true.



- Write <, > or = to make the statements correct.

27,508 ◯ 270,508

3 million ◯ 1,750,000 + 1,250,000

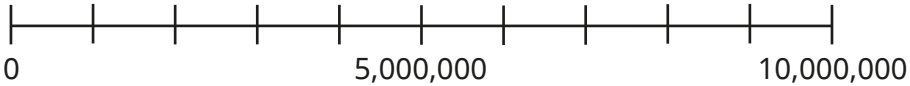
614,000 ◯ sixty-one thousand

one million, five hundred thousand ◯ 150,999

- Put the numbers in ascending order.

  You can use the number line to help you.

2,000,000 | 500,000 | 8,250,000 | 6,900,000

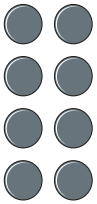


- Write the numbers in descending order.

M	HTh	TTh	Th	H	T	O
1	2	5	0	1	5	2
		1	5	2	0	0
	5	2	1	5	5	5
1	5	2	0	1	2	5

- Use eight counters to make five 6-digit numbers.

HTh	TTh	Th	H	T	O



Order your numbers from greatest to smallest.

Compare and order any integers

Reasoning and problem solving

Dexter has put eight 6-digit numbers in descending order.

- The first number in his list is 347,000
- The last number in his list is 345,900
- All the other numbers on his list have a digit sum of 20
- None of the numbers in his list have any repeated digits.

Find the other six numbers in Dexter's list and write them in ascending order.

346,025

346,052

346,205

346,250

346,502

346,520

Is the statement true or false?

72,100 is greater than 102,000 because 7 is greater than 1

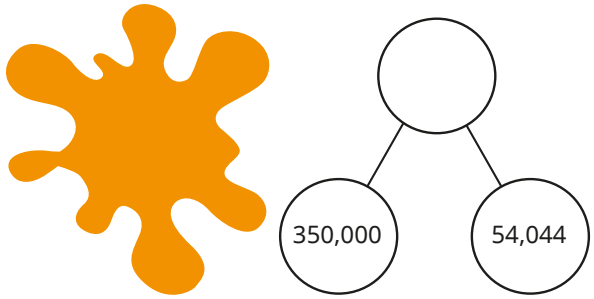
Explain your answer.

False

Here are three numbers ordered from the greatest to the smallest.

One number has been covered up.

four hundred and fourteen thousand and forty-four



What could the missing number be?

any number between 404,044 and 414,044

Round within 100,000

Notes and guidance

In this small step, children round up to 5-digit numbers to the nearest 10, 100, 1,000 and 10,000. This is the first time that Year 5 children will round to the nearest 10,000

It is important that children hear and use the language of "rounding to the nearest" rather than "rounding up" and "rounding down", as this can lead to misconceptions. Number lines are a particularly useful representation to support this understanding, as children can see which multiples of 10, 100, 1,000 or 10,000 the given numbers are closer to. Establish the generalisation that they need to look at the place value column to the right of the degree of accuracy.

It is important for children to recognise the convention that when there is a 5 in the relevant place value column, despite being exactly halfway between the two multiples, they round to the next multiple.

Things to look out for

- Children may not round to the correct degree of accuracy, for example the nearest 100 instead of the nearest 1,000
- Children may look at the incorrect digit, such as the thousands digit rather than the hundreds when rounding to the nearest 1,000

Key questions

- Which multiples of 10/100/1,000/10,000 does the number lie between?
- Which place value column should you look at to round the number to the nearest 10/100/1,000/10,000?
- What happens when a number is exactly halfway between two multiples on a number line?

Possible sentence stems

- The next/previous multiple of 10/100/1,000/10,000 is _____
- _____ rounded to the nearest 10/100/1,000/10,000 is _____

Single age small step links

- Round to the nearest 10, 100 or 1,000 (Y5)
- Round within 100,000 (Y5)

- Round any integer (Y6)

National Curriculum links

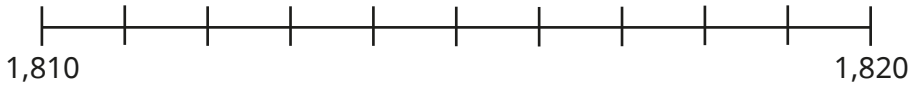
- Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 (Y5)
- Round any whole number to a required degree of accuracy (Y6)

Round within 100,000

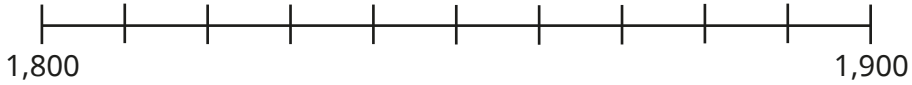
Key learning

- Mark the position of 1,816 on the number line.

  Use the number line to round 1,816 to the nearest 10



  Now estimate the position of 1,816 on this number line.

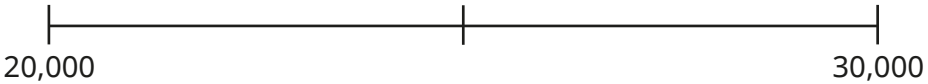


  Use the number line to round 1,816 to the nearest 100

- Between which two multiples of 1,000 does the number 3,409 lie?

  What is 3,409 rounded to the nearest 1,000?

- What number is halfway between 20,000 and 30,000?



  Draw an arrow to show the approximate position of 28,344 on the number line.

  Round 28,344 to the nearest 10,000

- Complete the table.

Number	1,396	24,083	55,555
Rounded to the nearest 10			
Rounded to the nearest 100			
Rounded to the nearest 1,000			
Rounded to the nearest 10,000			

- Complete the sentences.

  83,999 rounded to the nearest 10 is _____

  83,999 rounded to the nearest 100 is _____

  83,999 rounded to the nearest 1,000 is _____

  What do you notice?

- The distance from London to Sydney is approximately 10,553 miles.

  Round this distance to the nearest:

  - 100 miles
  - 1,000 miles
  - 10,000 miles

Round within 100,000

Reasoning and problem solving

Here is a newspaper headline about a football match.

Do you think exactly 70,000 people watched the match?

What is the smallest number of people who watched the match, if the number in the headline has been:

- rounded to the nearest 10,000
- rounded to the nearest 1,000
- rounded to the nearest 100?

65,000

69,500

69,950

Kim is thinking of a number.

- The number is 4,000 when rounded to the nearest 1,000
- The number is also 4,000 when rounded to the nearest 100
- The number is also 4,000 when rounded to the nearest 10
- The number is not 4,000

What are the smallest and greatest possible values of the number?

3,995

4,004

By rounding both numbers to the nearest 10,000, estimate the answer to the calculation.

57,901 + 68,022

Is your estimate greater than or less than the actual answer?

Explain why.

130,000

greater

Round any integer

Notes and guidance

In this small step, children round any number up to 10,000,000 to any power of 10 up to 100,000. Year 6 children could also round to the nearest million, if appropriate.

Children could practise counting in 100,000s first, and then rounding to the nearest 100,000, before looking at mixed questions. They need to be confident with identifying the previous and next multiples of the appropriate power of 10, and finding the midpoints of those multiples. As in the previous step, number lines are useful to identify which multiple the number is closer to. Children may need to recap that when a number is exactly halfway between two successive multiples the convention is to round to the greater multiple.

It is worth discussing which approximations are most appropriate, for example why we would not give the population of a city to the nearest 10 or the population of a village to the nearest 100,000

Things to look out for

- Children may look at the incorrect digit, such as the thousands digit rather than the hundreds when rounding to the nearest 1,000

Key questions

- Which multiples of 10/100/1,000/10,000/100,000 does the number lie between?
- Which division on the number line is the number closer to?
- Which place value column should you look at to round the number to the nearest 10/100/1,000/10,000/100,000?

Possible sentence stems

- The previous/next multiple of _____ is _____

  _____ rounded to the nearest _____ is _____

Single age small step links

- Round within 1,000,000 (Y5)
- Round any integer (Y6)

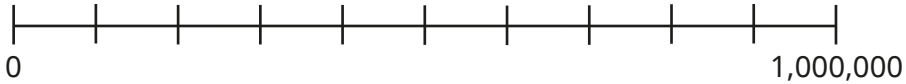
National Curriculum links

- Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 (Y5)
- Round any whole number to a required degree of accuracy (Y6)

Round any integer

Key learning

- Complete the number line.



Between which two multiples of 100,000 does 640,911 lie?

Round 640,911 to the nearest 100,000

-

City	Population
Sheffield	500,552
Southampton	248,922
Cardiff	362,310
Bath	94,092

Round the population of each city to the nearest 10,000 people.

Round the population of each city to the nearest 100,000 people.

- In May 2023, the average price of a house in England was £286,532

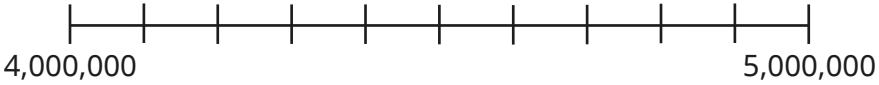
Round this price to the nearest £100,000

Round this price to the nearest £10,000

Round this price to the nearest £1,000

Which do you think is the most appropriate number to round the price to?

- Draw an arrow to show the approximate position of 4,940,000 on the number line.



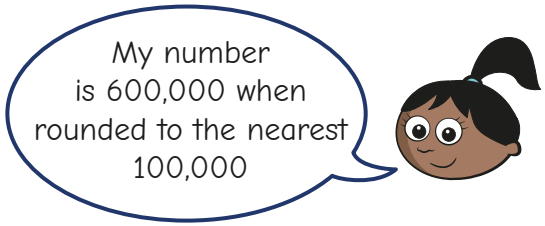
Round 4,940,000 to the nearest 100,000

- Which numbers round to 1,200,000 to the nearest 100,000?

1,221,201	1,299,951	1,152,501
1,199,951	1,119,999	1,200,021

Which numbers also round to 1,200,000 to the nearest 100?

-



What is the greatest integer Sam could be thinking of?

What is the smallest integer Sam could be thinking of?

Round any integer

Reasoning and problem solving

A factory made 368,907 electric cars in one year.

Electric car batteries are produced in batches of 10,000

How many batches of batteries did the factory have to order?

37 batches

Steering wheels are produced in batches of 1,000

How many batches of steering wheels did the factory have to order?

369 batches

The difference between two 5-digit numbers is 300

When each number is rounded to the nearest 100,000, the difference between them is 100,000

What could the two numbers be?

Compare answers with a partner.

multiple possible answers, e.g.
49,999 and 50,299
49,700 and 50,000

Four children each have one of these cards.

21,109	19,942
19,996	19,108

Each child gives a clue about the number on their card.

Mo says, "My number has 1 hundred."

Huan says, "My number is 19,900 when rounded to the nearest 100"

Ron says, "My number is 20,000 when rounded to the nearest 10"

Eva says, "My number rounds to 19,000 to the nearest 1,000"

Match the cards to the children.

Mo: 21,109

Huan: 19,942

Ron: 19,996

Eva: 19,108

Count through zero

Notes and guidance

In this small step, children in Year 5 are introduced to negative numbers for the first time, while Year 6 children expand their understanding of counting through zero.

Initially, children explore negative numbers in everyday contexts, including temperatures. Vertical representations are used first, to develop understanding of the concept. They then use horizontal number lines to count forwards and backwards through zero in 1s and other multiples, reinforcing the reflective nature of positive and negative numbers, for example −6, −4, −2, 0, 2, 4, 6. They can then move on to count through zero not following this pattern, for example 7, 4, 1, −2, −5, −8. Year 6 children should be exposed to more of these questions. Encourage children to explore how partitioning of the multiple can support counting through zero.

Encourage children to say, for example, −4 as "negative four" rather than "minus four", so that they see negative numbers as numbers rather than operations.

Things to look out for

- Children may just reflect a given sequence rather than counting through zero, for example −8, −5, −2, 2, 5, 8

Key questions

- What are negative numbers? How do you write them?
- What is the next number in this count: 8, 6, 4, 2?
- What is the sequence counting forwards/backwards in?

Possible sentence stems

- The number before/after _____ when counting forwards/backwards in _____s is _____
- I can partition _____ into _____ and _____ to help count through zero.

Single age small step links

- Count through zero in 1s (Y5)
- Count through zero in multiples (Y5)
- Negative numbers (Y6)

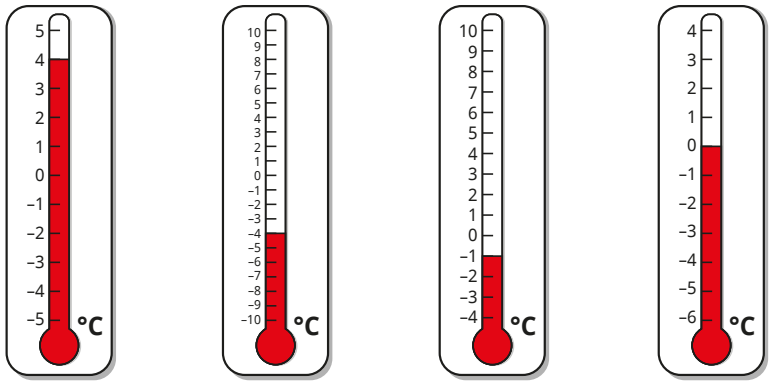
National Curriculum links

- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero (Y5)
- Use negative numbers in context, and calculate intervals across zero (Y6)

Count through zero

Key learning

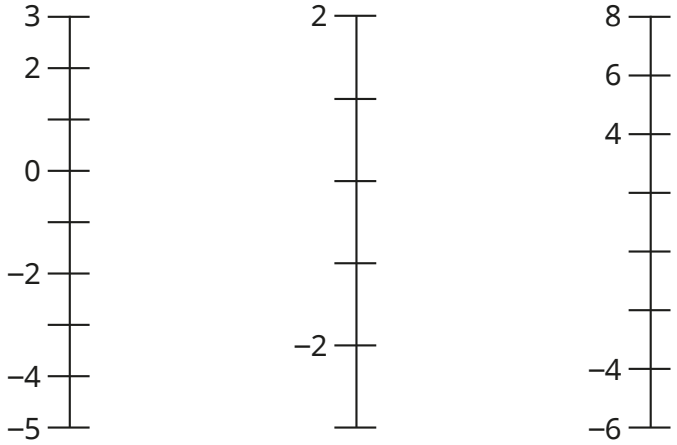
- The thermometers show the temperatures in four cities measured in degrees Celsius (°C).



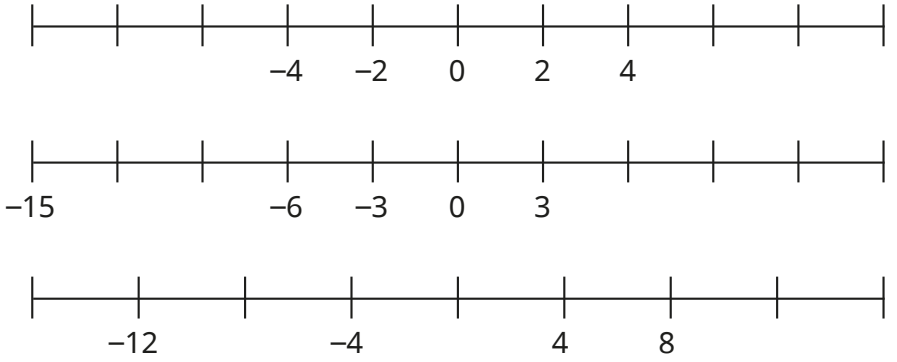
Paris Oslo London Berlin

What temperatures are shown on the thermometers?

- Work out the missing numbers.

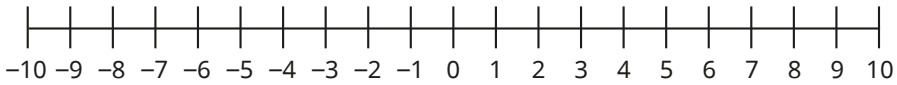


- Complete the number lines.



- What are the next three numbers in each sequence?
  - −18, −17, −16, −15, _____, _____, _____
  - −5, −4, −3, −2, _____, _____, _____
  - 5, 0, −5, _____, _____, _____
  - 8, 6, 4, 2, _____, _____, _____

- Use the number line to continue the sequences.



8, 5, 2, _____, _____, _____

10, 7, 4, _____, _____, _____

−7, −4, −1, _____, _____, _____

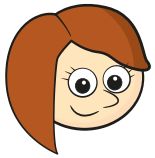
−9, −5, −1, _____, _____, _____

Count through zero

Reasoning and problem solving

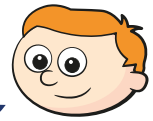
Rosie and Ron are continuing the counting sequence.

3, 2, 1, ____, ____, ____, ____



Rosie

The missing numbers are 0, −3, −2, −1



Ron

The missing numbers are −1, −2, −3, −4

What mistake has each child made?

Write the next four terms in the sequence.

0, −1, −2, −3

Starting at sea level, a diver descends 5 m every minute for 4 minutes.

The diver then ascends 4 m every minute until they reach the surface.

How many minutes does it take the diver to reach the surface?

5 minutes

Here are five numbers from a counting pattern.

−2	4	−11	−5	1

The numbers are not in the correct order.

A sixth card is missing to complete the count.

What is the missing number?

−8

Compare and order negative numbers

Notes and guidance

In this small step, children compare and order integers that include negative numbers.

A common misconception is to apply the abstract "rules" of positive numbers to negative numbers, for example 9 is greater than 4, so –9 must be greater than –4. Number lines are a key representation to help address this misconception. By comparing positive numbers and reflecting on their positions on a number line, children can begin to generalise that greater numbers lie to the right on a number line. Therefore, because –4 lies to the right of –9, it is greater. It can also be helpful to discuss real-life contexts to support this understanding. For example, children may be comfortable with the fact that, for example, –5 degrees is colder than –1 degree and can then apply this to show that $-5 < -1$

Once children are confident with comparing two numbers, they can begin to order groups of integers that include both positive and negative numbers.

Things to look out for

- Directly applying knowledge of comparing and ordering positive numbers can lead children to think that, for example, $-7 > -3$

Key questions

- When comparing numbers on a number line, are the greater/smaller numbers on the right or the left?
- Are negative numbers greater or smaller than positive numbers?
- Which temperature is warmer/colder, _____ or _____? So which number is greater?

Possible sentence stems

- Greater numbers are to the _____ of smaller numbers on a number line.

Single age small step links

- Compare and order negative numbers (Y5)
- Negative numbers (Y6)

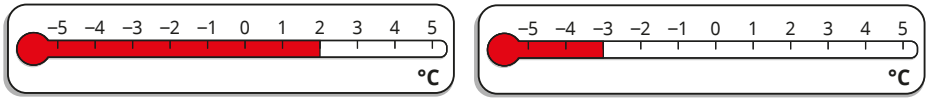
National Curriculum links

- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero (Y5)
- Use negative numbers in context, and calculate intervals across zero (Y6)

Compare and order negative numbers

Key learning

- Use the correct word to complete each sentence.



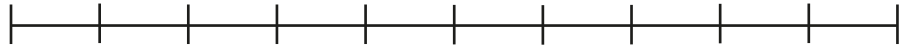
▶ warmer colder

2 degrees is _____ than −3 degrees.

▶ less greater

−3 degrees is _____ than 2 degrees.

- Use the number line to help compare the sets of numbers.

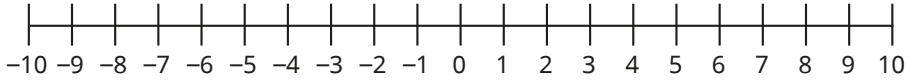


7 ◯ 4 5 ◯ 9 4 ◯ 0

Complete the sentence.

Numbers to the left on the number line are _____ than numbers to the right.

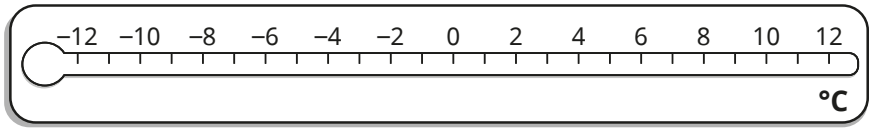
- Use the number line to help compare the pairs of numbers.



7 ◯ −2 −6 ◯ −1 5 ◯ −6

0 ◯ −4 −9 ◯ −3 1 ◯ −1

- Write the temperatures in order, starting with the coldest.



▶ 7°C, 0°C, 4°C ▶ −4°C, 0°C, −7°C ▶ 6°C, −9°C, −3°C

- Write the numbers in ascending order.

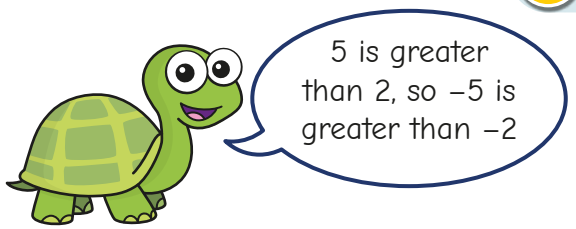
−4	0	8	−8	−32	4

- Write the numbers in descending order.

−32	45	−3	12	−83	6

Compare and order negative numbers

Reasoning and problem solving



Draw a number line and label the positions of the numbers.

Explain why Tiny is incorrect.

drawing of number line showing that –2 is greater than –5 as it is further to the right

Fill in the missing number.

$-5 < \square < 4$

Find all the possible answers.

–4, –3, –2, –1, 0, 1, 2, 3

Tommy is on floor 3 of a building.

He gets in a lift and goes down 6 floors.

Whitney is on floor –4 of the building.

She gets in a lift and goes up 2 floors.

Who is on the lower floor now?

Tommy

Here are the temperatures in three cities on Tuesday.

Edinburgh	Oslo	Vancouver
2 °C	–4 °C	–8 °C

On Wednesday, the temperature in:

- Edinburgh is 4 degrees colder
- Oslo is 3 degrees warmer
- Vancouver is 5 degrees warmer

Order the temperatures for Wednesday, starting with the warmest.

Oslo –1 °C

Edinburgh –2 °C

Vancouver –3 °C

Calculate with negative numbers

Notes and guidance

In this small step, children find the difference between positive and negative numbers, including calculating across zero.

As with previous steps, vertical and horizontal number lines are a key representation in supporting this understanding.

Children look at efficient strategies to find the difference by jumping to and from zero and adding the two jumps together. For example, to find the difference between –4 and 2, jump 2 from 2 to 0 and then 4 from 0 to –4. The difference is 2 + 4 = 6

Year 6 children also look at adding and subtracting from positive and negative numbers, but are not required to subtract negative numbers at this stage, so there is no need to cover calculations of the form 6 – –4

Contextual problems, such as finding the difference between temperatures or distances above and below ground, are very common, so this step is key for working with negative numbers.

Things to look out for

- Children may have heard "rules" such as "two minuses make a plus" and mistakenly think that, for example, –3 – 2 = +5

Key questions

- How can you use a number line to help you find the difference between two numbers?
- How far away from zero is _____? How can you use this to help you find the difference between _____ and _____?
- How do you find the difference between two negative numbers?

Possible sentence stems

- The distance from _____ to zero is _____
  The distance from zero to _____ is _____
  So the difference between _____ and _____ is _____

Single age small step links

- Find the difference (Y5)
- Negative numbers (Y6)

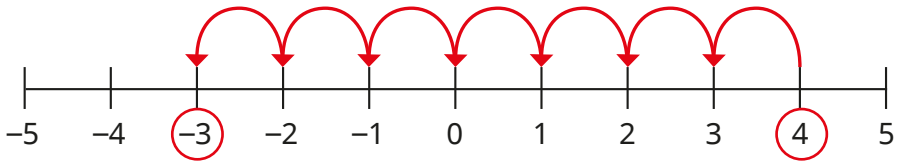
National Curriculum links

- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero (Y5)
- Use negative numbers in context, and calculate intervals across zero (Y6)

Calculate with negative numbers

Key learning

- Nijah is finding the difference between 4 and –3

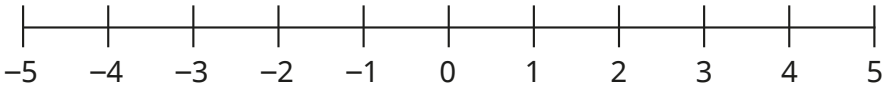


The difference between 4 and –3 is 7

Use Nijah's method to find the differences between the pairs of numbers.

- –2 and 5
- 3 and –4
- –3 and 2
- –5 and 5

- Use the number line to answer the questions.

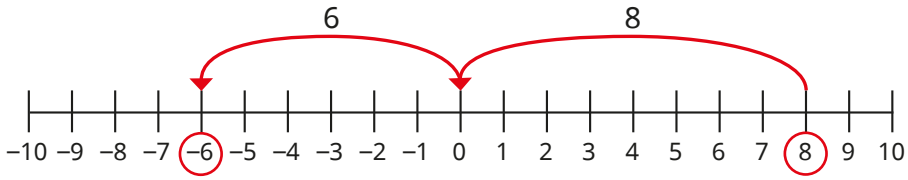


What is 5 less than 4?

What is 7 more than –3?

What is the difference between 4 and –4?

- Scott is finding the difference between 8 and –6



8 + 6 = 14, so the difference between 8 and –6 is 14

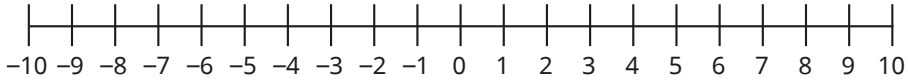
Use Scott's method to find the differences between the pairs of numbers.

- –7 and 9
- 5 and –3
- –2 and 8
- –7 and 7

- A ship sits in the sea.
  - The base of the ship is 4 m below sea level.
  - The top of the ship is 12 m above sea level.

How tall is the ship?

- Use the number line to complete the number sentences.

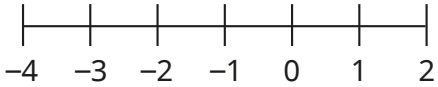


- –3 + 6 = _____
- –4 – 5 = _____
- 5 – 9 = _____

Calculate with negative numbers

Reasoning and problem solving

Alex is finding the difference between –4 and 2



The difference is 7

What mistake has Alex made?

What is the difference between –4 and 2?

6

The temperature at 8 am is –6 °C.

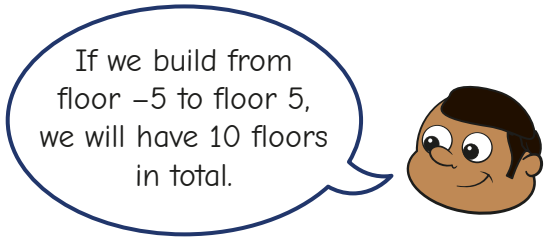
At 1 pm, the temperature is 10 degrees warmer.

At 8 pm, the temperature has dropped 4 degrees since 1 pm.

What is the difference between the temperatures at 8 am and 8 pm?

6 degrees

A company has plans to construct a building with floors above and below ground.



Do you agree? Explain your answer.

No

There will be 11 floors, as they need to include floor zero.

Find different ways of completing the calculation.

_____ + _____ = –3

multiple possible answers, e.g.

–5 + 2 –30 + 27

–8 + 5 –3 + 0