Year 5 Maths

Number and Place Value

Learning From Home Activity Booklet

Statutory Requirements	Activity Sheet	Page Number	Notes
Pupils should be taught to: • read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit; • count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000; • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero; • round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000; • solve number problems and practical problems that involve all of the above.	Number Match	2	
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Number Match

Match the following numbers below to their written form.
The first one has been done for you.

1 000 000	nine hundred and fifty-three thousand seven hundred and sixty-four
953 764	nine hundred and thirty-five thousand seven hundred and sixty-four
438 348	seven hundred and thirty-four thousand four hundred and sixty-three
492 500	one million
734 463	seven hundred and thirty-four thousand six hundred and forty-three
935 764	four hundred and ninety-two thousand five hundred
734 643	four hundred and thirty-eight thousand three hundred and forty-eight

Write the following numbers in numerals:

Nine hundred and fifty-seven thousand six hundred and forty-two

Two hundred and seventy-three thousand six hundred and ninety-eight

Write the following numbers in words:

468 972

204 684

634 354

Population Information

Below are the populations of different cities in the UK. Use your knowledge of place value to compare the population sizes of different cites. Place the correct **more than** and **less than** symbol in the boxes below.

> more than
< less than

Liverpool **465 738**		Manchester **514 414**
Sheffield **551 832**		Rotherham **257 280**
Cardiff **441 524**		Edinburgh **495 360**
Brighton **273 369**		Southampton **236 946**
Norwich **213 166**		Oxford **213 238**
Newcastle **288 733**		Wolverhampton **249 470**

For the following populations, write the value of each of the underlined digits below using your knowledge of place value. The first has been done for you.

Bristol 4**2**8 634: **twenty thousand or 20 000**

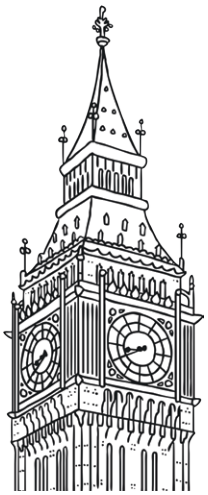
Belfast **2**80 892: _____

Blackpool 142 **6**48: _____

A Trip to London

London is a very popular city with huge numbers of tourists visiting throughout the year. Below are the number of tourists it received each month in 2016.

January	**February**	**March**	**April**
542 643	635 943	735 943	832 631
May	**June**	**July**	**August**
894 364	849 943	987 364	1 234 364
September	**October**	**November**	**December**
698 354	724 634	764 846	924 372



The London Tourist Board wish to order number of visitors from the highest number to the lowest. They will then use this to clearly inform customers which months will be the busiest. Place the visitor numbers and months in the table below starting with the month with the highest number of visitors. The first has been done for you.

Month	**Number of Tourists**
August	1 234 364

Why do you think August was the most popular month?

Counting in Powers of 10

100 is the same as 10 × 10, which can be written as 10^2. 1000 is the same as 10 × 10 × 10, which can be written as 10^3.

Emilio has been counting in powers of 10, 100 and 1000. Look at the sequences he has been counting and then complete them.

1. 369, 379, 389, 399, ○, ○, ○, ○
2. 48, 38, 28, 18, ○, ○, ○, ○
3. 6495, 6595, 6695, ○, ○, ○, ○
4. 23 584, 24 584, 25 584, ○, ○, ○
5. 334, 324, 314, 304, ○, ○, ○, ○

Emilio counts backwards in 10s from 29. Which numbers could Emilio count as he does this? Circle the correct numbers.

-1	8923	-29	-201
79	-301	279	899
-51	-999	3972	-29 831

Which of the numbers above would Emilo say if he was to count forwards in 10s from 29?

Temperature Science

Leilani is studying temperature and 'Changes of State' at school. She decided to complete some experiments at home to help her understand temperature and changes of state.

On a winter's day, Leilani measures the temperature in her garden every thirty minutes. She notices that the temperature **drops by 2°C** every time she measures the temperature in her garden. Complete the table below showing the results she collected.

16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00
7°C	5°C							

She noticed ice forming in the garden when the temperature reached -3°C.

What time was this? _____

Leilani then removes an ice lolly from her freezer. She takes the temperature of the ice lolly and then records the temperature every two minutes. The temperature **increases by 3°C** each time she measures it. Complete the table below with her results.

0 minutes	2 minutes	4 minutes	6 minutes	8 minutes	10 minutes	12 minutes	14 minutes	16 minutes
-12°C								

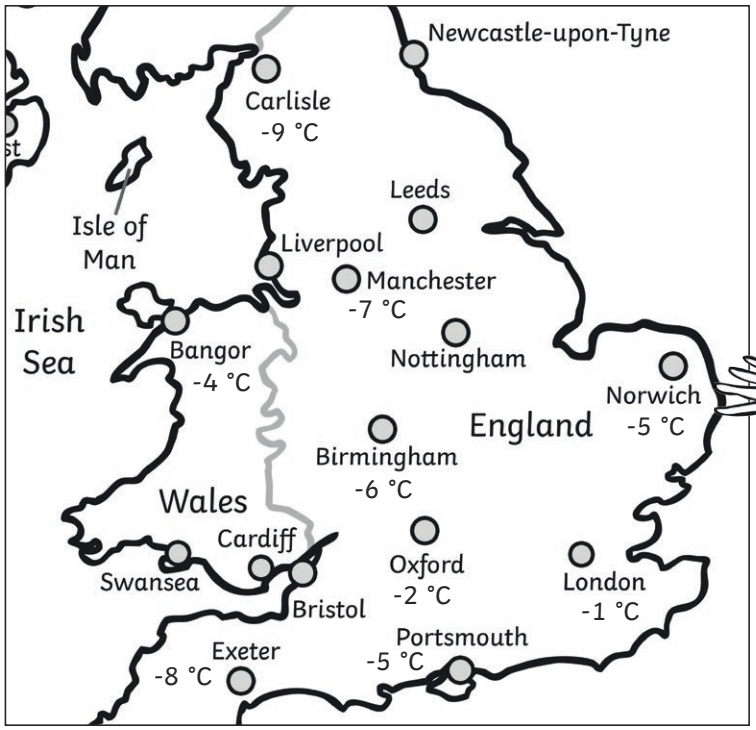
What is the difference in temperature between the first temperature taken and the final temperature taken?

Leilani noticed that the ice lolly had fully melted and changed to a liquid at fifteen minutes. What do you think the temperature was at this time?

She does the experiment again on a hot day. The ice lolly melts faster – by 4°C every two minutes! What was the temperature after six minutes if the starting temperature was -12°C?

The Weather Forecast

Here is the weather forecast for part of the UK. Use this map to help you answer the temperature questions below.



Which is the coldest city on the map?

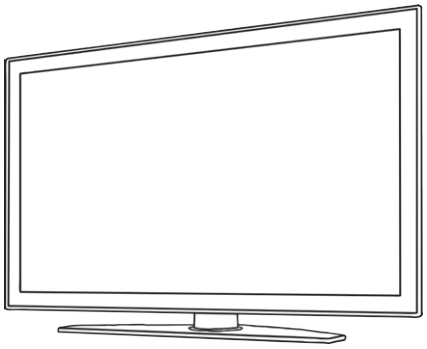
Which is the coldest: Oxford or Portsmouth?

Which is the warmest: Exeter or Bangor?

Bristol is five degrees warmer than Exeter. What is the temperature there?

Newcastle-Upon-Tyne is two degrees colder than Carlisle. What is the temperature there?

Viewing Numbers



In the table below you will find the viewing figures for some of the UK's most popular TV shows. Use your knowledge of place value to round each number to the nearest **1000**, **10 000** and **100 000**.

TV Show	Number of viewers	Rounded to the nearest 1000	Rounded to the nearest 10 000	Rounded to the nearest 100 000
Accident and Emergency	846 651			
Wensleydale Farm	467 691			
Carnation Street	943 169			
Westenders	761 694			
Who's Got Talent?	248 243			
The Pop Factor	746 354			
Celebs Come Dancing	264 643			
Big Sister	361 432			

Mackenzie and Amena are having a discussion about the question below. Explain who you think is correct and why.

What is 999 958 rounded to the nearest 1000?

Mackenzie

I think the answer is 999 000. You round up because there is a 9 in the hundreds column.

I also think you have have to round up, but I think the answer will be 1 000 000.

Amena

Problem Solving

Use your knowledge of number and place value to solve the following problems.

1. Explore the number one million. Write the number one million in numerals on the line below:

_____

Write the following numbers in digits:

- one more than one million
- ten more than one million
- ten thousand more than one million
- one thousand less than one million
- one hundred less than one million
- ten less than one million

2. Look at the digit cards below.

5	6	1	3	7	2	4

What is the largest number you can write using these digits?

What is the smallest number you can write?

Write the number that is one less than the biggest number?

Write the number that is 10 000 more than the smallest number?

Parent Guide to Number and Place Value

In the Year 5 National Curriculum, children are taught to have a strong understanding of numbers up to one million or 1 000 000. In class, they will use place value to identify the value of each digit in a seven-digit number. They will also be taught to use place value to order and sequence numbers. To develop their 'mastery' of seven-digit numbers and place value, children are required to apply their knowledge of number to a range of activities. They must also confidently use knowledge of negative numbers in context. This booklet will help support your child by applying this knowledge in a range of different problems and contexts.

Place Value

Place value is the value we give to a digit based on its position in a number. In school, this is often taught using a 'Place Value Chart' such as the one below.

1 000 000s **millions**	100 000s **hundred thousands**	10 000s **ten thousands**	1000s **thousands**	100s **hundreds**	10s **tens**	1s **ones**
1	3	5	2	7	6	4

The number above is 1 352 764. The position of each digit shows its value. For instance, the 3 is in the hundred thousands column, so the value is 300 000 or three hundred thousand. Your child should read this number as follows:

One million, three hundred and fifty-two thousand, seven hundred and sixty-four

It is essential that children have a strong understanding of place value as this supports them in all other areas of the mathematics curriculum.

Rounding

When rounding, a number is made simpler but has a value close to what it was. Rounding is an area that some children can get confused with, but is an important skill to use when estimating the answers to calculations. To round a number, you always look at the digit that precedes the digit you are rounding to, e.g. the digit to the right. For example, if you are rounding to the nearest **ten**, you would first look at the digit in the **ones** column. If the next digit is less than 5, you **round down**, but if the next digit is 5 or more, you **round up**.

1000s **thousands**	100s **hundreds**	10s **tens**	1s **ones**
2	5	3	8

If you round the number above to the nearest 10, there is an 8 in the ones column. Therefore, you would **round up** to the next 10 which is 2540. If you were rounding to the nearest hundred, there is a 3 in the tens column, therefore you would **round down**. The number would be 2500. The same method is used when rounding to the nearest thousand, ten thousand, hundred thousand and million.

Use this simple rhyme to help your child remember how to round:

Underline the digit,
Look *right* next door,
If it's 5 or greater,
Add one more,
All the digits in the front,
Stay the same,
All the digits behind,
Zero is your name.

For more on rounding, please see:

Year 4 Rounding to the Nearest 10, 100, 1000 Teaching Pack