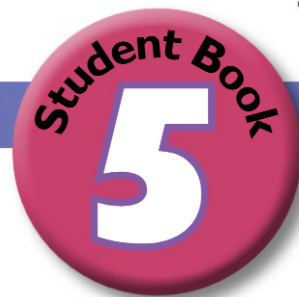


# max maths primary

A SINGAPORE APPROACH



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# Preface

**max maths** Primary – A Singapore Approach is a mathematics course specially designed to meet the needs of learners following the **Cambridge Primary** curriculum framework in Stages 1 to 6.

The **Max Maths Primary** student books guide learners through key mathematical concepts, addressing the learning objectives in the **Cambridge Primary** curriculum framework. Each topic begins with an engaging introduction followed by scaffolded activities that ensure learners have grasped the necessary concepts, skills and knowledge. A variety of exercises, games and cooperative learning activities are included in each chapter to reinforce problem-solving skills and provide the opportunity for learners to develop their content knowledge.

## Student book features



### Chapter openers

Each chapter is introduced with clearly defined learning objectives and provides a real-world context for teachers to facilitate discussion with the class.

### The Max Maths team



Samir



Jade



Toby



Padma



Han




Tya

## Engaging photographs and illustrations

Colourful illustrations and photographs help to engage learners and encourage an enthusiastic approach to learning mathematics.


**Let's Try It**

1 On Sunday, Han studied in his room from 15:30 to 17:45. How long did he spend studying? Let's draw a timeline to help find the answer.




The total duration can be found by adding the times.  
 $15:30 + \dots = 17:45$   
 Han spent a total of  $\dots$  studying.

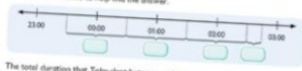
2 Toby woke up during the night and looked at his clock.



He went back to sleep, but woke up again. He looked at the clock again.



How much time passed before Toby woke up the second time? Let's draw a timeline to help find the answer.



The total duration that Toby slept between waking up can be found by adding the times above.  
 $23:30 + \dots = 03:00$   
 $\dots$  passed before Toby woke up the second time.

**Let's Practise**

1 Julie surfs the internet for 35 min per day. How long does she surf the internet in 1 week? How long does she surf the internet for in 4 weeks?

2 Toby goes to the market with his mother. He leaves the house at 07:00 and returns at 12:25. How long was he gone for?


## Scaffolded learning

Each mathematics topic provides scaffolding for learners ensuring they have a solid grasp of each topic before practising and applying concepts learnt.

**Addition of more than 2 numbers**

**Let's Learn Together**

1 Jude, Han and Toby each have some counting blocks. Find the total number of counting blocks the three children have.



To find the total number of counting blocks, we must add the numbers together.  
 $15 + 20 + 7$   
 Try find the answer by first adding Jude and Han's numbers together. Then adding Toby's number.

**Think aloud to me!**

$$15 + 20 + 7 = 25 + 7 = 42$$

So, there are 42 blocks altogether.

**Dividing 3-digit numbers by 1-digit numbers**

**Let's Learn Together**

Sami buys a box of lines at the market. There are 888 lines in the box. He divides the lines between 6 people.

We need to find  $888 \div 6$ .  
 We can write this as  $6 \overline{) 888}$   
 Work out  $888 \div 6$  using long division.

**Step 1**  
 Divide 8 by 6.  
 $8 \div 6 = 1$  remainder 2  
 $8 - 6 = 2$

**Step 2**  
 Divide 28 by 6.  
 $28 \div 6 = 4$  remainder 4  
 $28 - 24 = 4$

**Step 3**  
 Divide 48 by 6.  
 $48 \div 6 = 8$   
 $48 - 48 = 0$   
 So,  $888 \div 6 = 148$ .

## Cooperative learning

Games, activities and challenging problem-solving questions encourage cooperative learning and make learning mathematics fun and exciting.

**Hands Together**

Your teacher will give your group a cup of warm water, a thermometer and a stopwatch. You are going to measure the temperature of the water over change over time? What shape do you think a line graph of this information will look like?

Place the thermometer in the water and start the stopwatch. Record the temperature of the water every minute for 10 minutes.  
 Your teacher will help you to draw a line graph on the board. Compare your line graph with those of the other groups in the class. Discuss the differences and similarities in the graphs.



## Cambridge Primary curriculum framework

In the spirit of the Cambridge Primary curriculum framework, practical activities that encourage conceptual understanding and problem-solving are included.

## Workbook links

Workbook links provide guidance to teachers and learners by directing them to the corresponding activities in the workbook.




1 Han notices that a.m. times on a 12-hour clock look the same as the a.m. times on a 24-hour clock. He also notices that you can find 24-hour times by adding 12 to p.m. times on a 12-hour clock.

1:00 a.m. = 01:00  
 The 12-hour clock is a.m., so the number 4 does not change in the 24-hour clock.  
 2:00 p.m. = 14:00  
 The 12-hour clock is p.m., so we add 12 to the number 2.  
 $12 + 2 = 14$

**Word problems**

**Let's Learn Together**

1 A web camera costs £28. How much does a box of 24 cameras cost?



To find the total cost, we need to multiply 28 by 24.  
 Let's find an estimate for the cost first.  
 $24 \approx 20$   
 $28 \approx 30$   
 $20 \times 30 = 600$

Let's find the actual product by multiplying rows and columns in a table and adding the results.

$\times$	20	4
24	400	80
8	160	32

Now we can add up all of the results.

$$\begin{array}{r} 400 \\ 80 \\ 160 \\ \hline 640 \end{array}$$

So, the cost of the 24 webcams is £672. This is close to the estimate of 600.



1

# Numbers up to 1 000 000



## You will learn to ...

- read and write numbers to 6 digits
- round off to the nearest thousand and the nearest ten thousands
- multiply numbers by 10 or 100
- order and compare negative and positive numbers
- calculate a rise or fall in temperature
- make general statements about sums, differences and multiples of odd and even numbers.

2

# Charity Raffle

**1<sup>st</sup> prize:  
A new house**

\$645,299

It's a house that's worth  
more than 6 hundred  
thousand dollars!

# Numbers up to 1 000 000

## Let's Learn Together

1 Read the numbers correctly.

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	1	2	5	1	4	3

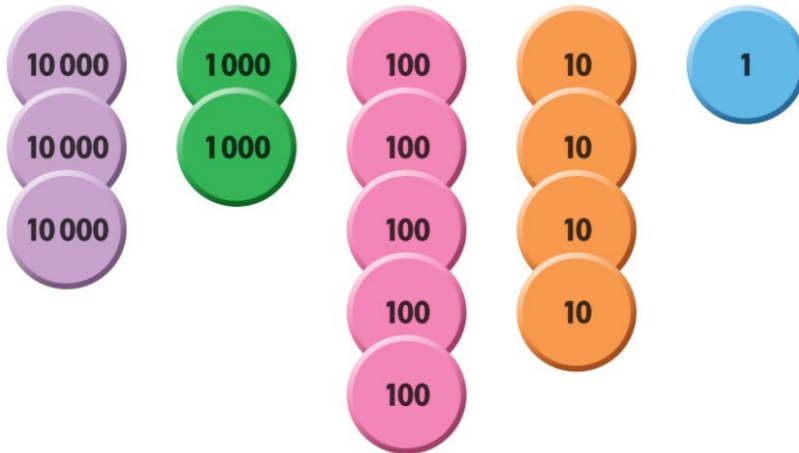
1	0	0	0	0	0
	2	0	0	0	0
		5	0	0	0
			1	0	0
				4	0
					3
<hr/>					
1	2	5	1	4	3

$$100\,000 + 20\,000 + 5\,000 + 100 + 40 + 3 = 125\,143$$

One hundred and twenty-five thousand,  
one hundred and forty-three.



- 2 What is 10 000 more than the total number on the counters below?

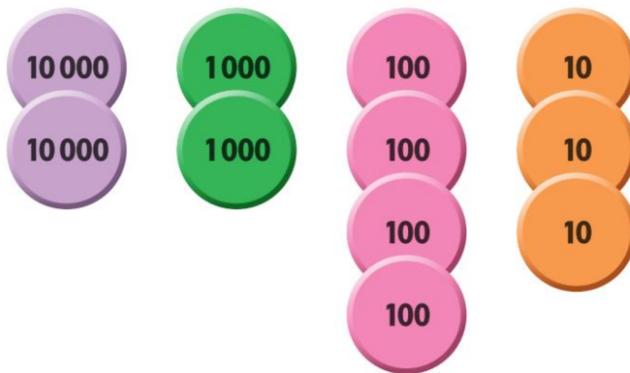


$$30\,000 + 2\,000 + 500 + 40 + 1 = 32\,541$$

To find 10 000 more than 32 541, we add 10 000 to 32 541.

10 000 more than 32 541 is 42 541.

- 3 What is 1 000 more than the number below?



$$20\,000 + 2\,000 + 400 + 30 = 22\,430$$

To find 1 000 more than 22 430, we add 1 000 to 22 430.

1 000 more than 22 430 is 23 430.





4 What happens if 100 is added to 900?

Thousands	Hundreds	→	Thousands	Hundreds
	9		1	0

When 100 is added to 900, we get 1 000

There are 10 hundreds.

We say this number as **one thousand**.

What happens if 10 000 is added to 90 000?

Hundred Thousands	Ten Thousands	→	Hundred Thousands	Ten Thousands
	9		1	0

When 10 000 is added to 90 000, we get 100 000.

There are 10 ten thousands.

We say this number as **one hundred thousand**.

What happens if 100 000 is added to 900 000?

Millions	Hundred Thousands	→	Millions	Hundred Thousands
	9		1	0

When 100 000 is added to 900 000, we get 1 000 000.

There are 10 hundred thousands.

We say this number as **one million**.



5 Break down 594 781.

The digit **5** is in the **Hundred Thousands** place and it represents 500 000.

The digit **9** is in the **Ten Thousands** place and it represents 90 000.

The digit **4** is in the **Thousands** place and it represents 4 000.

The digit **7** is in the **Hundreds** place and it represents 700.

The digit **8** is in the **Tens** place and it represents 80.

The digit **1** is in the **Ones** place and it represents 1.

So,  $500\,000 + 90\,000 + 4\,000 + 700 + 80 + 1 = 594\,781$



## Let's Try It

1 Write the numbers represented by the tables.



(a)

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	2	5	3	6	1	4

(b)

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	8	1	2	5	3	7

(c)

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	2	0	6	3	0	3

(d)

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	7	8	0	0	2	1



2 Write the numbers in words.

(a) 62 714

Sixty-two thousand, seven hundred and fourteen

(b) 13 456

(c) 51 980

(d) 726 034



3 Read and write the numbers.

(a) four hundred and thirty-five thousand, three hundred and thirty-six

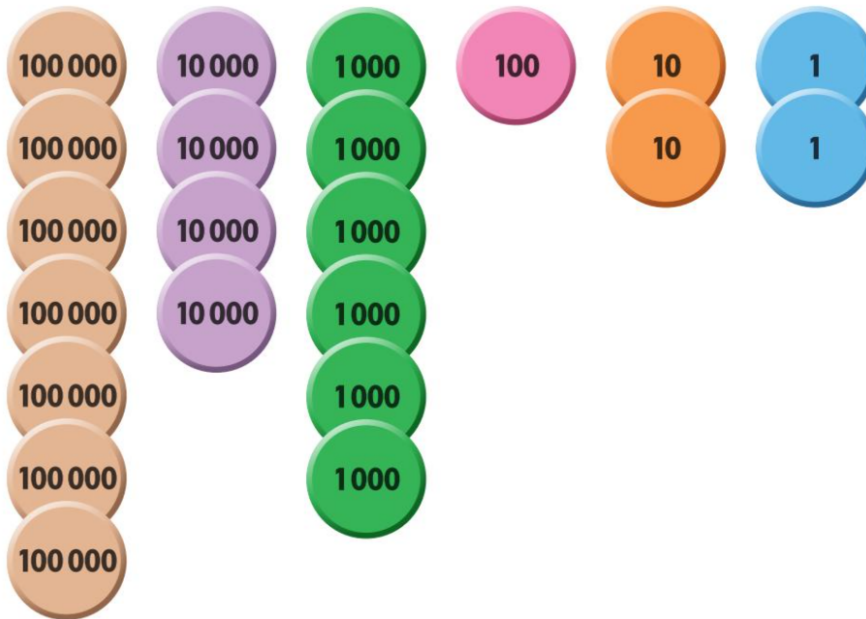
(b) seven hundred and five thousand, two hundred and sixty-eight

(c) nine hundred thousand and seventy

(d) three hundred thousand, eight hundred and fifty-three



4 Add up the numbers shown on the counters.



5 Fill in the blanks.



**802 351**

- (a) The digit  is in the **Hundred Thousands** place and it represents .
- (b) The digit  is in the **Ten Thousands** place and it represents .
- (c) The digit  is in the **Thousands** place and it represents .
- (d) The digit  is in the **Hundreds** place and it represents .
- (e) The digit  is in the **Tens** place and it represents .
- (f) The digit  is in the **Ones** place and it represents .





## Let's Practise

1 Find 1 000 more than the following numbers.

(a) 79812  $\rightarrow$

(b) 43033  $\rightarrow$

(c) 100625  $\rightarrow$

(d) 555552  $\rightarrow$

2 Which digit is in the Ten Thousands place in each number?

(a) 91518  $\rightarrow$

(b) 59119  $\rightarrow$

(c) 904915  $\rightarrow$

3 Which digit is in the Hundred Thousands place in each number?

(a) 235608  $\rightarrow$

(b) 193000  $\rightarrow$

(c) 800500  $\rightarrow$

4 Write the number.

(a)  $100\,000 + 4\,000 + 200 + 40 + 9 =$

(b)  $70\,000 + 500 + 80 + 7 =$

(c)  $90\,000 + 30 =$



Padma throws a die six times and notes the numbers each time.

1st throw: 5  
2nd throw: 2  
3rd throw: 2  
4th throw: 1  
5th throw: 3  
6th throw: 1

She combines these numbers to make a 6-digit number: 522131.

Form small groups. Each member should take turns to throw the die six times and form a 6-digit number.

Record each member's name and their 6-digit number in your group.

Compare these numbers with other learners' numbers.

- (a) Did any learners have the same number?
- (b) Whose number is the smallest?
- (c) Whose number is the largest?



Padma: 522131

Toby: 614254

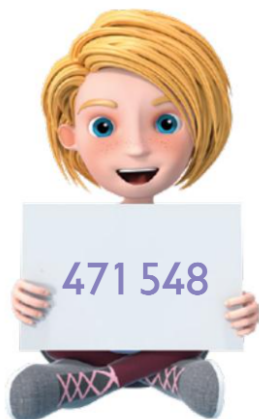
Han: 615111

Jade: 346545

# Comparing and ordering numbers within 1 000 000

## Let's Learn Together

- 1 Look at the numbers Jade and Han are holding. Who has the greater number?



We compare the numbers by comparing the greatest place value first.



Jade's number has more hundred thousands than Han's number.

So, Jade's number is greater. We can write this as:

$$471\,548 > 398\,769$$



2 Find the smaller number.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
3	7	3	9	0	0
3	7	8	4	3	6

First compare the hundred thousands.

Both numbers have 3 hundred thousands. So, we must compare the digits in the Ten Thousands place.

Both numbers have 7 ten thousands. So, we must compare the digits in the Thousands place.

3 thousands is less than 8 thousands.

$$373\,900 < 378\,436$$

373 900 is the smaller number.

">" means more than.  
"<" means less than.



What do we do if the thousands are also the same?



Then we go on to comparing the hundreds.

3 Find the greatest and smallest numbers in the set of three numbers.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	5	8	0	1	6
5	0	0	1	1	6
3	7	9	2	5	6

First compare the greatest place value. Let's compare the Hundred Thousands.

5 hundred thousands is greater than 2 hundred thousands and 3 hundred thousands.

So, 500 116 is the greatest number.

2 hundred thousands is smaller than 3 hundred thousands.

So, 258 016 is the smallest number.

Now, we can arrange the numbers from the smallest to the greatest.

$$\begin{array}{c} 258\,016 \\ \text{smallest} \end{array} < \begin{array}{c} 379\,256 \\ \end{array} < \begin{array}{c} 500\,116 \\ \text{greatest} \end{array}$$

We can also arrange the numbers from greatest to smallest.

$$\begin{array}{c} 500\,116 \\ \text{greatest} \end{array} > \begin{array}{c} 379\,256 \\ \end{array} > \begin{array}{c} 258\,016 \\ \text{smallest} \end{array}$$



All of the numbers have 6 ones. Are all the numbers equal?

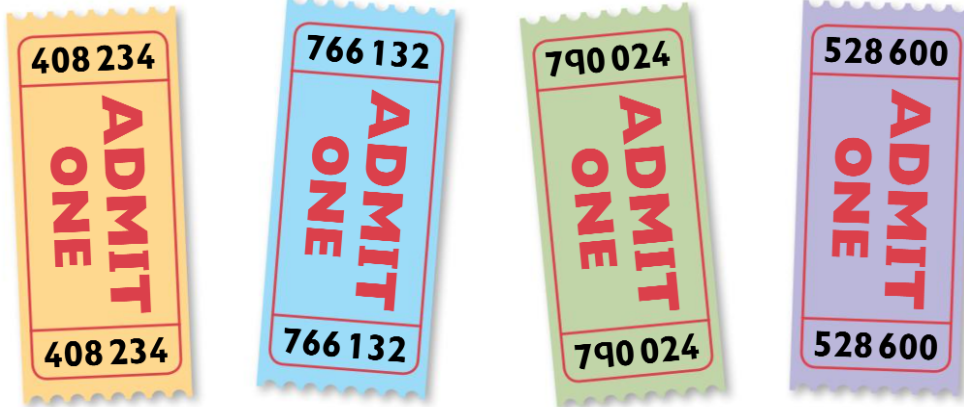


No Han, we have to start comparing the numbers from the highest place value.





- 4 The Max Maths team bought tickets to the fair. Each ticket has a 6-digit number. Arrange the numbers from the smallest to the greatest.



Let's put the numbers in a chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
4	0	8	2	3	4
7	6	6	1	3	2
7	9	0	0	2	4
5	2	8	6	0	0

First, compare the greatest place value. Let's compare the Hundred Thousands.

4 hundred thousands is smaller than 5 hundred thousands and 7 hundred thousands.

So, 408234 is the smallest number.

The greatest two numbers have 7 hundred thousands. We will need to compare the Ten Thousands. We can see that 9 ten thousands is greater than 6 ten thousands.

So, 790024 is the greatest number.

Now we can arrange the numbers from the smallest to the greatest.

$$408234 < 528600 < 766132 < 790024$$

smallest  greatest

## Let's Try It

- 1 Write the numbers in the chart. Find the greater or smaller number. Use  $<$  or  $>$  to show this.

(a)

532 399      489 020

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
5	3	2	3	9	9

The smaller number is .

$<$  532 399

(b)

618 450      902 577

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

The greater number is .

$>$



## Let's Practise

1 Insert  $<$  or  $>$  to show which is the greater or lesser number.

(a)  $148721$    $178021$

(b)  $67490$    $220393$

(c)  $945207$    $945308$

2 Look at the numbers below and complete the following.

272 543

606 383

518 383

886 404

327 604

(a) Which number is the greatest?

(b) Which number is the smallest?

(c) Arrange the numbers from the greatest to the smallest.

$>$    $>$    $>$    $>$    
greatest smallest

(d) Arrange the numbers from the smallest to the greatest.

$<$    $<$    $<$    $<$    
smallest greatest

