



KEMENTERIAN
PENDIDIKAN
MALAYSIA

MATHEMATICS

YEAR 3

PART 1





RUKUN NEGARA

Bahawasanya Negara Kita Malaysia

mendukung cita-cita hendak:

Mencapai perpaduan yang lebih erat dalam kalangan seluruh masyarakatnya;

Memelihara satu cara hidup demokrasi;

Mencipta satu masyarakat yang adil di mana kemakmuran negara akan dapat dinikmati bersama secara adil dan saksama;

Menjamin satu cara yang liberal terhadap tradisi-tradisi kebudayaannya yang kaya dan pelbagai corak;

Membina satu masyarakat progresif yang akan menggunakan sains dan teknologi moden.

MAKA KAMI, rakyat Malaysia,
berikrar akan menumpukan
seluruh tenaga dan usaha kami untuk mencapai cita-cita tersebut berdasarkan prinsip-prinsip yang berikut:

**KEPERCAYAAN KEPADA TUHAN
KESETIAAN KEPADA RAJA DAN NEGARA
KELUHURAN PERLEMBAGAAN
KEDAULATAN UNDANG-UNDANG
KESOPANAN DAN KESUSILAAN**

(Sumber: Jabatan Penerangan, Kementerian Komunikasi dan Multimedia Malaysia)



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DUAL LANGUAGE PROGRAMME

MATHEMATICS

YEAR 3 PART 1

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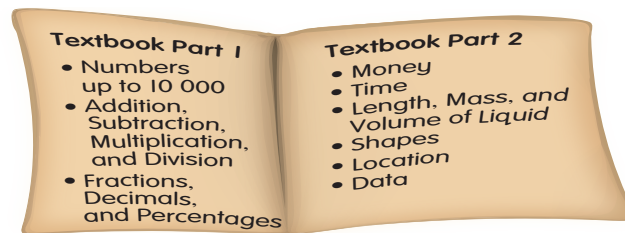


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PREFACE

The *Mathematics Year 3* textbook package is written in accordance to the Standard-Based Curriculum for Primary School (KSSR), in line with the revised curriculum which will be implemented in 2019. The writing of this textbook is tailored to meet the needs of pupils to understand mathematical skills starting from the easiest to the most abstract level. The textbook package is published to produce pupils who are able to apply mathematical knowledge and skills, effectively and responsibly in their daily lives.

This textbook package contains three components, namely Textbook Part 1, Textbook Part 2 and Activity Book. The topics contained in the Textbook are as follows:



All of these topics are also contained in the Activity Book.

The textbooks focus on the goals of mathematics concepts and skills. The presentation of the textbooks is tailored to incorporate related reasoning questions so that pupils can communicate and think critically and creatively. Each lesson is reinforced with formative exercises to be carried out either orally or in writing in “Let’s Try”. Suggestions on extended activities are given in the “Teacher’s Notes”. Recreational elements are also included in the “Fun Project” and “Fun Time” to create an active and enjoyable learning environment. Several Higher Order Thinking skills (HOTS) questions are provided in the “Mind Challenge” sections to encourage pupils to think creatively. Video and audio on learning activities, as well as additional questions are also included in the QR Code. To access this, teachers are required to download the QR Code & Barcode Scanner application on the Play Store. Moral values are also implemented indirectly through pictures and learning activities.

The Activity Book provides reinforcement, remedial, and enrichment activities to reinforce and enhance pupils’ understanding of the skills learnt in the textbooks. Teachers are encouraged to provide additional activities and exercises according to pupils’ needs and abilities.

It is hoped this textbook package provides a meaningful and enjoyable learning experience as well as to foster pupils’ interest in mathematics. Teachers may refer to the following explanation to discover and understand the ways in which the book is used.



1 NUMBERS UP TO 10 000

Learning topics.

Stimulus page encourages pupils to communicate.

Pupil-centred activities.

Questions of Higher Order Thinking skills (HOTs).

2 2 858 is larger than 2 855. Show this on the number line.

2 858 is on the right side of 2 855.
2 858 is larger than 2 855.
 Say two numbers that are larger than 2 860.

FUN PROJECT

- Take 4 cards from the number cards 0 to 9.
- Ask your friend to take 4 cards too.
- Form the largest four digit number.
- Compare the two numbers.

LET'S TRY

- State which value is larger.
 - a) $3\ 408$ or $3\ 296$
 - b) $5\ 670$ or $6\ 712$
- Which number is smaller?
 - a) $3\ 408$ or $3\ 296$
 - b) $5\ 670$ or $6\ 712$

Hands-on activities to reinforce pupils' understanding.

Formative exercises to assess understanding of learned skills.

2 A pentagon has 5 corners. It also has 5 sides.

3 A hexagon has 6 corners and 6 sides.

4 heptagon: 7 corners, 7 straight sides.

5 octagon: 8 corners, 8 straight sides.

If the base of this prism is traced out, what shape is formed?

Which regular polygon is formed when the six triangles above are combined together?

LET'S TRY

Name the polygons that have the following characteristics.

- a) 6 corners
- b) 8 corners
- c) 7 straight sides
- d) 6 straight sides
- e) 8 straight sides
- f) 7 corners

Mascot stimulates critical and creative thinking to generate ideas.

Content Standard and Learning Standard number based on the DSKP.

2 I am a cube. You can also call me square prism.

SQUARE PRISM

- 6 flat surfaces of equal size
- 8 vertices
- 12 edges

3 I am a cuboid or rectangular prism.

RECTANGULAR PRISM

- 6 flat surfaces
- 8 vertices
- 12 edges

4 I am a triangular prism.

TRIANGULAR PRISM

- 5 flat surfaces
- 6 vertices
- 9 edges

Talk about the same characteristics in prisms.

Teacher's guide to implement teaching and learning activities.

Learning activities via QR Code.

Recreational activities to foster pupils' interest in mathematics.

2 **SNAKES AND LADDERS**

Tools/Materials: dice, markers
 Participants: 3 players

Method

- The first player throws the dice. Move the marker according to the number on the dice.
- If the marker lands in a box with a question, answer the question. If the answer is correct, go up the box of the top of the ladder. If the answer is wrong, stay in the box at the foot of the ladder.
- If the marker lands in the box with a snake head, slide down to the bottom of the snake's tail.
- The next player takes his/her turn. Repeat step 1.
- The first player who reaches the FINISH box wins.

Links to the pages in the activity book.

Reinforcement activities to enhance skills learnt.

Remedial activities to assess understanding of basic skills.

Enrichment activities to test critical and creative thinking.

1 NUMBERS UP TO 10 000

RECOGNISE AND WRITE NUMBERS

Activity 1

Say and match the numbers.

three thousand eight hundred

five thousand four hundred and one

one thousand and twenty-three

9 560

5 401

2 Tick \checkmark the correct words and numerals.

- a) seven thousand and nine
- b) two thousand and fifty-one
- c) three thousand four hundred and sixteen

SELF-ASSESSMENT

Match.

eight (thousand and one)

The digit value for 9 in 9 500 is

Round off 8 456 to the nearest thousand

1 810, 1 910, 2 110
 The value of * is

Complete
 1 706 = \square + 700 + 6

Estimate the volume.
 1 000 ml

Write down the letters that are lines in the exercise at What do we call something that we or know about?

9 000 3 010 8 001 2 010 10

MIND TEASER

Complete the number puzzle.

Across

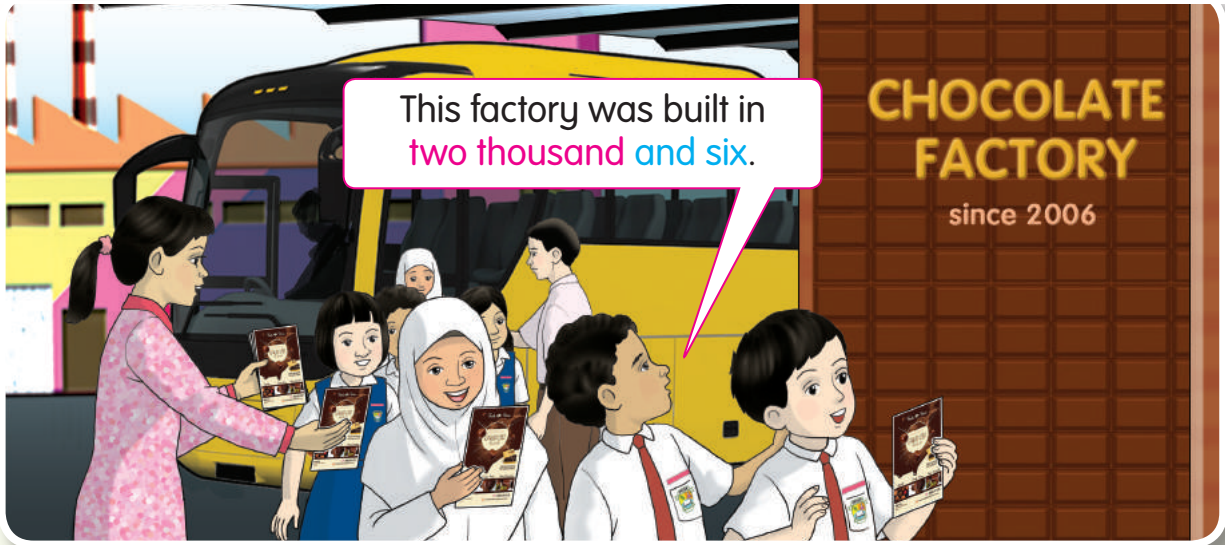
- Digit value of thousands is 3 000, hundreds is 900, and ones is 5. State the number.
- 3 470, M, 3 670, 3 770. What is the value for M?
- 2 505 - 2 510. State the value for P.
- What is the digit value of 9 in 9 126?
- $\square = 9\ 000 + 800$

Down

- Count in thousands. What is the number after 5 000?
- Which number is larger, 7 426 or 7 459?
- 5 thousands + 3 ones + 0 tens + 0 hundreds =
- Round off 4 053 to the nearest ten.
- Write eight thousand and fourteen in numeral.

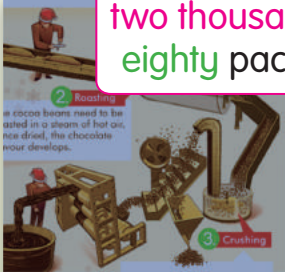


NUMBERS UP TO 10 000



This factory was built in **two thousand and six.**

Today our factory will produce **two thousand seven hundred and eighty** packets of milk chocolate.



- Total workers 105.
- **TODAY'S PRODUCTS**
- 2 780 packets of milk chocolate
- 1 130 packets of strawberry chocolate

1 130

one thousand one hundred and thirty

two thousand seven hundred and eighty

2 780



- Ask pupils to say the numbers found in the pictures.
- Integrate entrepreneurship.
- Carry out an activity of saying the numbers on number line.





RECOGNISE AND WRITE NUMBERS

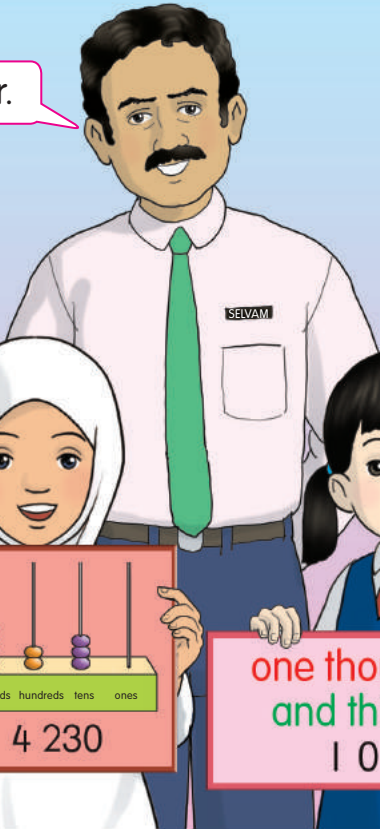
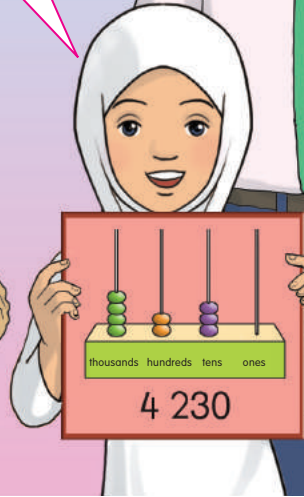
1

Say your number.

Three thousand
five hundred and
eighty-nine.

One
thousand.

Four
thousand
two hundred
and thirty.



2

Match and paste the number cards and word cards.

8 000

eight thousand

six thousand
five hundred and two

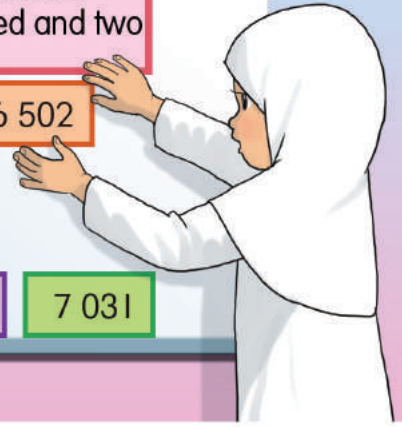
6 502

nine thousand one
hundred and four

seven thousand
and thirty-one

9 104

7 031



3

Write the number
in words.



4



Correct the wrong
statement.



5

Complete these.

nine thousand
and
twenty-seven

9 0 2 7



6 5 1 4

two thousand
and ninety



**MIND
CHALLENGE**

0 3 6 0

From the number cards, form as many four digit number as you can. Write the numbers in words and numerals.

- Emphasise when writing numbers in words or saying the numbers, the "0" in between the digits in the number is not written or spoken. Example, 3 0 0 6 is pronounced as three thousand and six.
- Guide pupils to create other bridge maps as above.

1.2.1



1 Read the sentences. Write the numbers in words.



There are about **3 000** birds in Kuala Lumpur Bird Park.

Source: <https://www.pressreader.com/malaysia/harian-metro/20170701/281895888260508>



There are around **1 200** types of butterfly in Malaysia.

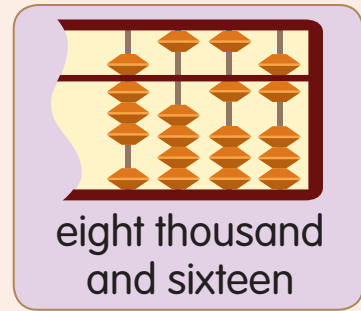
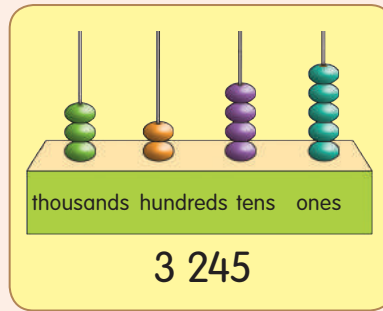
Source: <http://omegabiru.blogspot.my/2011/04/rama-rama-kupu-kupu.html>



In Sabah, there are more or less **2 040** elephants.

Source: <http://www.astroawani.com/berita-malaysia/mohon-peruntukan-rm19-juta-kawal-gangguan-gajah-liar-72335>

2 Choose two matching cards.



three thousand two hundred and forty-five

8 016

nine thousand three hundred and seven

3 Write the numbers in numerals.

a one thousand five hundred

b eight thousand two hundred and three

c four thousand and sixty

d three thousand and four

4 Write the numbers in words.

a 2 380

b 9 518

c 1 642

d 1 090

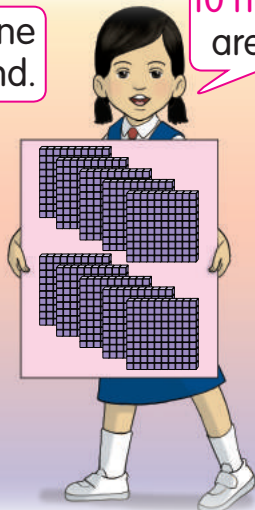


EXPLORE NUMBERS

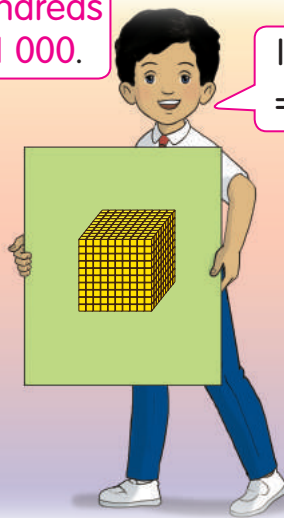
1



Show one thousand.



10 hundreds are 1 000.

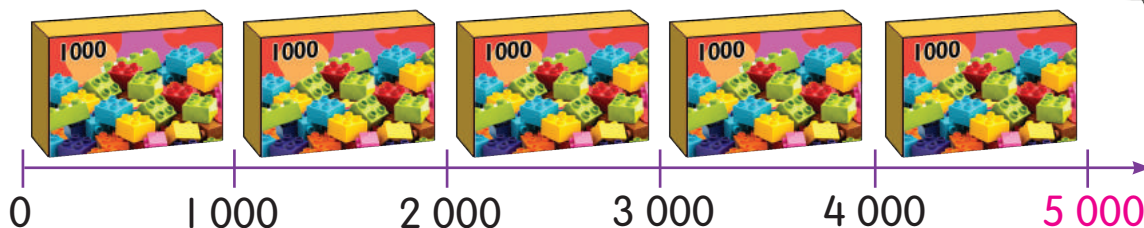


10 hundreds = 1 thousand



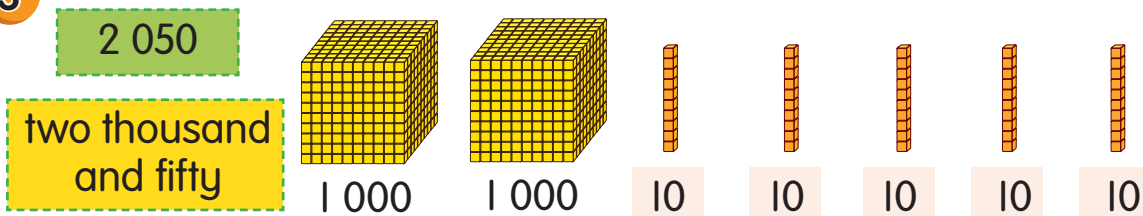
SCAN THIS

2



Five thousand.

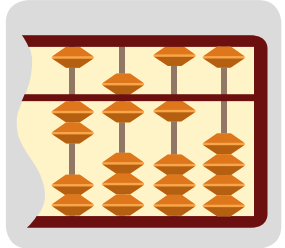
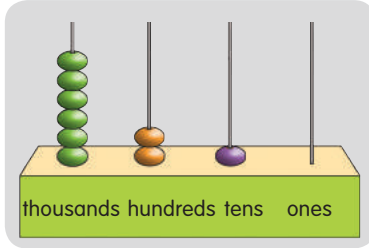
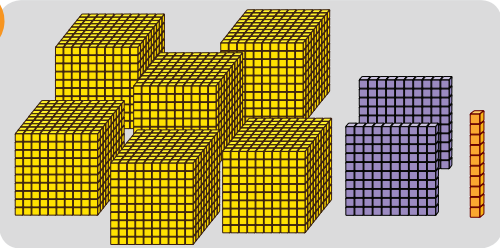
3



- Guide pupils to show quantities using counters, counting frames, and abacus. Carry out activities in groups or individually.
- Surf http://www.homeschoolmath.net/teaching/pv/place_value_thousands.php



4



Which picture shows 6 210? Discuss.



5

Four thousand.

This is one thousand one hundred and eight.

6

Say the number of objects.

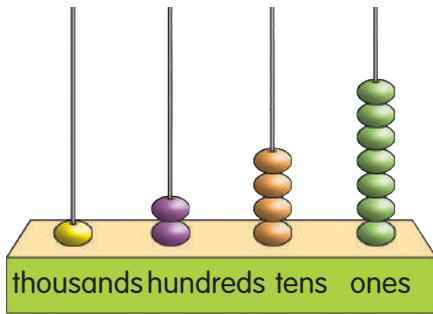
1 000 1 000 1 000

3 001

3 000

3 010

7



thousands	hundreds	tens	ones
1	2	4	7

What is the place value of each digit for 1 247?
What is its digit value?

Digit	1	2	4	7
Place value	thousands	hundreds	tens	ones
Digit value	1 000	200	40	7



Partition 1 247.

Partition based on place value



Partition based on digit value



8

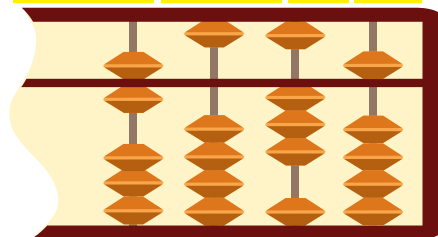
State the place value and digit value for each digit in 6 035.



6 035

Place value

thousands hundreds tens ones



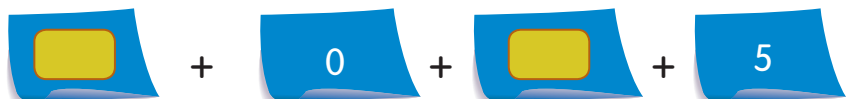
Digit value

6 000 0 30 5

Partition based on place value



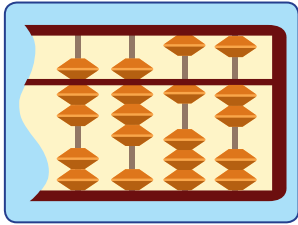
Partition based on digit value



- Guide pupils to determine the place value and digit value for any given numbers. Relate the partition to place value and digit value.
- Emphasise that the digit value is the value of a digit based on its position in the number.



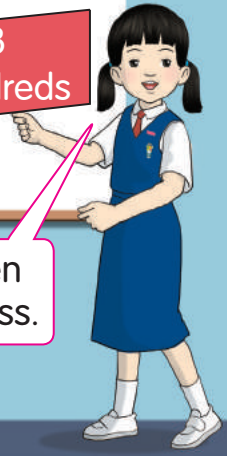
9



7 8 1 2

$$7\ 000 + 10 + 800 + 2$$

$$2\ \text{ones} + 7\ \text{thousands} + 1\ \text{tens} + 8\ \text{hundreds}$$



Has the abacus value been partitioned correctly? Discuss.

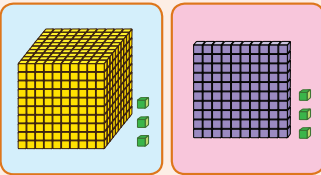
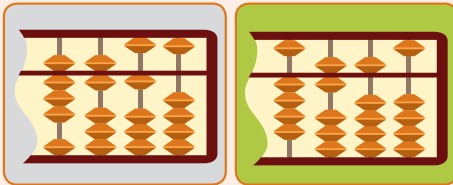


Look at the abacus above. If one lower bead on each rod is up, what will the number be? Partition the number.



LET'S TRY

1 Choose the correct number card for the number shown.

a **1 003**  b **4 650** 

2 The place value of 9 is . The digit value of 2 is .

2 9 1 7 Digit 7 is in the place. Digit is in the tens place and its value is .

3 Complete these.

a **1 836** + + + 6 ones b **9 019** 1 tens + + +
 c **4 507** 4 000 + + d + 7 000 + **7 230**

- Carry out games to guess the number based on the place value, digit value, and number partition.
- Collect information on numbers in newspaper articles. Then, conduct activities to state the place value, digit value, and number partition.
- Emphasise that when partitioning numbers based on a digit value that involves digit 0, the digit 0 can be ignored.



COMPARE NUMBERS

i Sales in conjunction with National Day.

caps

967

flags

1 835

badges

1 249

key chains

1 217

a Which item was sold more, caps or flags?

967

three digits

1 835

four digits

Four digit numbers are larger than three digit numbers.



1 835 is larger than 967.

More flags were sold.

b Compare 1 835 with 1 249, which number is smaller?

equal thousands value

thousands	hundreds	tens	ones
1	8	3	5
1	2	4	9

Next, compare the hundreds value.

2 hundreds is smaller than 8 hundreds.

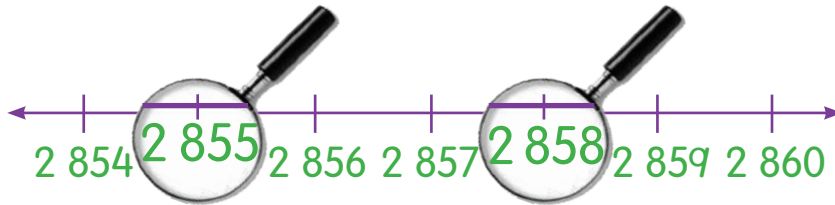
1 249 is smaller than 1 835.



Which number is larger, 1 249 or 1 217? Discuss.

- Emphasise that a number with more digits has larger value.
- Emphasise that for two numbers with equal number of digits, pupils should compare the thousands value first, followed by hundreds, tens, and ones values.
- Surf <https://www.superteacherworksheets.com/place-value/hungry-alligators3.pdf?up=1466611200>

2 2 858 is larger than 2 855. Show this on the number line.



2 858 is on the right side of 2 855.

2 858 is **larger** than 2 855.

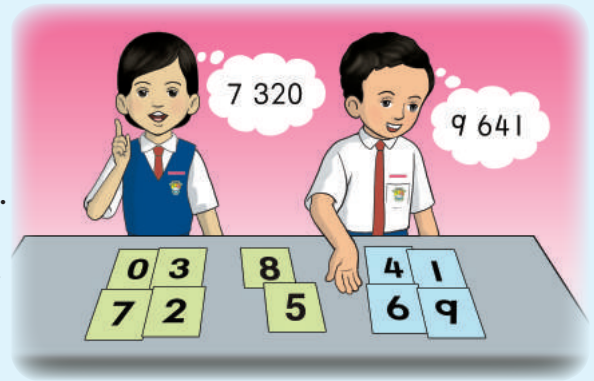
Say two numbers that are larger than 2 860.

The more to the right, the larger the number.



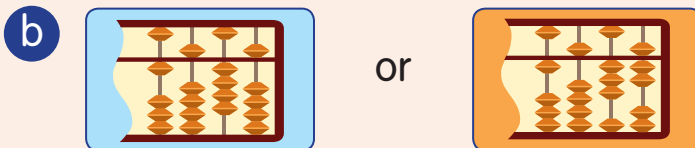
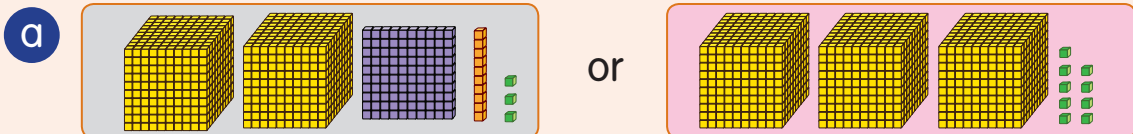
FUN PROJECT

- 1 Take 4 cards from the number cards 0 to 9.
- 2 Ask your friend to take 4 cards too.
- 3 Form the largest four digit number.
- 4 Compare the two numbers.



LET'S TRY

1 State which value is larger.



2 Which number is smaller?



- Carry out activities to compare any two numbers using base ten blocks and counters.
- Guide pupils to identify the numbers between, the numbers before, and the numbers after when comparing any two numbers.
- Prepare number cards from 0 to 9 for the Fun Project.



ARRANGE AND COUNT NUMBERS

1

Replanting Project

Mangroves



3 000

Oil palms



3 100

Rubber trees



2 800

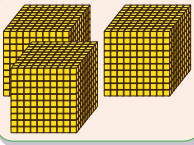
Coconut trees



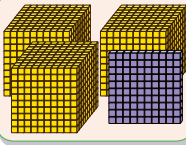
2 900

Source: http://www.utusan.com.my/utusan/info.asp?y=2006&dt=1227&pub=Utusan_Malaysia&sec=Laporan_Khas&pg=lk_13.htm

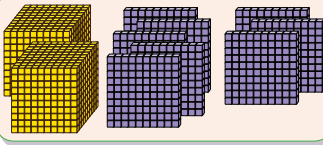
Which number is the smallest? Which number is the largest?



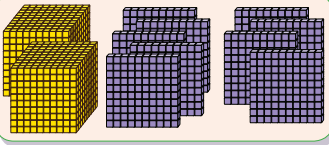
3 000



3 100



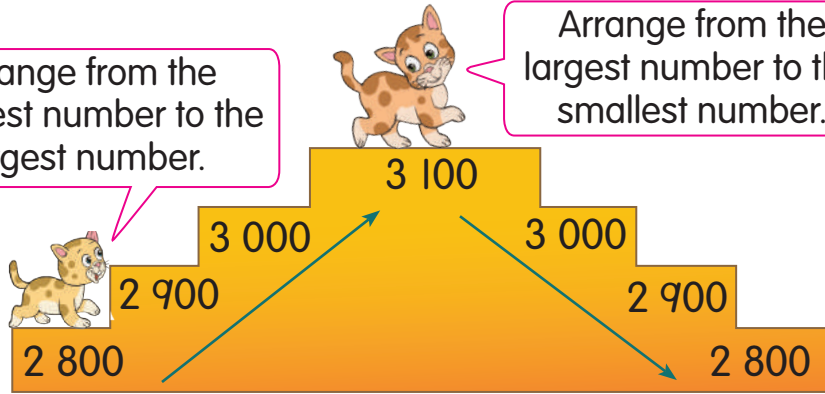
2 800



2 900

Arrange from the smallest number to the largest number.

Arrange from the largest number to the smallest number.



Ascending order: 2 800 , 2 900 , 3 000 , 3 100

Descending order: 3 100 , 3 000 , 2 900 , 2 800

Count in hundreds.

The **smallest** number is 2 800.
The **largest** number is 3 100.



- Discuss how to preserve nature.
- Emphasise that the number value becomes larger in ascending order and becomes smaller in descending order.

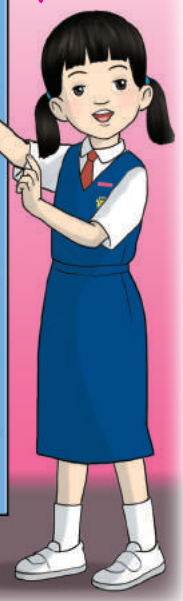
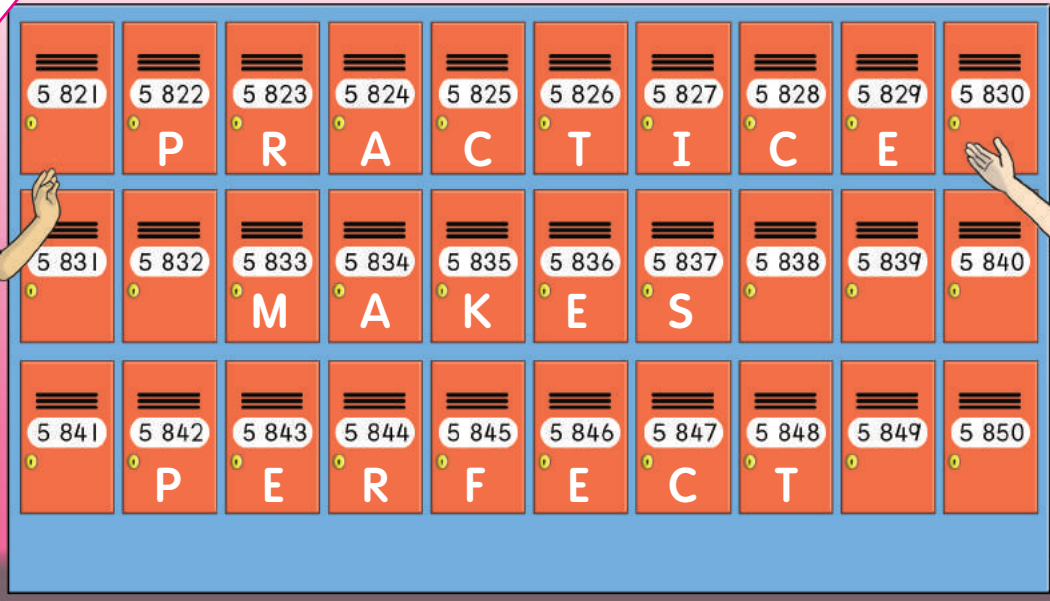
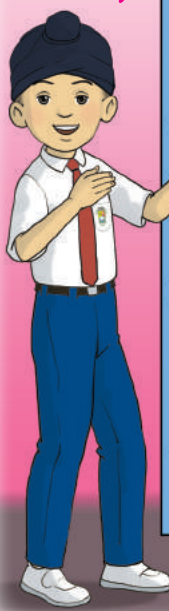
1.1.2 (iv)
1.3.1



2
a

Count on in ones from 5 821.

5 821, 5 822, 5 823, 5 824.



b

Count on in tens from 5 821.



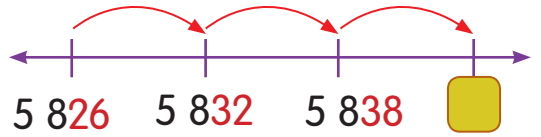
c

Count back in fives from 5 840.



d

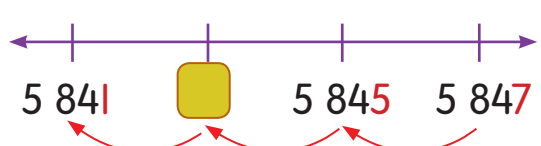
Count on in sixes



Count and fill in the boxes.

e

Count back in twos



- Ask pupils to count in twos up to tens based on the picture above.
- Discuss the relation between counting in threes, sixes, and nines, as well as the relation between counting in twos, fours, and eights.

3



Count on in hundreds : 5 730, 5 830, , , 6 130.

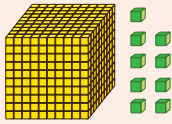
Count back in thousands: 7 930, , , 4 930, 3 930.



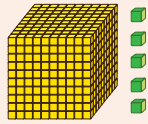
LET'S TRY

1 Arrange the numbers in ascending order and descending order.

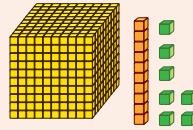
a



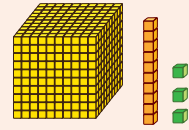
1 009



1 005



1 017



1 013

b

9 026

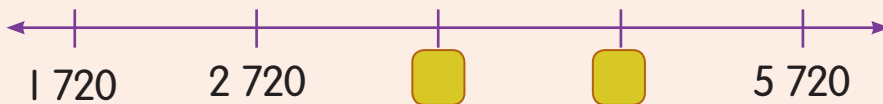
9 018

9 042

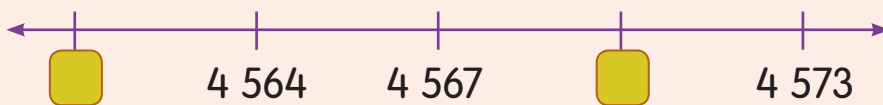
9 034

2 Complete these.

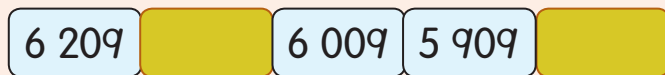
a



b



c



d



• Carry out simulation activities involving various number arrangements in ascending order and descending order.

1.1.2 (iv)
1.3.1
1.3.2





FUN PROJECT

Tools/Materials

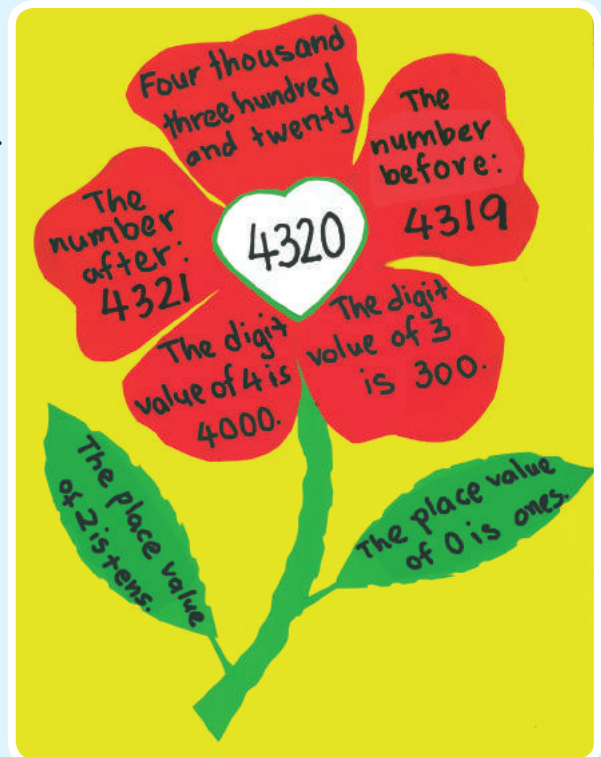
coloured paper, pens, glue, scissors

Participants

2 pupils per group

Method

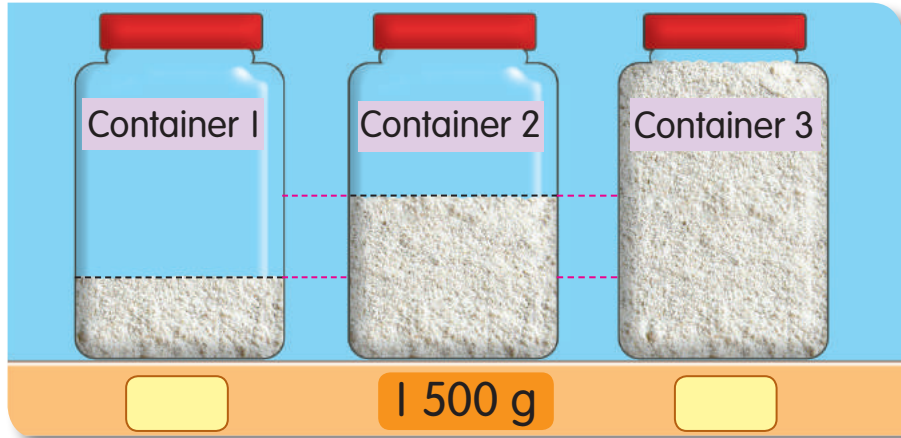
- 1 Form a 4 digit number.
- 2 Write the number in numerals and words.
- 3 Write the place value and digit value.
- 4 Write the larger or smaller number.
- 5 Write the number before and the number after.
- 6 Cut, paste, and decorate your project.
- 7 Present your work.





ESTIMATE MORE OR LESS

1

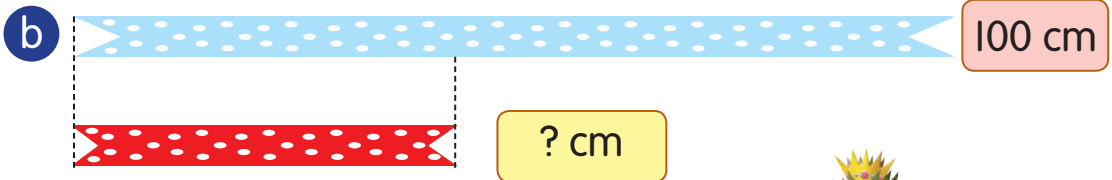
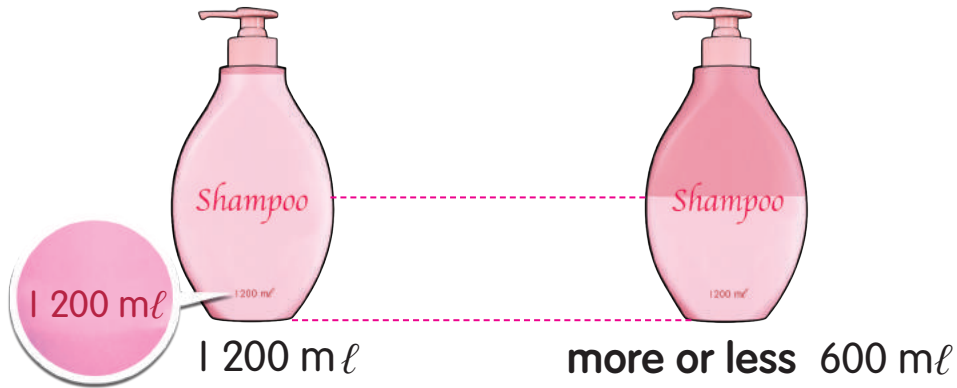


The mass of flour in container 2 is **more or less** half the mass of flour in container 3.

The mass of flour in container 1 is **less than** 1 500 g.

The mass of flour in container 3 is **more than** 1 500 g.

2 a

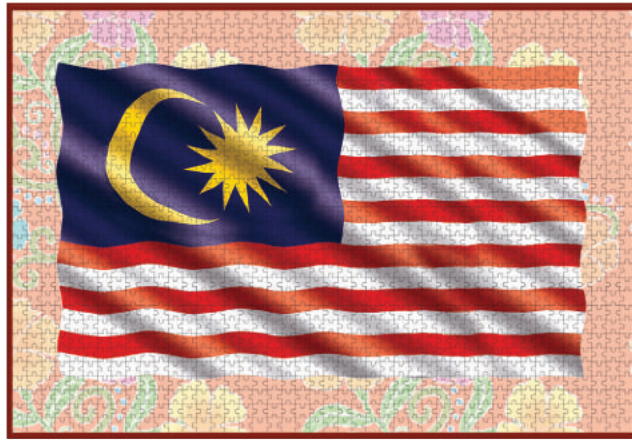


Estimate the length of the red ribbon.



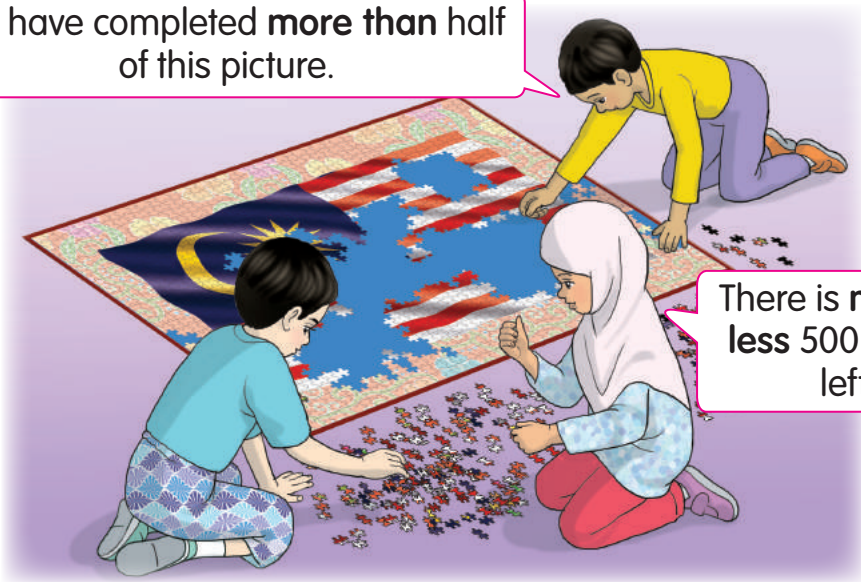
- Discuss the importance of making estimations in daily life.
- Introduce words that are similar to estimation such as more or less, more than half, or more than.
- Guide pupils to estimate the quantity of other objects. Emphasise that quantity means the amount or number of an object.





1 320 pieces

We have completed **more than half** of this picture.



There is **more or less** 500 pieces left.



LET'S TRY

Estimate the quantity. Say **more than**, **less than** or **more or less**.

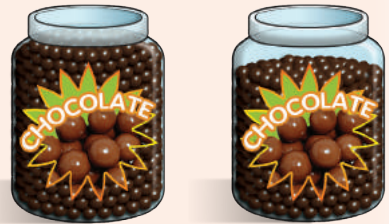
a



2 400 pieces

?

b



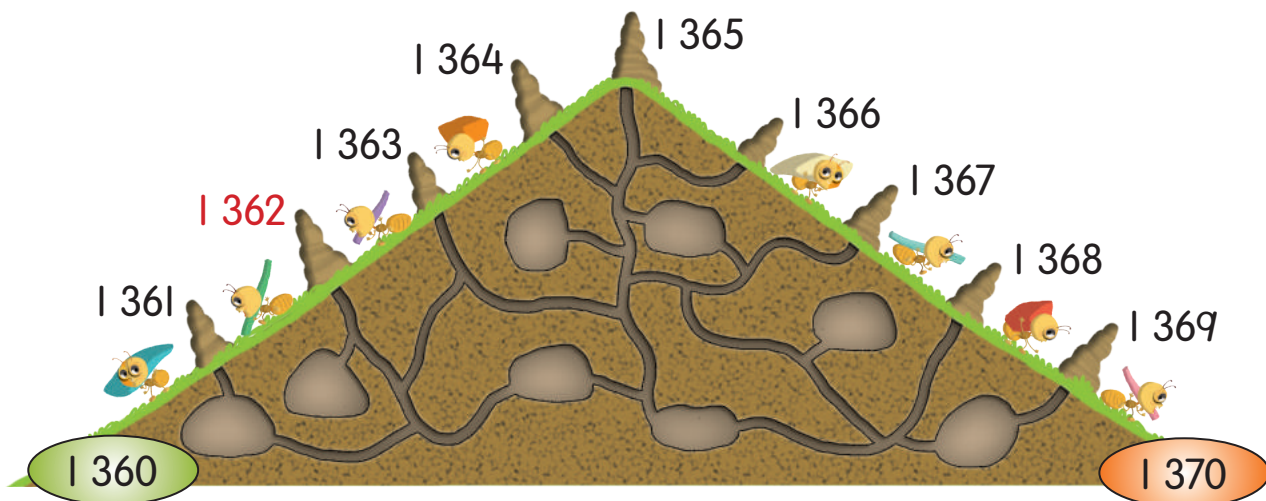
1 000 pieces

?



ROUND OFF NUMBERS

1 Round off 1 362 to the nearest ten.



1 362 is between 1 360 and 1 370.

1 362 is nearer to 1 360.

1 362 when rounded off to the nearest ten becomes 1 360.

2 Round off 1 350 to the nearest hundred.



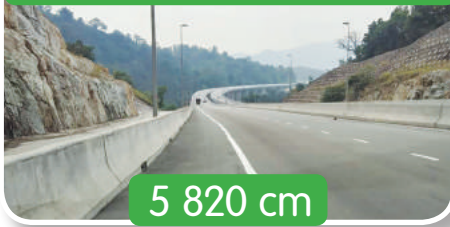
1 350 when rounded off to the nearest hundred becomes 1 400.



- Practise more rounding off numbers based on the picture above.
- Emphasise that the number in the middle of two consecutive hundreds must be rounded off to the larger hundred.

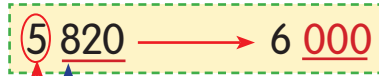
THE HIGHEST BRIDGE
RAWANG BYPASS HIGHWAY

3



The highest highway bridge in Malaysia was opened on 29 November 2017.

Round off 5 820 to the nearest **thousand**.



nearest thousand

If the hundreds digit is 5, 6, 7, 8 or 9, add 1 to the thousands value. The 8, 2 and 0 digits become 0.

5 820 when rounded off to the nearest **thousand** becomes 6 000.

4

Height of Mount Kinabalu

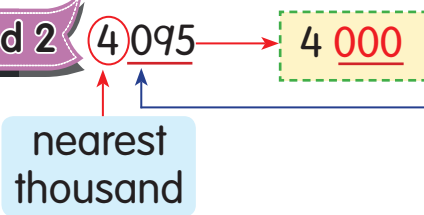


Round off the height of the mountain to the nearest **thousand**.

Method 1



Method 2



nearest thousand

If the hundreds digit is 0, 1, 2, 3 or 4, maintain the thousands digit. Change the hundreds, tens, and ones digit to 0.

4 095 when rounded off to the nearest **thousand** becomes .

5

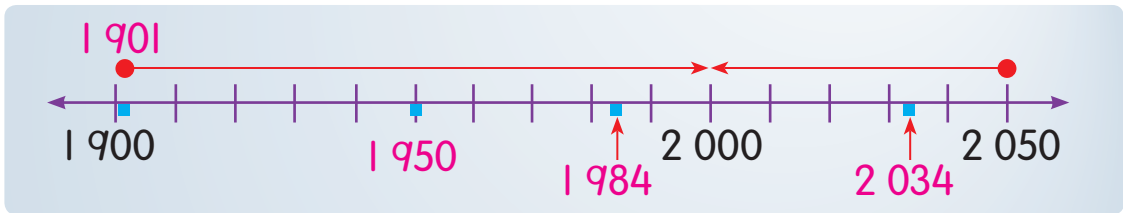
TOTAL BOOKS READ FOR NILAM PROGRAMME 2017
SKTTDI I

August	1 984	September	1 950
October	2 034	November	1 901

Source: SKTTDI I school data




List the numbers that become **2 000** when rounded off to the nearest **thousand**.



1 901, 1 950, 1 984 and 2 034 are **nearer** to 2 000.

1 901, 1 950, 1 984 and 2 034 become **2 000** when rounded off to the nearest **thousand**.



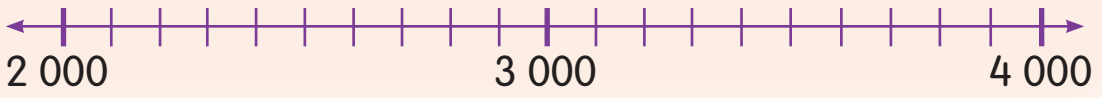
4 83

MIND CHALLENGE

A drop of ink smudged the hundreds digit in a number. The number becomes 4 000 when rounded off to the nearest **thousand**. What are the possible hundreds digits?

LET'S TRY

- 1 Round off 7 302 and 8 519 to the:
 - a nearest ten.
 - b nearest hundred.
 - c nearest thousand.
- 2 These numbers become 3 000 when rounded off to the nearest **thousand**. By referring to the number line, write those five numbers.



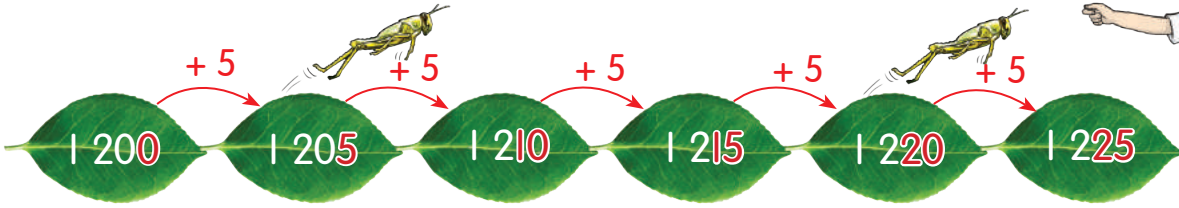
Emphasise that the number in the middle of two consecutive thousands must be rounded off to the larger thousand.





NUMBER PATTERNS

1 What is the number pattern below?



Adding fives.

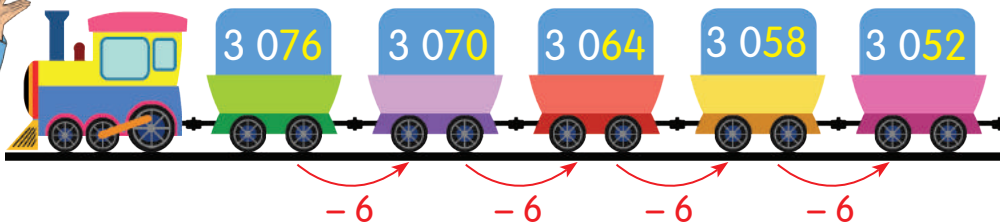


The number pattern is **increasing in fives**.

2

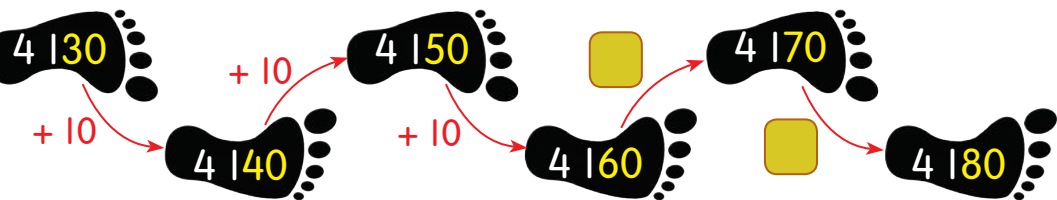


Subtracting sixes.



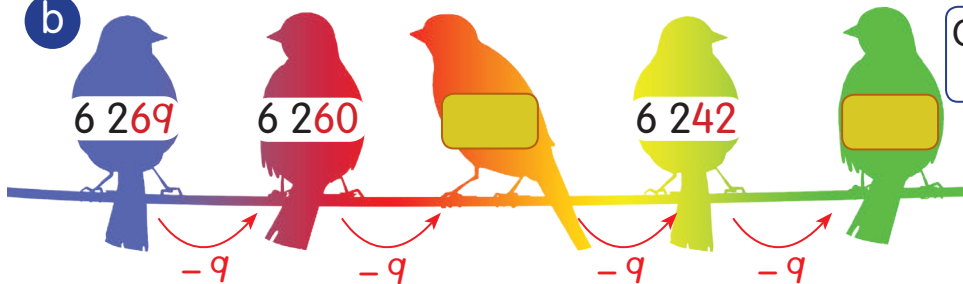
The number pattern is **decreasing in sixes**.

3 a



The number pattern is .

b



Complete these.



The number pattern is .

• Emphasise that the numbers become larger in ascending number patterns and become smaller in descending number patterns.

4

What are the numbers in the empty boxes?

8 500

8 200

8 100

8 000

The number pattern is .

5

Cash in (RM)	Cash out (RM)	Balance (RM)
		4 070
1 000		5 070
1 000		<input type="text"/>
1 000		<input type="text"/>
1 000		8 070

4 070, 5 070, , , 8 070

The number pattern is .

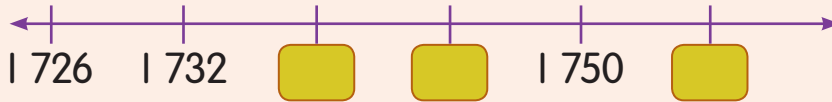
Say the numbers in the empty boxes. What is the pattern?



LET'S TRY

Fill in the blanks. State the number patterns.

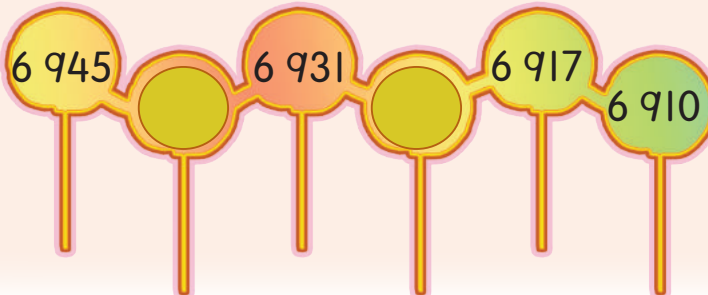
a



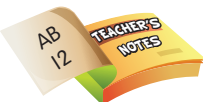
b



c



d



- Prepare a set of cards or use number lines with various number patterns to reinforce pupils' understanding of number patterns.
- Encourage pupils to form ascending order and descending order number patterns.





SOLVE THE PROBLEMS

I Juli's and Stacy's computer game scores.



- a Which digit has the same value?
- b Whose score is smaller? Explain.

Method

Arrange the digits according to the place values.

- a Create a table.

	thousands	hundreds	tens	ones
2 605	2	6	0	5
2 719	2	7	1	9

The digit with the same value is **2**.

- b Look again at the place value table in **a**.



6 hundreds is smaller than 7 hundreds.
So, **2 605** is smaller than **2 719**.

2 605 is Juli's score.

Juli's score is **smaller**.

2 605

2 719

The two numbers above will become 3 000 when rounded off to the nearest .



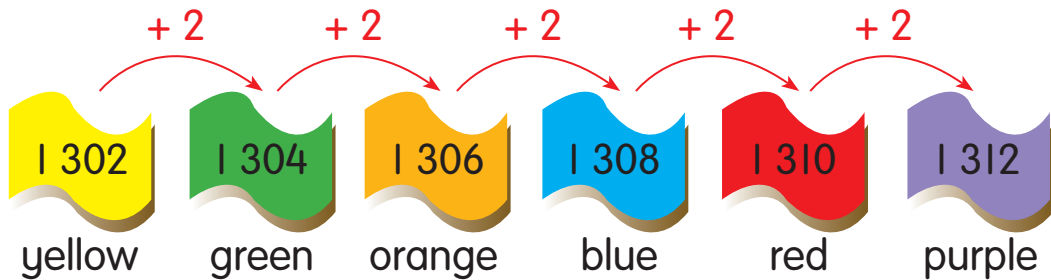
What is the answer?

2 Below are the positions of several chalets.



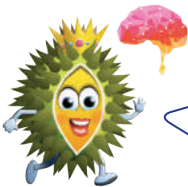
The yellow chalet is the first chalet. The purple chalet is the sixth chalet. What is the number of the purple chalet?

Method Look for a pattern.



The number of the purple chalet is 1 312.

State the number pattern above.



The last chalet is the 10th chalet. The chalet numbered 1 314 is the fourth chalet when arranged in descending order. Explain.

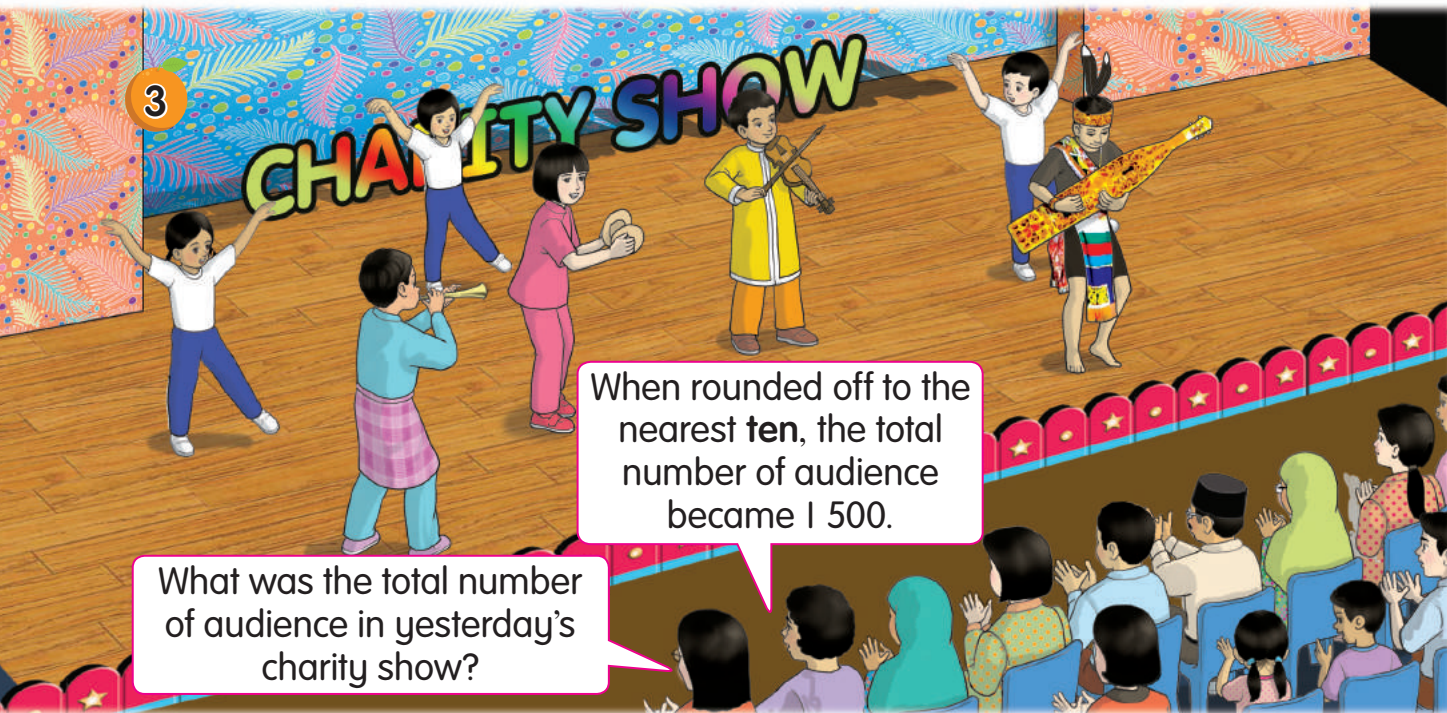


- Guide pupils to solve the problems using a number line or simulation to prove the answers.
- Emphasise steps of problem solving such as finding important information.



3

CHARITY SHOW

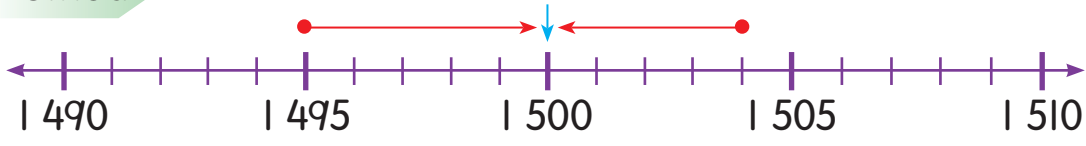


When rounded off to the nearest **ten**, the total number of audience became 1 500.

What was the total number of audience in yesterday's charity show?

Based on the conversation above, what is the possible number of audience?

Method



1 495 to 1 499 and 1 501 to 1 504 when rounded off to the nearest **ten** becomes 1 500.

The possible number of audience is 1 495 to 1 499 and 1 501 to 1 504.



The number of audience on the next day is 1 520. Round off the number to the nearest **thousand**.



LET'S TRY

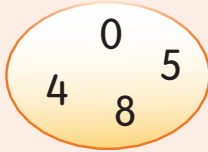
Solve the problems.

- a The table shows the number of recycled tins collected by year 3 pupils.
- Write the number of tins in words.
 - Which total number of tins is more?

Recycled Tins

Class	Total number of tins
Bijak	1 123
Cerdas	976

b



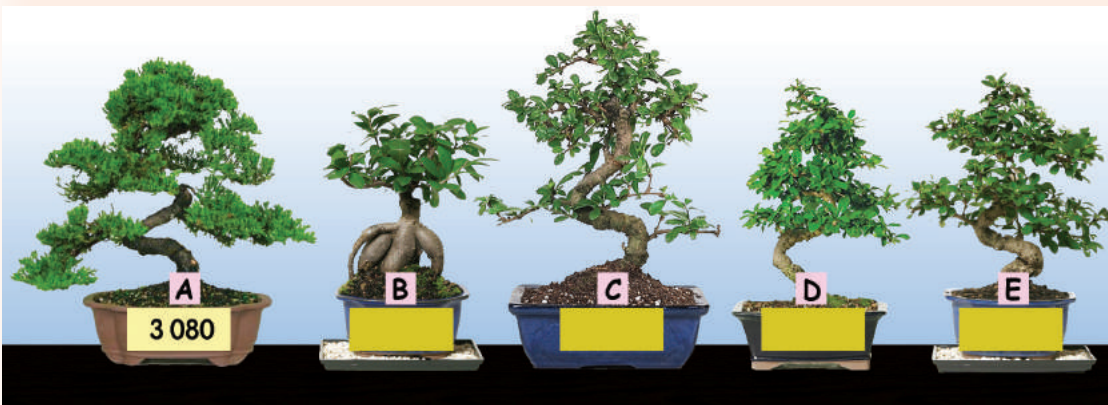
- Amir used all the digits on the left to form a four digit number. The digit 5 is in the hundreds place.
- What is the number?
 - Partition the number according to digit value.

c

Day	Number of stickers
Monday	1 006
Tuesday	998
Wednesday	1 010
Thursday	1 002

- The table shows the number of stickers sold in four days.
- Round off 998 to the nearest thousand.
 - Arrange the numbers in the table in ascending order.

d



SCAN THIS

Pots A, B, C, D and E are arranged in a row. Count back in threes starting from pot A. What is the number for pot E?



- Provide more exercises in problem solving.
- Encourage pupils to use various strategies of problem-solving such as working backwards and making models.





SNAKES AND LADDERS

Tools/Materials

dice, markers

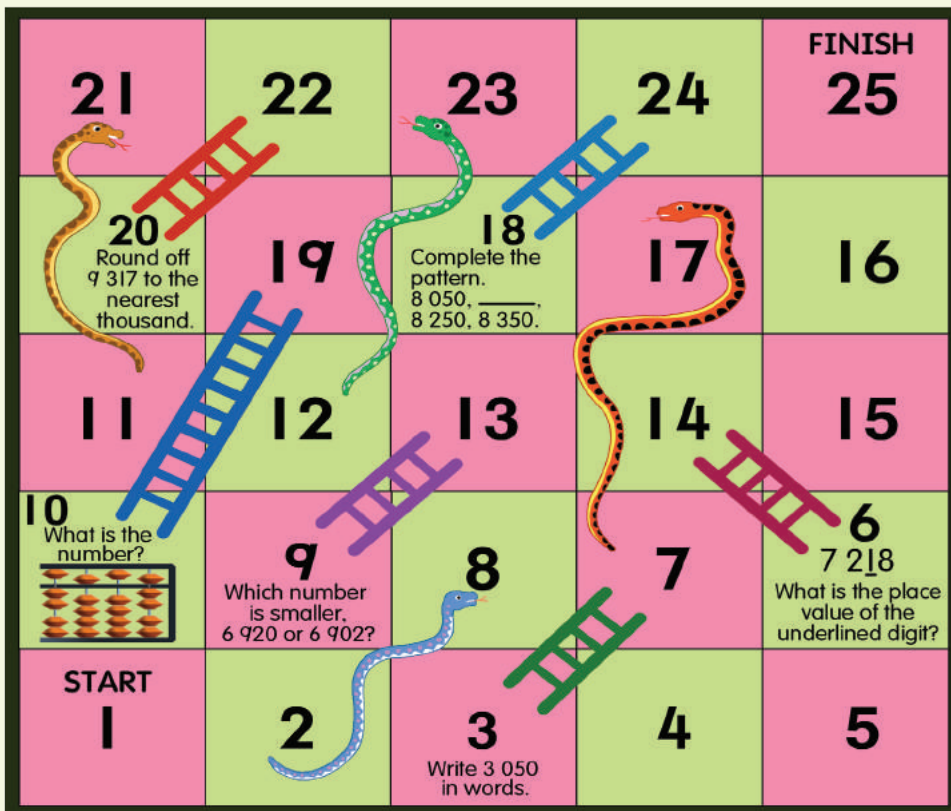
Participants

3 players

Method



- 1 The first player throws the dice. Move the marker according to the number on the dice.
 - a If the marker lands in a box with a question, answer the question. If the answer is correct, go up the box at the top of the ladder. If the answer is wrong, stay in the box at the foot of the ladder.
 - b If the marker lands in the box with a snake head, slide down to the bottom of the snake's tail.
- 2 The next player takes his/her turn. Repeat step 1.
- 3 The first player who reaches the FINISH box wins.



- Ask players to move their markers backwards if the number on the dice exceeds the 25th box.
- Instil tolerance and honesty while playing the game.



ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION

A TRIP TO THE ZOO

Boys 110

Girls 90

Year 3 40

Year 4 160

Teachers 20

200 pupils are involved in this trip.

The number of year 4 pupils is 4 times the number of year 3 pupils.

ZOO NEGARA

MS 130 9001-2003

$$200 \times 2 = 400$$

Everyone gets 2 sandwiches.

- Ask pupils to talk about the pictures. Relate the operations involved such as addition, subtraction, multiplication, and division.



2.1, 2.2
2.3, 2.4



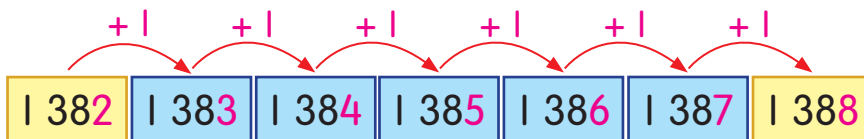
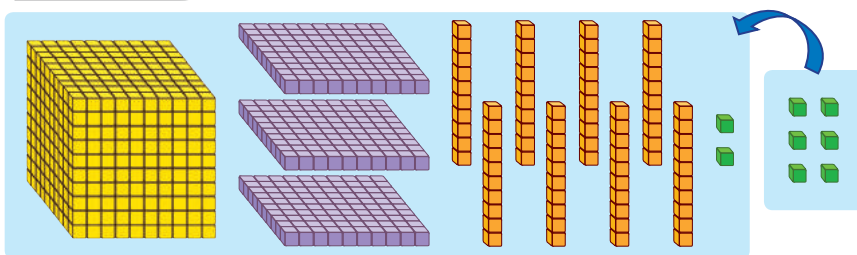
ADDITION



i What is the total number of birds and elephants?

$$1\ 382 + 6 = \square$$

Method 1



Count on in ones.

Method 2

Remember, start adding from ones.

	thousands	hundreds	tens	ones
	1	3	8	2
+				6
	1	3	8	8

$$1\ 382 + 6 = 1\ 388$$

The total number of birds and elephants is **1 388**.

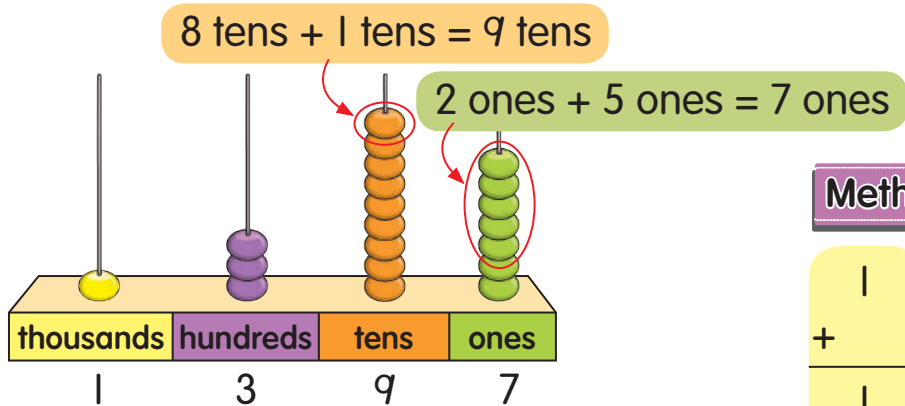


- Relate to daily situations such as the number of fruit yields in an orchard.
- Guide pupils to add using counters.
- Emphasise that to add in vertical form, digits should be arranged according to the correct place value.

2 Add 1 382 and 15.

$$1\ 382 + 15 = \square$$

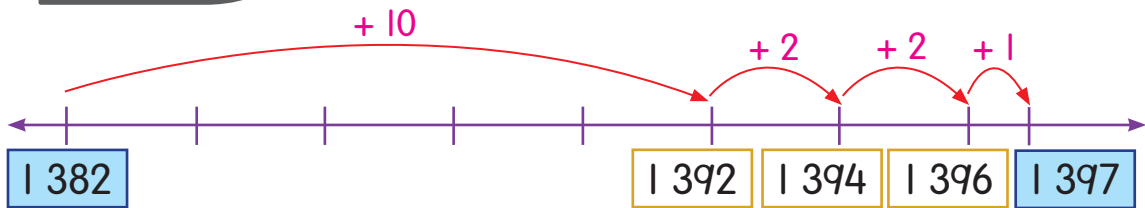
Method 1



Method 2

1	3	8	2
+		1	5
1	3	9	7

Method 3



$$1\ 382 + 15 = 1\ 397$$

3 Calculate the sum of 104 and 1 382.

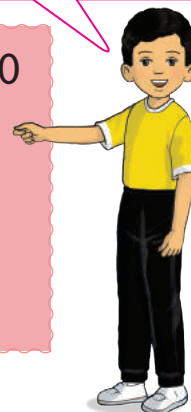
$$104 + 1\ 382 = \square$$

$$\begin{array}{r} 104 \\ + 1\ 382 \\ \hline 1\ 486 \end{array}$$

$$104 + 1\ 382 = 1\ 486$$

Check by using estimation.
The answer is reasonable.

$$\begin{array}{r} 1\ 382 \rightarrow 1\ 400 \\ 104 \rightarrow 100 \\ \hline 1\ 400 \\ + 100 \\ \hline 1\ 500 \end{array}$$



- Emphasise that addition starts from ones, followed by tens, hundreds, and thousands.
- Encourage pupils to use simulations, number lines, representations, and diagrams to add any two numbers.

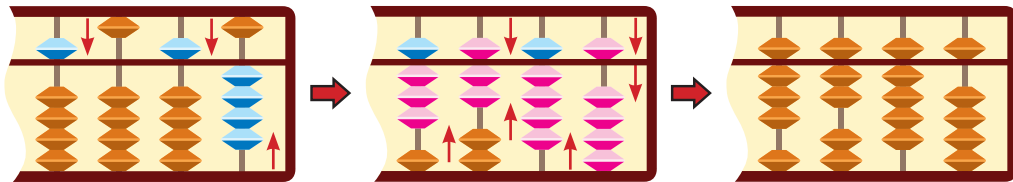


4 $5\ 054 + 3\ 741 =$

Method 1

$$\begin{array}{r} 5\ 054 \\ + 3\ 741 \\ \hline 8\ 795 \end{array}$$

Method 2



Up 5 054.

Add 3 741.

The answer is 8 795.

$5\ 054 + 3\ 741 =$ 8 795



SCAN THIS

5 Rayner and Liza do the calculations.

Rayner

$$\begin{array}{r} 6\ 073 \\ + 3\ 910 \\ \hline 9\ 983 \end{array}$$

Liza

$$\begin{array}{r} 6\ 073 \\ + 3\ 910 \\ \hline 9\ 980 \end{array}$$

Whose answer is incorrect? Explain.



- Practise more on adding two numbers with an abacus using little friends of 5, for example 4 and 1, 3 and 2.
- Carry out quizzes such as quick calculation.

ZOO TICKETING COUNTER

6

5 602
tickets have
been sold.

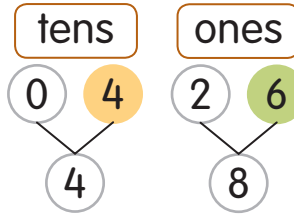


Today's promotion is
up to 5 648 tickets only.

How many more tickets need to be sold?

$$5\ 602 + \boxed{} = 5\ 648$$

$$\begin{array}{r} 5\ 6\ 0\ 2 \\ + \quad 4\ 6 \\ \hline 5\ 6\ 4\ 8 \end{array}$$



I look for the
number pairs.

$$5\ 602 + \boxed{46} = 5\ 648$$

46 more tickets need to be sold.



**MIND
CHALLENGE**

0 8 2 7 1 6 5

Arrange the digits above
to get the total of 7 958.

$$\begin{array}{r} \boxed{} \boxed{} \boxed{} \boxed{} \\ + \quad \boxed{} \boxed{} \boxed{} \\ \hline 7\ 9\ 5\ 8 \end{array}$$



LET'S TRY

1 Add.

a
$$\begin{array}{r} 3\ 4\ 9\ 6 \\ + \quad 3 \\ \hline \boxed{} \end{array}$$

b
$$\begin{array}{r} 2\ 1 \\ + 6\ 0\ 7\ 5 \\ \hline \boxed{} \end{array}$$

c
$$\begin{array}{r} 4\ 1\ 5\ 3 \\ + \quad 8\ 2\ 4 \\ \hline \boxed{} \end{array}$$

2 Find the total. a 209 and 8 760.

b 7 351 and 2 538.

3 Complete these.

a $6\ 075 + \boxed{} = 8\ 098$

b $\boxed{} + 2\ 834 = 9\ 946$



- Surf <https://www.ezschool.com/play/grade3/MultipleChoice/Game/474>
- Surf <https://www.youtube.com/watch?v=J8KJH7zb5E>



KPM



MORE ADDITION

1

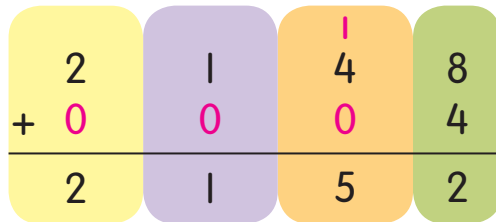
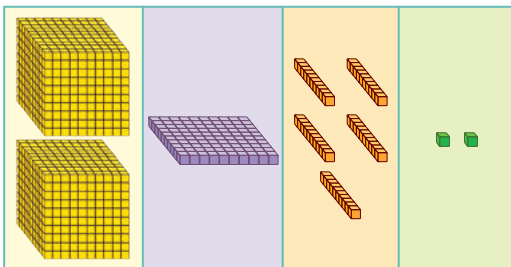
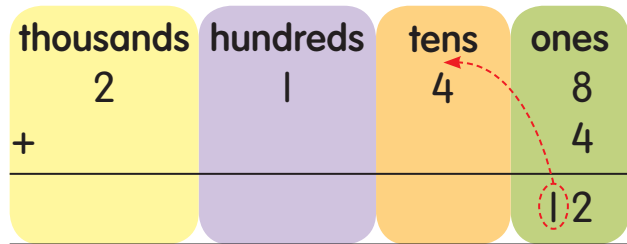
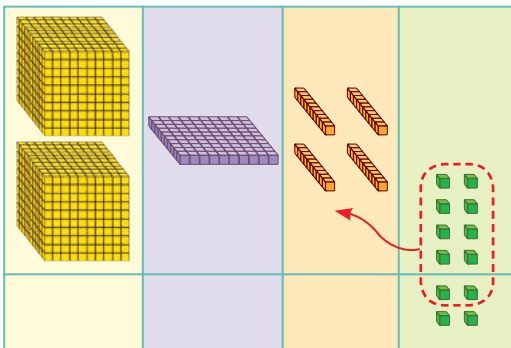
We have fitted 2 148 pieces of tiles.

We need to fit 4 more.



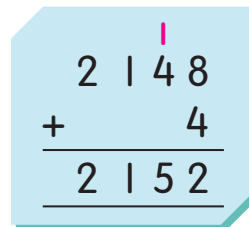
What is the total number of tiles used?

$$2\ 148 + 4 = \square$$



$$2\ 148 + 4 = 2\ 152$$

The total number of tiles used is 2 152 pieces.



- Ask pupils to add four digit numbers and one digit numbers by counting on using number lines.
- Emphasise that when the total of ones digit becomes 10 or more, carry out regrouping.



2 Add 6 472 and 143.

$$6\ 472 + 143 = \boxed{}$$

Method 1

6	4	7	2
+	1	4	3
6	6	1	5

Method 2

Up 6 472.

Add 143.
Add 1 hundreds.
The little friend of 1 is 4.
Up 5 hundreds, down 4 hundreds.



Add 3 ones.
The little friend of 3 is 2.
Up 5 ones, down 2 ones.

Add 4 tens.
The big friend of 4 is 6.
Down 6 tens, carry 1 hundreds.

$$6\ 472 + 143 = \boxed{6\ 615}$$

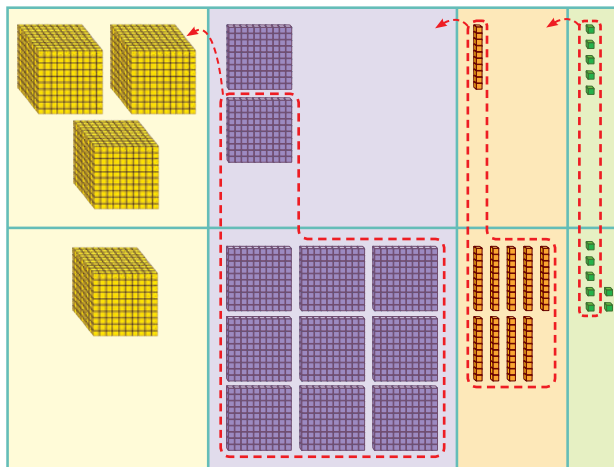
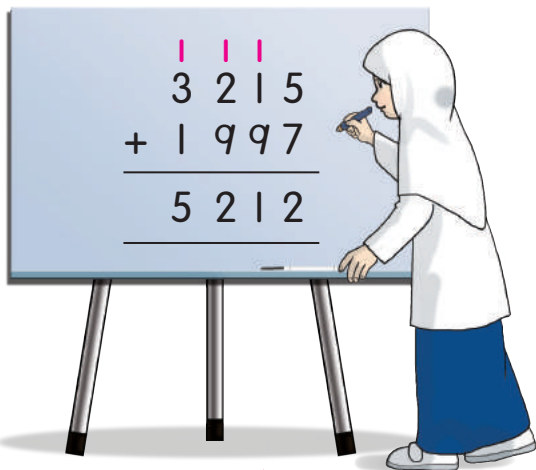


- Guide pupils to get information from newspapers such as the data of UPSR examination results and add any two numbers.
- Remind pupils that addition using an abacus starts from thousands, followed by hundreds, tens, and ones values.



3 $3\ 215 + 1\ 997 =$

Method 1



Method 2

$3\ 215 + 1\ 997 =$

$$\begin{array}{r} 3\ 215 \\ - 3 \\ \hline 3\ 212 \end{array} \quad \begin{array}{r} 1\ 997 \\ + 3 \\ \hline 2\ 000 \end{array}$$

 $3\ 212 + 2\ 000 = 5\ 212$

$3\ 215 + 1\ 997 =$



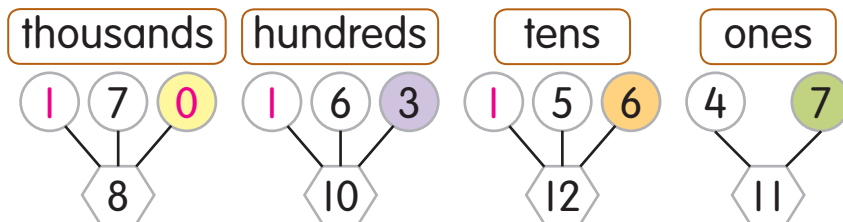
1 997 plus 3 equals 2 000.
3 215 minus 3 equals 3 212.

Think!

$3\ 215 + 2\ 997 =$

4 $7\ 654 +$ $= 8\ 021$

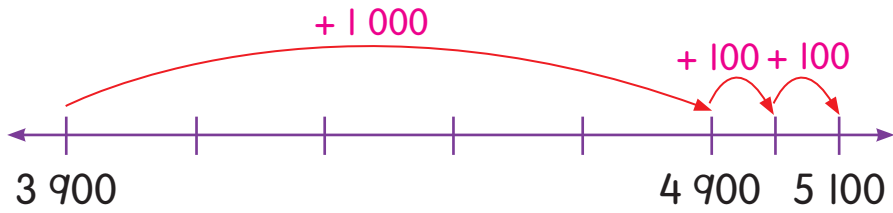
$$\begin{array}{r} 7\ 654 \\ + 0\ 367 \\ \hline 8\ 021 \end{array}$$



$7\ 654 +$ $= 8\ 021$

5 + 3 900 = 5 100

1 000 + 100 + 100 = 1 200



1 200 + 3 900 = 5 100



What is the digit in to make the answer a four digit number?



Add two numbers to get a total which is near to 10 000.



MIND CHALLENGE



LET'S TRY

Find the total.

a
$$\begin{array}{r} 5\ 1\ 7\ 2 \\ + \quad 1\ 9 \\ \hline \end{array}$$

b
$$\begin{array}{r} 8\ 4\ 3 \\ + 6\ 0\ 9\ 4 \\ \hline \end{array}$$

c
$$\begin{array}{r} 3\ 7\ 0\ 2 \\ + 4\ 9\ 8\ 5 \\ \hline \end{array}$$

d
$$\begin{array}{r} 8\ 2\ 7\ 6 \\ + 1\ 7\ 2\ 4 \\ \hline \end{array}$$

e $25 + 4\ 875 = \square$

f $837 + 1\ 090 = \square$

g $1\ 479 + \square = 3\ 890$

h $\square + 3\ 600 = 5\ 000$

i What is the sum of 1 273 and 8 539?

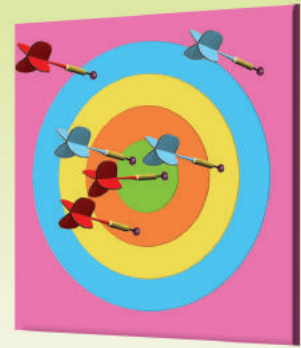


- In groups, provide more exercises using question cards or worksheets. Provide various questions based on the level of difficulty.
- Surf <http://www.aaknow.com/lessonFull.php?slug=add4dVert>





ADD THREE NUMBERS



Colour	Score
	8
	27
	542
	1 130
	3 420



Rishi



Izan

a What is Rishi's total score?

$$8 + 542 + 3\ 420 = \boxed{}$$

$$\begin{array}{r}
 8 \\
 + 542 \\
 \hline
 550
 \end{array}
 \qquad
 \begin{array}{r}
 550 \\
 + 3\ 420 \\
 \hline
 3\ 970
 \end{array}$$

$$8 + 542 + 3\ 420 = \boxed{3\ 970}$$

Rishi's total score is **3 970**.

b Calculate Izan's total score.

$$27 + 1\ 130 + 3\ 420 = \boxed{}$$

$$\begin{array}{r}
 3\ 420 \\
 + 1\ 130 \\
 \hline
 4\ 550
 \end{array}
 \qquad
 \begin{array}{r}
 4\ 550 \\
 + \quad 27 \\
 \hline
 4\ 577
 \end{array}$$

$$27 + 1\ 130 + 3\ 420 = \boxed{4\ 577}$$

Izan's total score is **4 577**.

Lim's total score is 1 680.
What are Lim's three scores?

$$\boxed{} + \boxed{} + \boxed{} = 1\ 680$$



- Carry out group activities of adding any three numbers. Then, ask pupils to check the answers using calculator.

2

Bun and Cake Orders

Corn Bun	Vanilla Bun	Chocolate Bun	Cupcake	Waffle	Cheese Bun
2 406	302	54	3 547	169	49

- a) What is the total number of corn, vanilla, and chocolate buns ordered?

$$2\ 406 + 302 + 54 = \square$$

$$\begin{array}{r}
 \overset{1}{0} \boxed{6} \\
 \\
 + \boxed{5} \boxed{4} \\
 \hline
 2\ 7\ 6\ 2
 \end{array}$$



Make it 10 first.

$$2\ 406 + 302 + 54 = \mathbf{2\ 762}$$

The total number of corn, vanilla, and chocolate buns ordered is **2 762**.

- b) $169 + 3\ 547 + 49 = \square$

$$\begin{array}{r}
 \overset{1}{6} \overset{2}{9} \boxed{9} \\
 3\ 5\ \boxed{4} \\
 + \boxed{4} \boxed{9} \\
 \hline
 3\ 7\ 6\ 5
 \end{array}$$

$$\begin{aligned}
 9 + 7 + 9 &= 18 + 7 \\
 &= 25 \\
 6 + 4 + 4 + 2 &= 6 + 8 + 2 \\
 &= 16
 \end{aligned}$$

Add the two same digits first.



$$169 + 3\ 547 + 49 = \mathbf{3\ 765}$$



What is the value of \bigcirc ?

$$\begin{array}{l}
 \triangle + \square = 2\ 438 \\
 \triangle + \square + 6\ 759 = \bigcirc
 \end{array}$$



- Relate to various daily situations in newspapers or pamphlets involving addition.
- Emphasise that to add according to the vertical form, digits must be positioned in the correct place value.



3



7 500 ml



675 ml



1 680 ml

$$7\ 500\ \text{ml} + 675\ \text{ml} + 1\ 680\ \text{ml} = \boxed{}\ \text{ml}$$

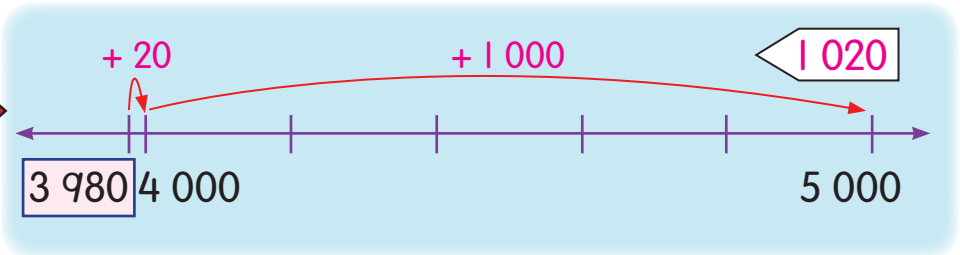
$$\begin{array}{r} 7\ 500 \\ +\ 675 \\ \hline 8\ 175 \end{array} \qquad \begin{array}{r} 8\ 175 \\ +\ 1\ 680 \\ \hline 9\ 855 \end{array}$$

$$7\ 500\ \text{ml} + 675\ \text{ml} + 1\ 680\ \text{ml} = \boxed{9\ 855}\ \text{ml}$$

4

$$3\ 084 + 896 + \boxed{} = 5\ 000$$

$$\begin{array}{r} 3\ 084 \\ +\ 896 \\ \hline 3\ 980 \end{array}$$



Discuss other methods to find the answer.



$$3\ 084 + 896 + \boxed{1\ 020} = 5\ 000$$



LET'S TRY

Find the total.

a

$$\begin{array}{r} 4\ 820 \\ 152 \\ +\ 7 \\ \hline \boxed{} \end{array}$$

b

$$\begin{array}{r} 26 \\ 5\ 164 \\ +\ 302 \\ \hline \boxed{} \end{array}$$

c

$$\begin{array}{r} 8\ 009 \\ 147 \\ +\ 593 \\ \hline \boxed{} \end{array}$$

d $39 + 2\ 541 + 4\ 172 = \boxed{}$

e $1\ 354 + 560 + \boxed{} = 3\ 000$

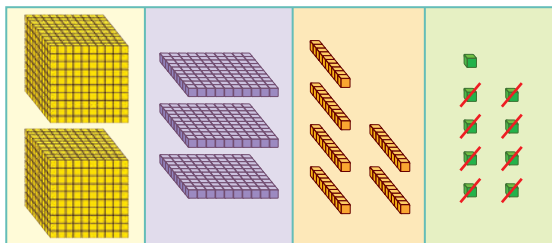


SUBTRACTION

- a** 8 yellow buttons were taken out from a box. Calculate the number of yellow buttons left.

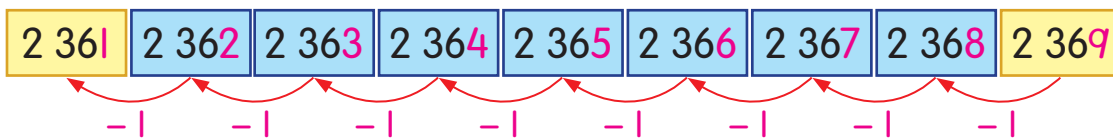
$$2\ 369 - 8 = \boxed{}$$

Method 1



$$\begin{array}{r} 2\ 369 \\ - \quad 8 \\ \hline 2\ 361 \end{array}$$

Method 2

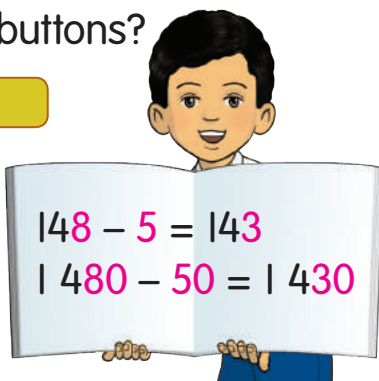


$$2\ 369 - 8 = \boxed{2\ 361}$$

The number of yellow buttons left is **2 361**.

- b** What is the difference, in number, between the blue buttons and the green buttons?

$$1\ 480 - 50 = \boxed{}$$



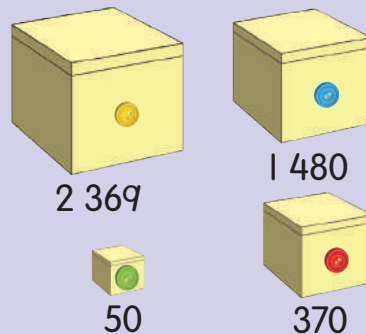
Calculate the difference between the blue buttons and the red buttons.



$$1\ 480 - 50 = \boxed{1\ 430}$$

The difference between the blue buttons and the green buttons is **1 430**.

Number of Buttons at Rina Tailor



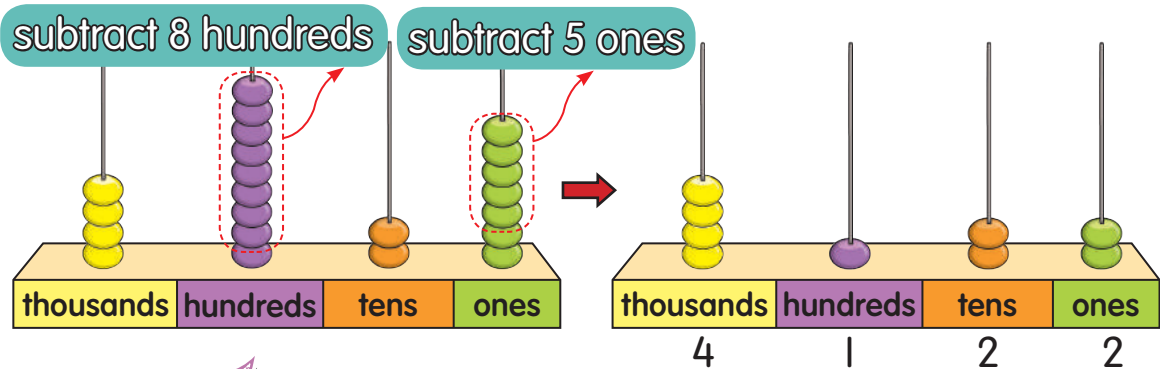
- Guide pupils to subtract without regrouping by simulation using number lines and base ten blocks.



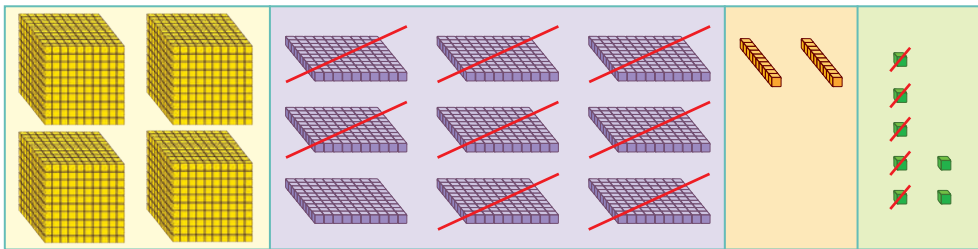
2 How much more is 4 927 than 805?

$4\ 927 - 805 = \square$

Method 1



Method 2



Method 3

thousands	hundreds	tens	ones
4	9	2	7
- 0	8	0	5
4	1	2	2

Subtract ones

$7 \text{ ones} - 5 \text{ ones} = 2 \text{ ones}$

Subtract tens

$2 \text{ tens} - 0 \text{ tens} = 2 \text{ tens}$

Subtract hundreds

$9 \text{ hundreds} - 8 \text{ hundreds} = 1 \text{ hundreds}$

Subtract thousands

$4 \text{ thousands} - 0 \text{ thousands} = 4 \text{ thousands}$

$4\ 927 - 805 = 4\ 122$

4 927 is 4 122 more than 805.

• In groups, guide pupils to subtract using number lines and draw diagrams.



3 How much less is 3 441 than 8 472?

$$8\ 472 - 3\ 441 = \square$$

I check by adding.

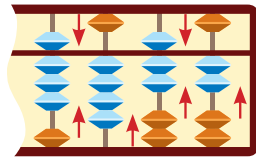
Method 1

$$\begin{array}{r} 8\ 472 \\ - 3\ 441 \\ \hline 5\ 031 \end{array}$$

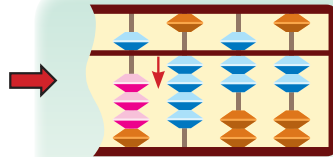
$$\begin{array}{r} 5\ 031 \\ + 3\ 441 \\ \hline 8\ 472 \end{array}$$



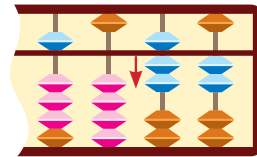
Method 2



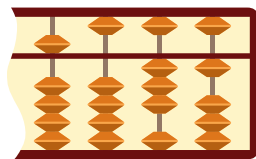
Up 8 472.



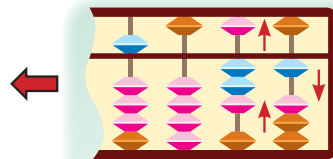
Subtract 3 441.
Down 3 thousands.



Down 4 hundreds.

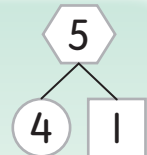


The answer is 5 031.



Subtract 4 tens.

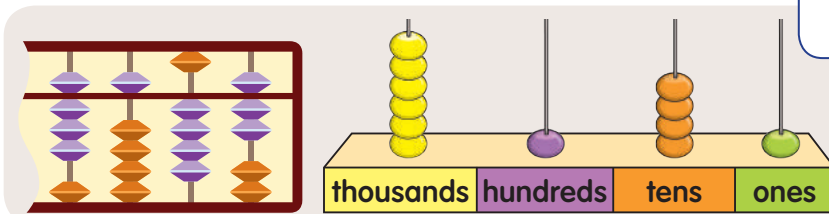
- The little friend of 4 is 1.
- So, up 1 tens and down 5 tens.
Down 1 ones.



$$8\ 472 - 3\ 441 = 5\ 031$$

3 441 is 5 031 less than 8 472.

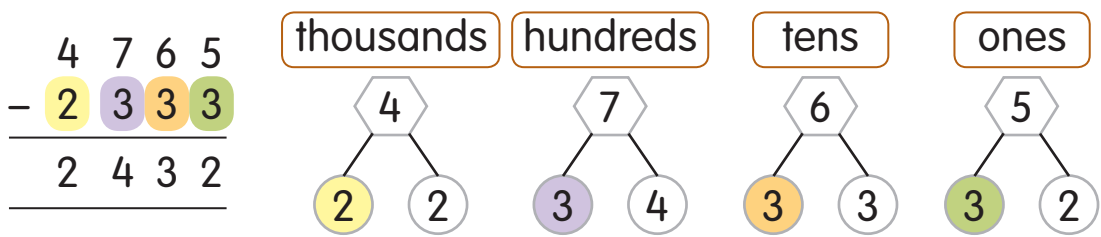
Calculate the difference of values between the abacus and the counting frames.



- Use various vocabulary for subtraction such as find the balance, difference, and how much less.
- Emphasise on subtracting a small number from a larger number.



4 $4\ 765 - \square = 2\ 432$



$4\ 765 - 2\ 333 = 2\ 432$

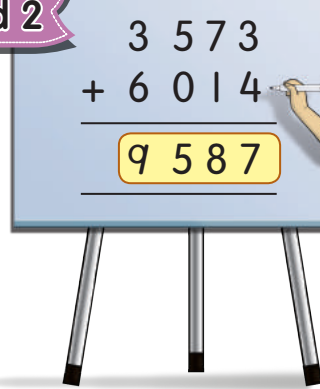
5 $\square - 6\ 014 = 3\ 573$

Method 1

$$\begin{array}{r} 9\ 587 \\ - 6\ 014 \\ \hline 3\ 573 \end{array}$$

$9\ 587 - 6\ 014 = 3\ 573$

Method 2



Use addition.



1 Subtract.

a $4\ 587 - 5 = \square$

b $6\ 890 - 70 = \square$

c $5\ 643 - 530 = \square$

d $9\ 615 - 7\ 212 = \square$

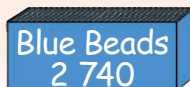
2 Complete these.

a $7\ 851 - \square = 1\ 230$

b $\square - 5\ 346 = 2\ 123$

3 Calculate the difference between 6 312 and 7 345.

4



How many more are the red beads than the blue beads?



MORE SUBTRACTION

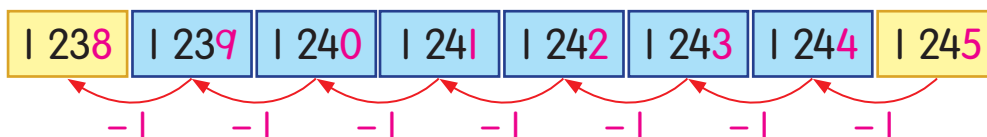
i The table shows the number of pupils in a school in 2018.

Month	Number of pupils	Number of pupils transferred
February	1 245	0
March	?	7

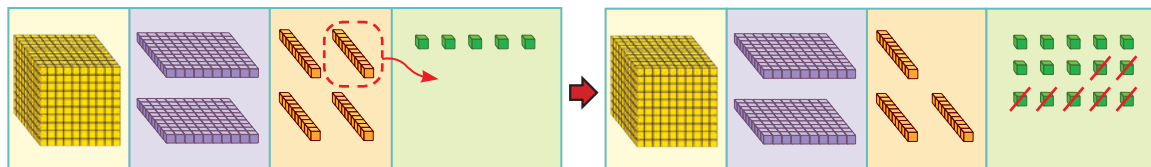
What is the number of pupils in March 2018?

$$1\ 245 - 7 = \square$$

Method 1



Method 2



- 5 ones cannot subtract 7 ones.
- Change 1 tens to 10 ones.
5 ones + 10 ones = 15 ones
- Subtract ones.
15 ones - 7 ones = 8 ones
- Subtract tens, hundreds, and thousands.

thousands	hundreds	tens	ones
1	2	3	5
-		4	7
1	2	3	8

$$1\ 245 - 7 = 1\ 238$$

The number of pupils in March 2018 is 1 238.



- Guide pupils to regroup to subtract. Emphasise that the digit value is regrouped when the value is insufficient to subtract.
- Encourage pupils to check their answers using addition.



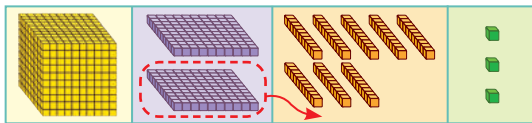
- 2 The table shows the number of passengers on a train from Sungai Buloh to Kajang.



Passenger	Number
Adult	1 283
Teenager	790

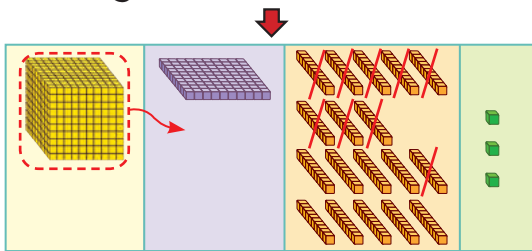
Calculate the difference between adult passengers and teenage passengers.

$$1\ 283 - 790 = \square$$



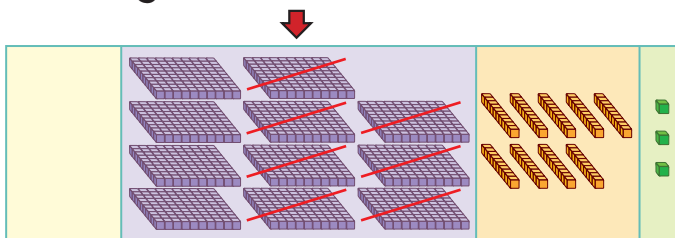
Subtract ones.

Change 1 hundreds to 10 tens.



Subtract tens.

Change 1 thousands to 10 hundreds.



Subtract hundreds.

$$\begin{array}{r} 1\ 283 \\ - 790 \\ \hline \end{array}$$

$$\begin{array}{r} 0\ 11\ 18\ 3 \\ \cancel{0}\ \cancel{1}\ \cancel{2}\ \cancel{8} \\ - 790 \\ \hline \end{array}$$

$$\begin{array}{r} 0\ 11\ 18\ 3 \\ \cancel{0}\ \cancel{1}\ \cancel{2}\ \cancel{8} \\ - 790 \\ \hline 4\ 9\ 3 \end{array}$$

$$1\ 283 - 790 = 493$$

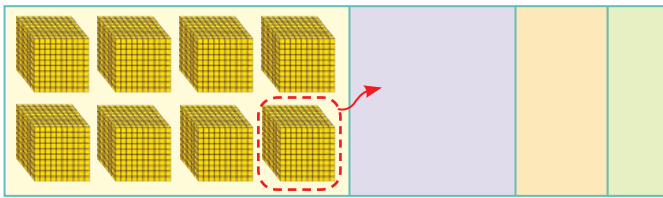
The difference between adult passengers and teenage passengers is **493**.



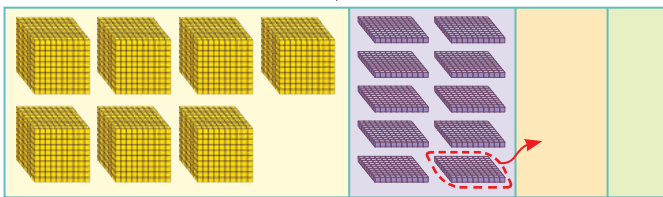
- Emphasise that subtraction needs to be done starting from ones place value followed by tens, hundreds, and thousands.
- Surf www.mymrt.com.my>sbk>route-map. Create questions based on the information for pupils to solve.

3 $8\ 000 - 1\ 203 =$

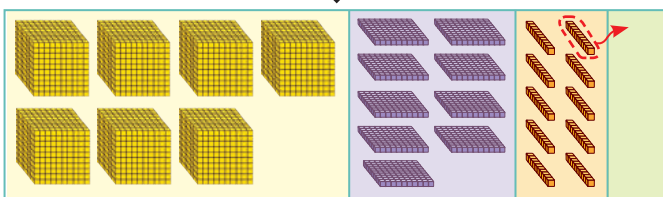
Method 1



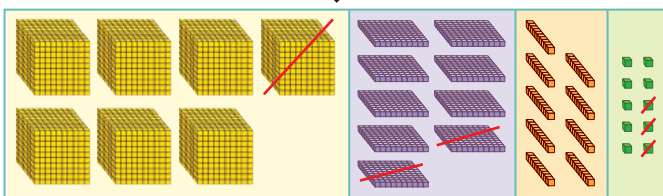
7	10	0	0
8	0	0	0
- 1	2	0	3
<hr/>			



7	9	10	0
8	0	0	0
- 1	2	0	3
<hr/>			



7	9	9	10
8	0	0	0
- 1	2	0	3
<hr/>			
6	7	9	7



Method 2

$8\ 000 - 1\ 203 =$

$7\ 999 - 1\ 202 =$

$$\begin{array}{r} 7\ 999 \\ - 1\ 202 \\ \hline 6\ 797 \end{array}$$

$8\ 000 - 1\ 203 =$ **6 797**

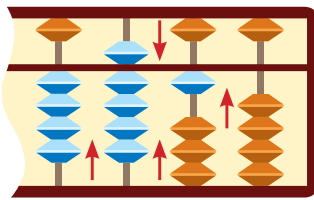
Subtract 1 from 8 000.
Subtract 1 from 1 203 as well.



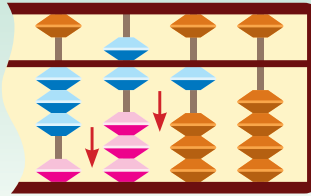
- Guide pupils to subtract using representatives such as coloured chips and abacus.
- Provide exercises involving subtraction using number puzzles.



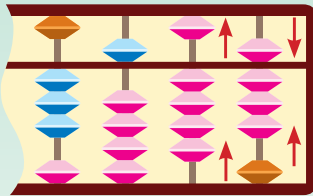
4 $4\ 910 - 1\ 362 =$



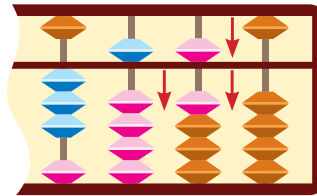
Up 4 910.



Subtract 1 362.
Down 1 thousands.
Down 3 hundreds.



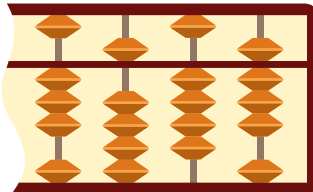
10
2 8
Subtract 2 ones, no lower beads.
The big friend of 2 is 8.
So, remove 1 tens.
Up 8 ones.



10
6 4
Subtract 6 tens, lower beads are not enough.
The big friend of 6 is 4.
So, remove 1 hundreds.
Up 4 tens.



SCAN THIS



The answer is 3 548.

Let's check.



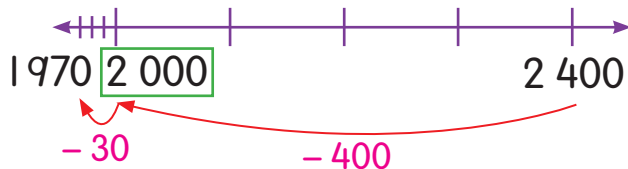
$$\begin{array}{r}
 10 \\
 8 \cancel{0} 10 \\
 4 \cancel{9} \cancel{1} \cancel{0} \\
 - 1\ 3\ 6\ 2 \\
 \hline
 3\ 5\ 4\ 8
 \end{array}$$

$4\ 910 - 1\ 362 =$

Think!

$4\ 910 - 1\ 372 =$

5 $2\ 400 - \square = 1\ 970$



$$\begin{array}{r} 400 \\ + 30 \\ \hline 430 \end{array}$$

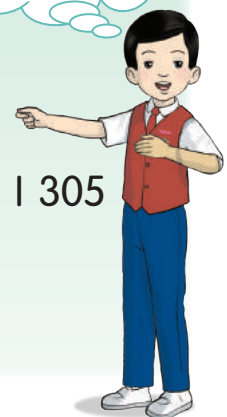
$2\ 400 - 430 = 1\ 970$

6 $\square - 891 = 1\ 305$

$$\begin{array}{r} 1 \\ 1\ 305 \\ + 891 \\ \hline 2\ 196 \end{array}$$

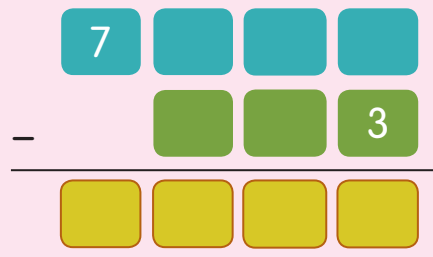
5 - 2 = 3
5 = 3 + 2

$2\ 196 - 891 = 1\ 305$



MIND CHALLENGE

Form two numbers using digits 1, 2, 4, 5 and 6. Find the largest difference between them.



LET'S TRY

1 Calculate.

a $\begin{array}{r} 5\ 134 \\ - \quad 5 \\ \hline \square \end{array}$

b $\begin{array}{r} 9\ 425 \\ - 173 \\ \hline \square \end{array}$

c $\begin{array}{r} 4\ 086 \\ - 1902 \\ \hline \square \end{array}$

2 Subtract.

a $4\ 723 - 8 = \square$

b $5\ 369 - 97 = \square$

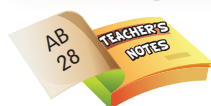
c $5\ 456 - 670 = \square$

d $7\ 000 - 3\ 028 = \square$

3 Find the answers and fill in the blanks.

a $3\ 247 - \square = 1\ 152$

b $\square - 1\ 309 = 4\ 041$



- Provide more exercises involving unknowns to enhance pupils' understanding.
- Guide pupils to use simpler strategies to find unknowns. For example, $2\ 400 - \square = 1\ 970$ is simplified to $6 - \square = 5$. So, $6 - 5 = \square$.



KPM



SUBTRACT SUCCESSIVELY



There are 2 458 young plants.



Buy 12 young plants



Buy 103 young plants

I How many young plants are left?

$$2\ 458 - 103 - 12 = \square$$

Method 1

$$\begin{array}{r} 2\ 458 \\ -\ 103 \\ \hline 2\ 355 \end{array}$$

$$\begin{array}{r} 2\ 355 \\ -\ 12 \\ \hline 2\ 343 \end{array}$$

Method 2

$$\begin{array}{r} 2\ 458 \\ -\ 12 \\ \hline 2\ 446 \\ -\ 103 \\ \hline 2\ 343 \end{array}$$

Method 3

$$\begin{array}{r} 1\ 03 \\ +\ 12 \\ \hline \square\square\square \end{array}$$

$$\begin{array}{r} 2\ 458 \\ -\ \square\square\square \\ \hline \square\square\square \end{array}$$

$$2\ 458 - 103 - 12 = \mathbf{2\ 343}$$

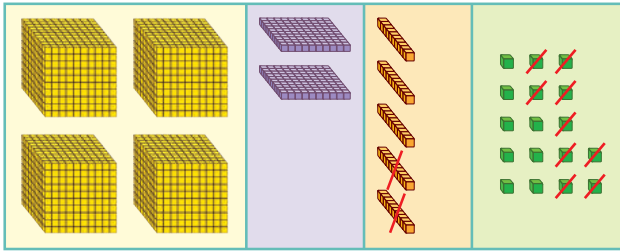
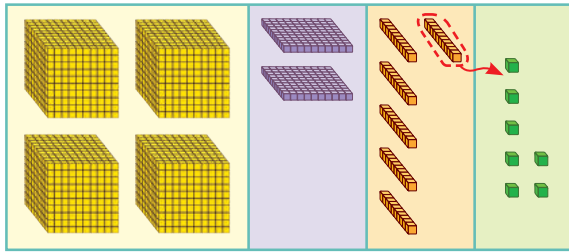
2 343 young plants are left.

Is there any other method to find the answer? Discuss.

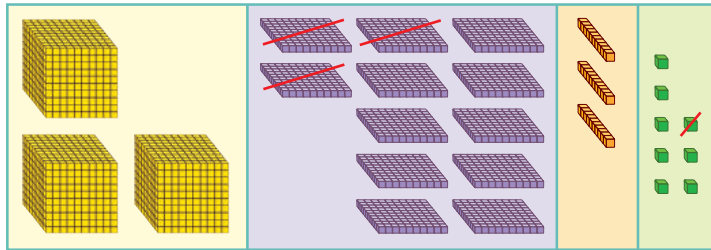
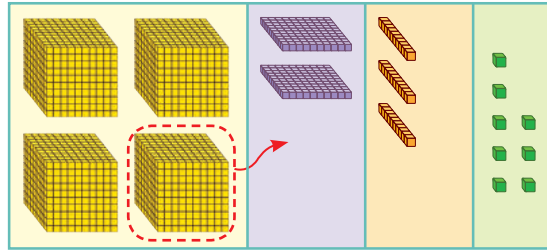


- Guide pupils to subtract successively without regrouping first before proceeding to subtraction by regrouping.
- Emphasise that the answer carried forward from step 1 to step 2 must be the same.

2 $4\ 267 - 29 - 301 = \square$



$$\begin{array}{r} & 5 & 17 \\ 4 & 2 & 67 \\ - & & 29 \\ \hline 4 & 2 & 38 \end{array}$$



$$\begin{array}{r} & 3 & 12 \\ 4 & 2 & 38 \\ - & 3 & 01 \\ \hline 3 & 9 & 37 \end{array}$$

$4\ 267 - 29 - 301 = 3\ 937$

3 $7\ 000 - 167 - 3\ 481 = \square$

$$\begin{array}{r} & 9 & 9 \\ 7 & 0 & 00 \\ - 3 & 4 & 81 \\ \hline 3 & 5 & 19 \end{array}$$

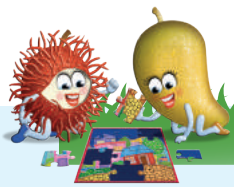
$$\begin{array}{r} & 4 & 11 \\ 3 & 5 & 19 \\ - & 1 & 67 \\ \hline 3 & 3 & 52 \end{array}$$

$7\ 000 - 167 - 3\ 481 = 3\ 352$



- Guide pupils to subtract successively using data or information involving business transactions.





FUN PROJECT

Tools/Materials

whiteboard marker, 2 number sentence cards, rubber, calculator

Examples of a number sentence card



Participants

pupils work in pairs (A and B)

Method

- 1 Pupil A chooses one number sentence card.
- 2 Pupil B writes three numbers using the digits from 0 to 9 on the card. Calculate the answer.
- 3 Pupil A checks the answer using a calculator. If the number sentence and answer are correct, pupil B gets 5 marks.
- 4 Take turns. Repeat steps 1 to 3.
- 5 The pupil with the highest score wins.



LET'S TRY

Subtract.

a

$$\begin{array}{r} 8729 \\ - \quad 14 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ - \quad 603 \\ \hline \end{array}$$

b

$$\begin{array}{r} 7405 \\ - \quad 61 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ - \quad 254 \\ \hline \end{array}$$

c $5276 - 38 - 105 = \square$

d $6093 - 815 - 41 = \square$

e $8506 - 6492 - 177 = \square$

f $9000 - 347 - 78 = \square$

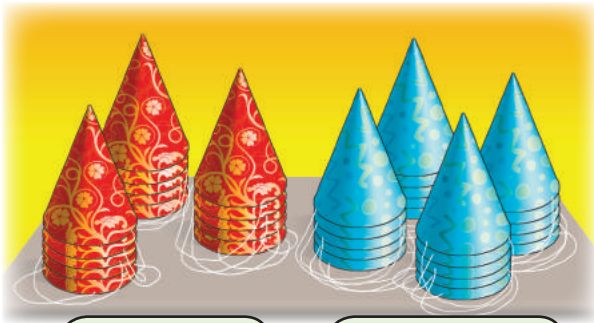


- Use laminated number sentence cards for the Fun Project.
- Carry out reinforcement activities such as mathematics quizzes that include a variety of questions.



ADDITION AND SUBTRACTION

1



15 red hats

20 blue hats

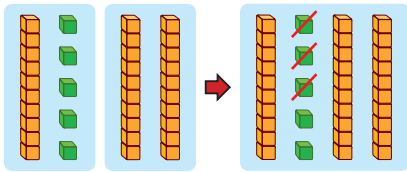


3 hats are worn

How many hats are not worn?

$$15 + 20 - 3 = \square$$

Method 1

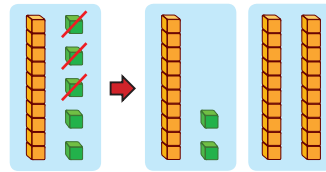


$$\begin{array}{r} 15 \\ + 20 \\ \hline 35 \end{array} \quad \begin{array}{r} 35 \\ - 3 \\ \hline 32 \end{array}$$



SCAN THIS

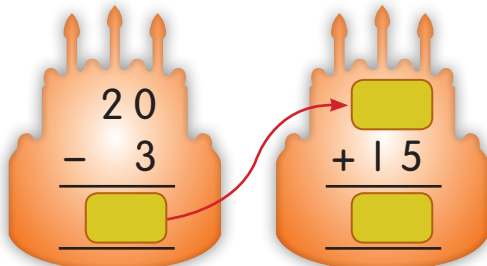
Method 2



$$\begin{array}{r} 15 \\ - 3 \\ \hline 12 \end{array} \quad \begin{array}{r} 12 \\ + 20 \\ \hline 32 \end{array}$$

$$15 + 20 - 3 = \mathbf{32}$$

32 hats are not worn.



Calculate.
Explain how you
get the answer.



- Carry out addition and subtraction activities using objects and simulation.
- Emphasise that pupils should solve number sentence in the order of operations.



2 $8\ 728 - 524 + 39 = \square$

Method 1

$$\begin{array}{r} 8\ 728 \\ -\ 524 \\ \hline 8\ 204 \end{array} \quad \begin{array}{r} 8\ 204 \\ +\ 39 \\ \hline 8\ 243 \end{array}$$

$8\ 728 - 524 + 39 = \mathbf{8\ 243}$

Method 2

3 Look at the following.

$9\ 007 - 215 + 640 = \square$

Method 1

$$\begin{array}{r} 9 \\ 8\ 1010 \\ \cancel{9\ 007} \\ -\ 215 \\ \hline 8\ 792 \\ +\ 640 \\ \hline \square \end{array}$$

Method 2

$$\begin{array}{r} 215 \\ +\ 640 \\ \hline 855 \end{array} \quad \begin{array}{r} 9\ 007 \\ -\ 855 \\ \hline \square \end{array}$$

Which method is correct? Discuss.



LET'S TRY

1 Solve these.

a $\begin{array}{r} 56 \\ +\ 12 \\ \hline \square \end{array} \quad \begin{array}{r} \square \\ -\ 27 \\ \hline \square \end{array}$

b $\begin{array}{r} 6\ 052 \\ -\ 300 \\ \hline \square \end{array} \quad \begin{array}{r} \square \\ +\ 81 \\ \hline \square \end{array}$

c $6\ 240 + 517 - 389 = \square$

d $4\ 709 - 2\ 156 + 314 = \square$

2 Complete the following using + and - symbols.

a $3\ 625 \square 574 \square 89 = 3\ 140$

b $6\ 412 \square 1\ 302 \square 247 = 7\ 467$



CREATE STORIES

1 $5\ 640 + 3\ 290 = 8\ 930$



There are **5 640** males and **3 290** females taking part in the National Day poster drawing contest. The total number of participants is **8 930**.

2 $6\ 240 - 4\ 800 = 1\ 440$



A factory produces **6 240** boxes of biscuits. **4 800** boxes of biscuits are donated to pupils. The number of biscuits left is boxes.

3 $1\ 050 - 148 + 59 = 961$

people ride a train from Johor Bahru to Butterworth. When the train reaches Kuala Lumpur people get off and people get on the train. The number of passengers left after leaving Kuala Lumpur is .



LET'S TRY

Create stories based on the number sentences.

a $6\ 321 + 869 = 7\ 190$

b $4\ 000 - 2\ 115 = 1\ 885$

c $625 + 53 - 120 = 558$

d $1\ 805 - 246 + 72 = 1\ 631$



- Guide pupils to create stories based on suitable picture cards and number sentences.
- Carry out a story making competition using MS Word.

2.7.1
2.7.2





SOLVE THE PROBLEMS

I Pandalela has 3 409 Malaysian postcards and 965 foreign postcards. Calculate the total number of her postcards.



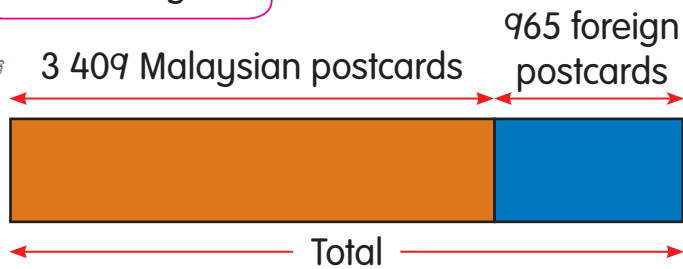
Given 3 409 Malaysian postcards
965 foreign postcards

Find total number of postcards

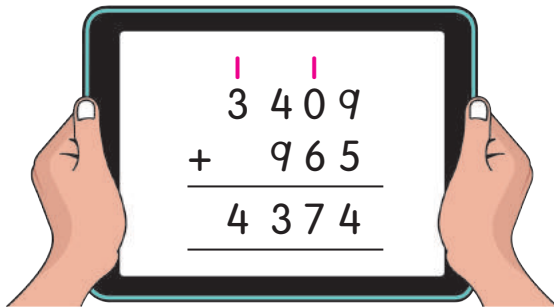
Method



Draw a diagram.



$$3\ 409 + 965 = \square$$



Check

$$\begin{array}{r}
 3\ 13\ 6\ 14 \\
 4\ 374 \\
 -\ 965 \\
 \hline
 3\ 409
 \end{array}$$

$$3\ 409 + 965 = 4\ 374$$

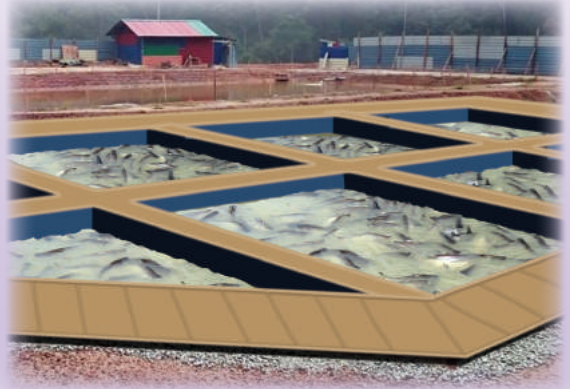
The total number of postcards is 4 374.



- Guide pupils to identify important information by underlining it.
- Guide pupils to solve problems by simulation using base ten blocks.

2

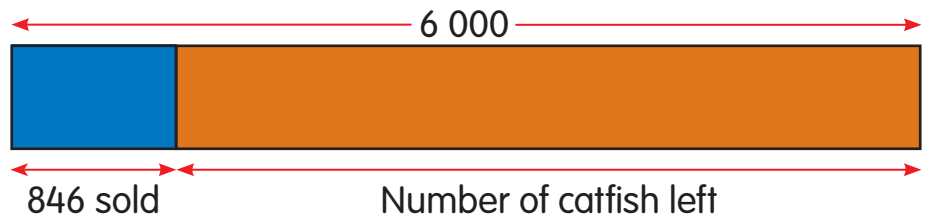
Dev's father rears 6 000 catfish. He sells 846 of the catfish. How many catfish are left?



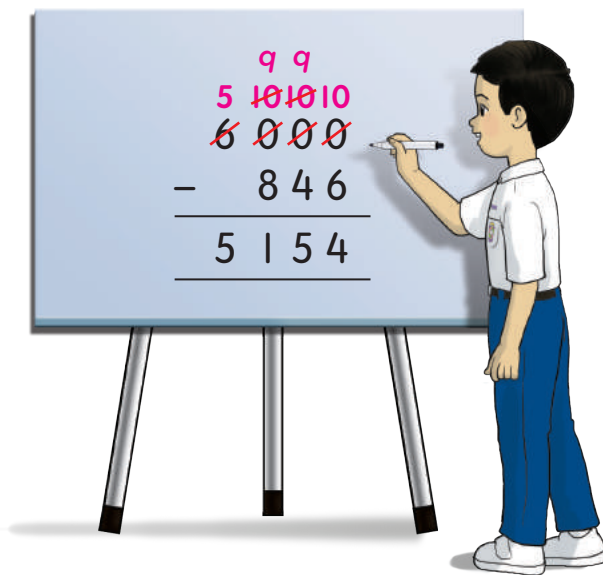
Given 6 000 catfish
846 catfish sold

Find number of catfish left

Method



$$6\ 000 - 846 = \text{[]}$$



Check

$$\begin{array}{r}
 9\ 9 \\
 5\ 154 \\
 +\ 846 \\
 \hline
 6\ 000
 \end{array}$$

$$6\ 000 - 846 = 5\ 154$$

The number of catfish left is 5 154.

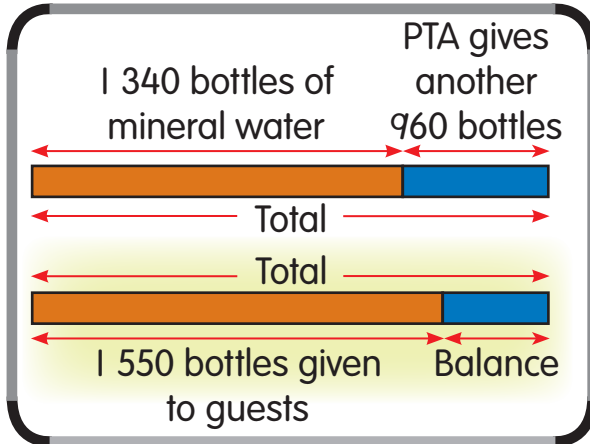


- Train pupils to determine operations by identifying the keywords that mean add or subtract.
- Guide pupils to check their answers by addition or using a calculator.



- 3 A school provides 1 340 bottles of mineral water. The Parent-Teacher Association (PTA) contributes another 960 bottles. 1 550 bottles of mineral water are given to guests. How many bottles of mineral water are left?

Method



$$1\ 340 + 960 - 1\ 550 = \boxed{\quad}$$

$$\begin{array}{r} 1\ 340 \\ +\ 960 \\ \hline 2\ 300 \end{array} \quad \begin{array}{r} 1\ 210 \\ -\ 1\ 550 \\ \hline 750 \end{array}$$

$$1\ 340 + 960 - 1\ 550 = \boxed{750}$$

750 bottles of mineral water are left.



LET'S TRY

Solve the problems.

- a In conjunction with Sports Day, a school ordered 1 420 blue T-shirts and 968 red T-shirts. What is the total number of T-shirts?



- b 1 580 participants took part in a patriotic song singing competition. 27 participants made it to the finals. Calculate the number of participants who did not make it to the finals.

- c Table of durian collection at Airil's father's orchard

Durian	Number
D24	4 095
Musang King	720

Read the table. Airil's father sent 1 846 durians to the fruit market. Calculate the durians left.



RECOGNISE UNKNOWN

1

There are 7 fish in the aquarium.

Father is going to add in **some** fish.

The total number of fish becomes 10.



An **unknown** is **some** fish.
7 plus the **unknown** is 10.

An **unknown** is a quantity that is not specified.

Number sentence $7 + \square = 10$

unknown



2

There are **several** chicks under the chicken coop.

5 eggs have just hatched.
There are 16 chicks altogether.



An **unknown** is **several** chicks.
The **unknown** plus 5 becomes 16.

$\square + 5 = 16$

unknown



- Carry out simulation activities to identify the unknown.

2.6.1
2.6.2



3



12 cupcakes



9 cupcakes left

Several cupcakes from 12 cupcakes were eaten.

An unknown is several cupcakes that were eaten.

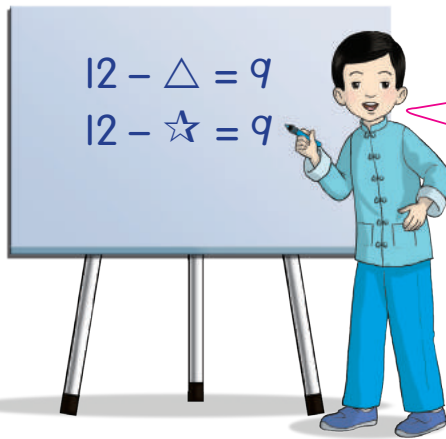
12 minus the unknown equals 9.

$$12 - \square = 9$$

$$12 - \triangle = 9$$

$$12 - \star = 9$$

I can write the number sentence like this.



4

CAR PARK AT GLOBAL SUPERMARKET

TOTAL NUMBER OF PARKING SPACES ?
NUMBER OF PARKING SPACES OCCUPIED 40
NUMBER OF PARKING SPACES UNOCCUPIED 596

Read the information and identify the unknown. Write the number sentence.



The unknown is .

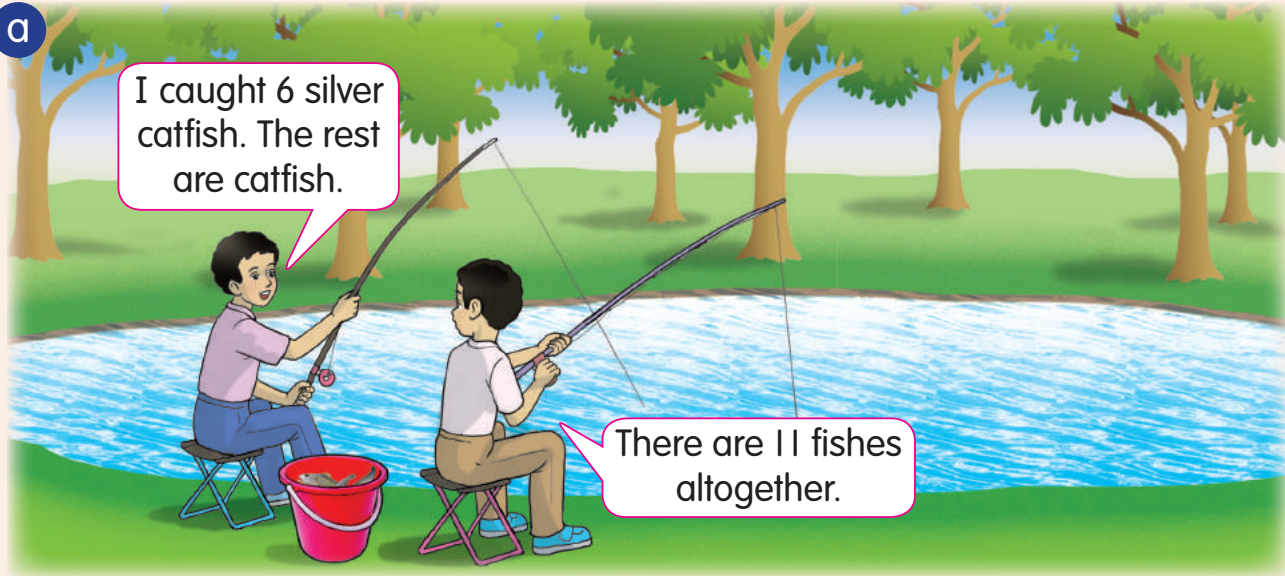
Number sentence



LET'S TRY

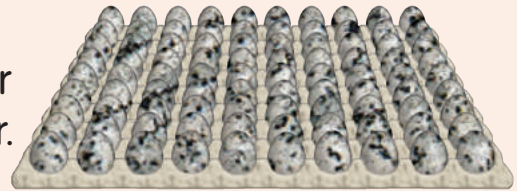
Identify the unknowns. Write the number sentences.

a



b

Shanti sells a few quail eggs. Then, she sells another 90 quail eggs. The number of quail eggs sold is 105 eggs altogether.



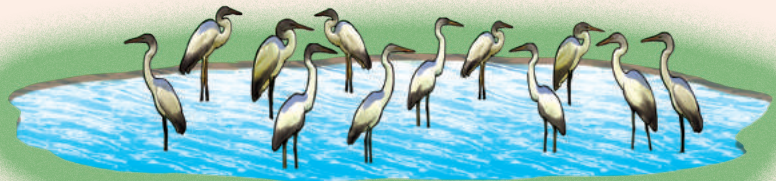
c



There are several mangoes in the basket. 4 were eaten and 14 were left.

d

15 storks are hunting for fish in the lake. A few fly away and 12 are left.



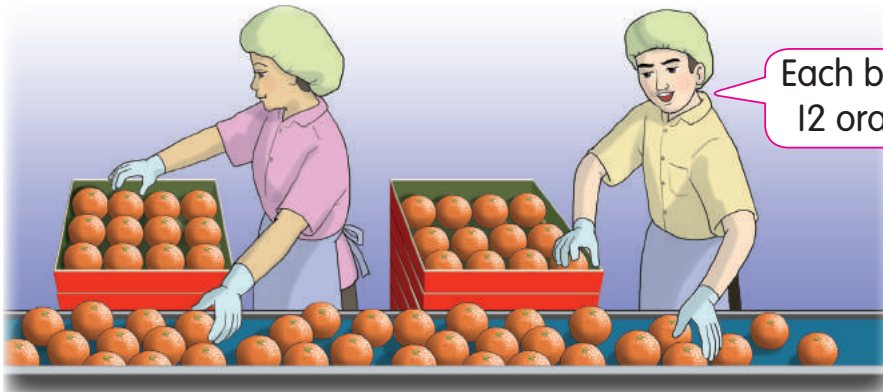
- Guide pupils to identify any unknown through various situations in daily life involving addition and subtraction, such as using objects in the classroom.

2.6.1
2.6.2





MULTIPLICATION

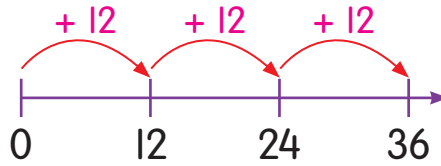


Each box has 12 oranges.

What is the total number of oranges in 3 boxes?

$$3 \times 12 = \square$$

Method 1



$$\begin{array}{r} 12 \\ 12 \\ + 12 \\ \hline 36 \end{array}$$

Method 2

tens	ones



tens	ones

tens	ones
1	2
\times	3
<hr/>	
3	6

Multiply ones

3×2 ones = 6 ones

Multiply tens

3×1 tens = 3 tens

$3 \times 2 = 2 \times 3$.
Is
 $3 \times 12 = 12 \times 3$?



$$3 \times 12 = \mathbf{36}$$

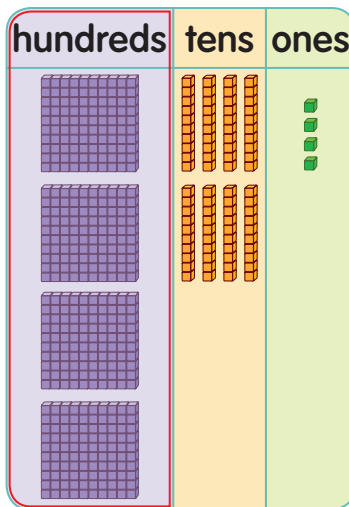
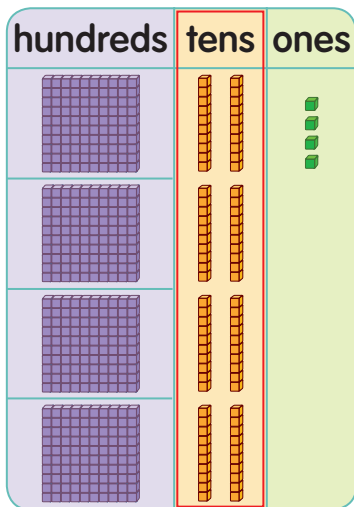
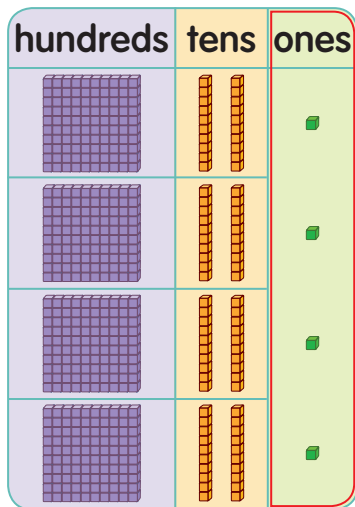
The total number of oranges in 3 boxes is **36**.



- Guide pupils to multiply using counters and squared paper to reinforce their understanding of the multiplication concept.



2 $4 \times 121 = \square$



1	2	1
×		4
—		4

1	2	1
×		4
—		8
	8	4

1	2	1
×		4
4	8	4

Multiply ones
 $4 \times 1 \text{ ones} = 4 \text{ ones}$

Multiply tens
 $4 \times 2 \text{ tens} = 8 \text{ tens}$

Multiply hundreds
 $4 \times 1 \text{ hundreds} = 4 \text{ hundreds}$

$4 \times 121 = 484$

3 $2\ 013 \times 2 = \square$

2	0	1	3
×			2
—			
			6
		2	0
	0	0	0
+	4	0	0
—			
4	0	2	6

$2 \times 3 \text{ ones}$

$2 \times 1 \text{ tens}$

$2 \times 0 \text{ hundreds}$

$2 \times 2 \text{ thousands}$

$2\ 013 \times 2 = 4\ 026$

Estimate to check.
 $2\ 000 \times 2 = 4\ 000$

4 026 is nearer to 4 000.
 The answer is reasonable.



- Provide more exercises without regrouping to reinforce pupils' understanding of the multiplication process.
- Encourage pupils to check their answers using estimation method and calculator.



4 $596 \times 10 = \square$

Method 1

$596 \times 1 \text{ tens} = 596 \text{ tens}$
 $= 5960$

Method 2

$$\begin{array}{r} 596 \\ \times 10 \\ \hline 5960 \end{array}$$

$596 \times 10 = 5960$

5 $78 \times 100 = \square$

Method 1

$$\begin{array}{r} 78 \\ \times 100 \\ \hline 7800 \end{array}$$

Method 2

$78 \times 1 = 78$
 $78 \times 10 = 780$
 $78 \times 100 = 7800$

$78 \times 100 = 7800$

6 $10 \times 1000 = \square$

$$\begin{array}{r} 10 \\ \times 1000 \\ \hline 10000 \end{array}$$

$10 \times 1000 = 10000$

7 $9 \times \square = 9000$

$9 \times 10 = 90$
 $9 \times 100 = 900$
 $9 \times 1000 = 9000$

$9 \times 1000 = 9000$



MIND CHALLENGE

What is the smallest hundreds digit if the answer is a four digit number?

$\square 12 \times 4 = \square$



LET'S TRY

Multiply.

a $\begin{array}{r} 40 \\ \times 8 \\ \hline \square \end{array}$

b $\begin{array}{r} 21 \\ \times 5 \\ \hline \square \end{array}$

c $\begin{array}{r} 501 \\ \times 6 \\ \hline \square \end{array}$

d $\begin{array}{r} 29 \\ \times 10 \\ \hline \square \end{array}$

e $17 \times 100 = \square$

f $10 \times 35 = \square$

g $100 \times 80 = \square$

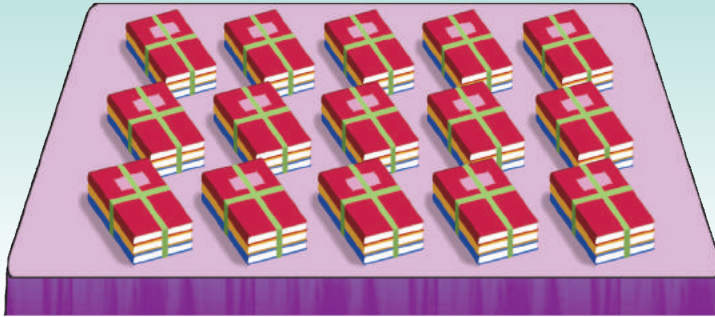
h $6 \times \square = 6000$

i $\square \times 902 = 9020$

j $10000 = \square \times 1000$

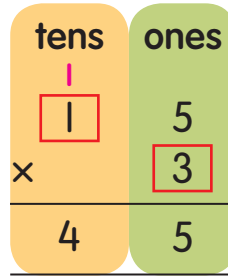
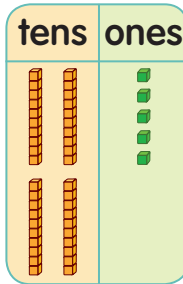
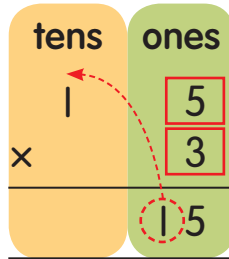
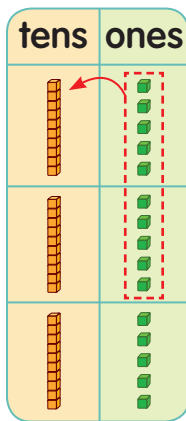


MORE MULTIPLICATION



How many books are there altogether?

$$15 \times 3 = \square$$



SCAN THIS

Multiply ones

3×5 ones = 15 ones
Change 15 ones to 1 tens and 5 ones.

Multiply tens

3×1 tens = 3 tens
 3 tens + 1 tens = 4 tens

$$15 \times 3 = 45$$

There are 45 books altogether.

Could I add 15 and 30 to get the answer?



Is this calculation correct? Explain.



$$\begin{array}{r} 17 \\ \times 5 \\ \hline 535 \end{array}$$



- Guide pupils to use number lines and squared paper to multiply two numbers involving regrouping.

2.3.1

2



What is the total number of pupils in 6 buses?

$6 \times 44 = \square$

	tens	ones
4	4	6
×		
		24

Multiply ones
 6×4 ones = 24 ones
 24 ones is 2 tens and 4 ones.

	2	4	4
×	4	6	
		26	4

Multiply tens
 6×4 tens = 24 tens
 24 tens + 2 tens = 26 tens
 26 tens is 2 hundreds and 6 tens.

	hundreds	tens	ones
	2	4	4
×	0	6	
	2	6	4

Multiply hundreds
 6×0 hundreds = 0 hundreds
 0 hundreds + 2 hundreds = 2 hundreds

$6 \times 44 = 264$

The total number of pupils in 6 buses is 264.

3 $109 \times 7 = \square$

Method 1

	109
×	7
	763

Method 2

1	0	9	×
0	7	0	6
7	6	3	7



$109 \times 7 = 763$



- Guide pupils to multiply using lattice and mental calculation methods.
- Encourage pupils to check their answers using estimation.

2.3.1

4 $576 \times 8 = \square$

\times	500	70	6
8	4 000	560	48

$$576 \times 8 = 4\,000 + 560 + 48 = 4\,608$$

$$576 \times 8 = \boxed{4\,608}$$

5 $4 \times 2\,193 = \square$

Multiply according to the place value.



$$\begin{array}{r} 2\,193 \\ \times \quad 4 \\ \hline 12 \\ 360 \\ 400 \\ + 8\,000 \\ \hline 8\,772 \end{array}$$

$$4 \times 2\,193 = \boxed{8\,772}$$

6

Asin

Kaswini

Adila

Whose answer is correct? Why?



LET'S TRY

Multiply.

a $30 \times 2 = \square$

b $67 \times 6 = \square$

c $209 \times 3 = \square$

d $2015 \times 4 = \square$

e $65 \times 8 = \square$

f $5 \times 417 = \square$

g $9 \times 1\,108 = \square$



- Encourage pupils to use times table as a reference.
- Remind pupils about the commutative law in multiplication, that is $a \times b = b \times a$.

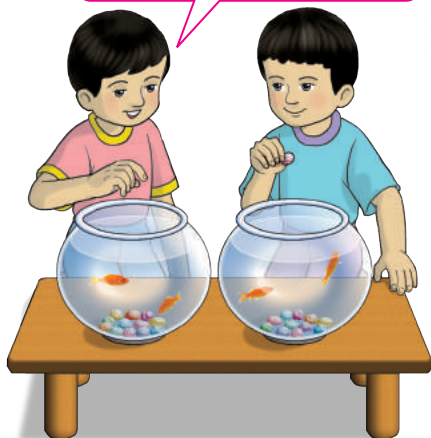




DIVISION

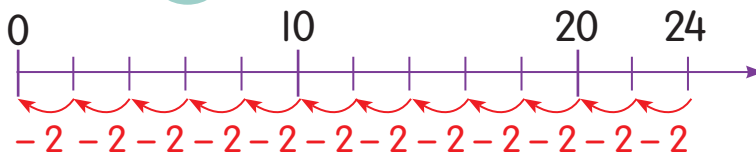
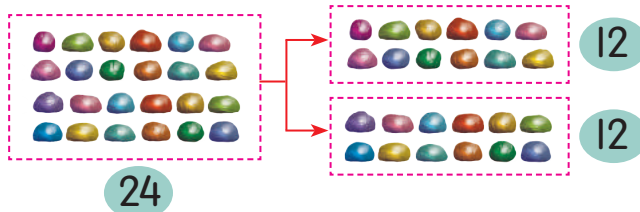
1

We put 24 small stones equally into 2 jars.



Calculate the number of small stones in one jar.

$$24 \div 2 = \square$$

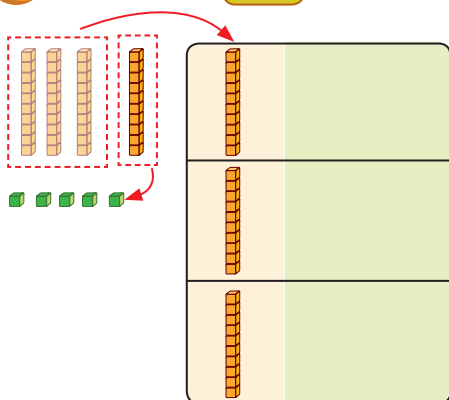


$$24 \div 2 = 12$$

There are 12 small stones in one jar.

2

$$45 \div 3 = \square$$



$$\begin{array}{r} 1 \\ 3 \overline{) 45} \\ \underline{- 3} \\ 15 \end{array}$$

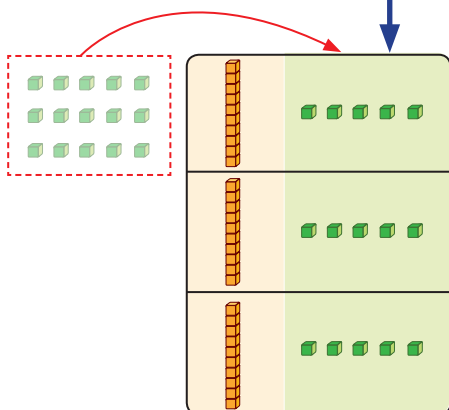
Divide tens

4 tens \div 3

= 1 tens remainder 1 tens

Change 1 tens to 10 ones.

10 ones + 5 ones = 15 ones



$$\begin{array}{r} 15 \\ 3 \overline{) 45} \\ \underline{- 3} \\ 15 \\ \underline{- 15} \\ 0 \end{array}$$

Divide ones

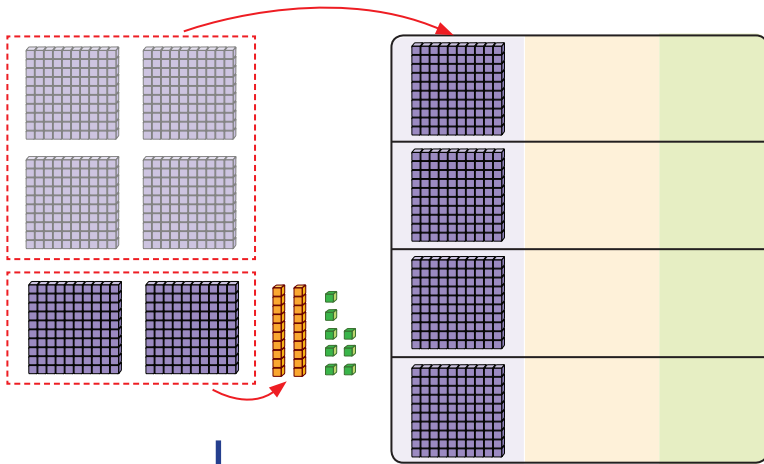
15 ones \div 3 = 5 ones

$$45 \div 3 = 15$$

- Guide pupils to divide numbers without a remainder using object simulations, diagrams, and times tables.
- Guide pupils to construct a 3 times table for an easier division process.

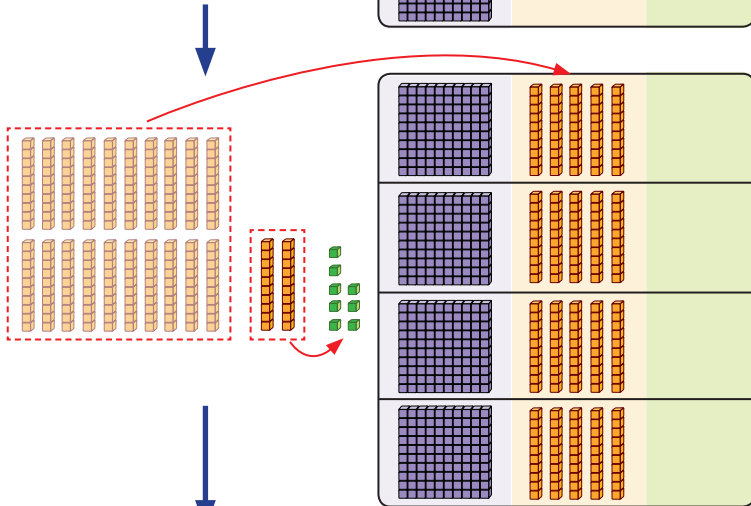
3 628 doughnuts are packed in fours. How many packets of doughnuts are there?

$$628 \div 4 = \square$$



$$\begin{array}{r} 1 \\ 4 \overline{) 628} \\ \underline{-4} \\ 22 \end{array}$$

Divide hundreds.
Change the 2 hundreds remainder to 20 tens.



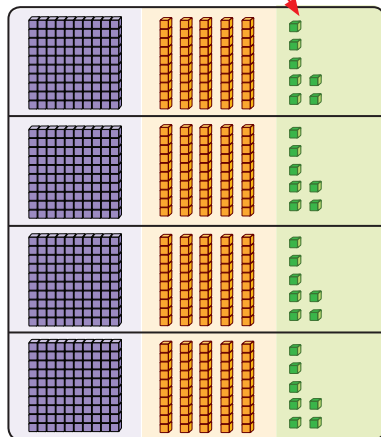
$$\begin{array}{r} 15 \\ 4 \overline{) 628} \\ \underline{-4} \\ 22 \\ \underline{-20} \\ 28 \end{array}$$

Divide tens.
Change the 2 tens remainder to 20 ones.



There are 157 packets of doughnuts.

$$628 \div 4 = 157$$



$$\begin{array}{r} 157 \\ 4 \overline{) 628} \\ \underline{-4} \\ 22 \\ \underline{-20} \\ 28 \\ \underline{-28} \\ 0 \end{array}$$

Divide ones.



- Guide pupils to divide numbers starting with hundreds, followed by tens and ones.



4 $2\ 100 \div 7 =$

Method 1

$$\begin{array}{r} 300 \\ 7 \overline{) 2100} \\ \underline{-21} \\ 00 \\ \underline{-0} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

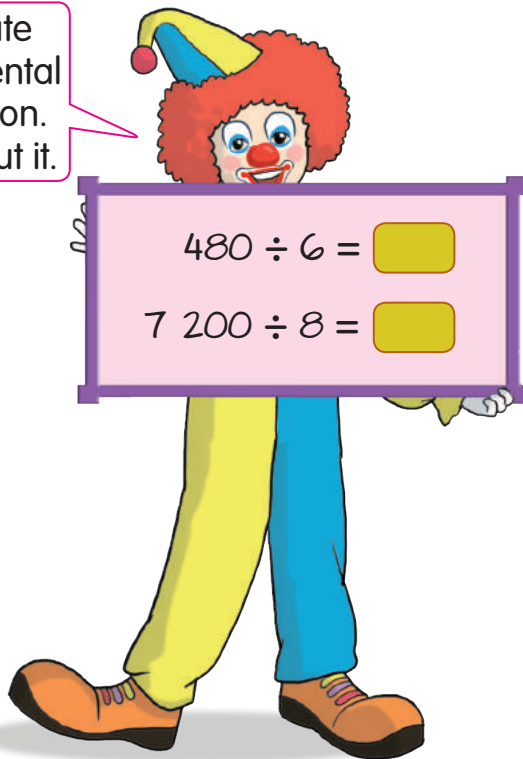
$2\ 100 \div 7 =$

Method 2

$3 \times 7 = 21$

$300 \times 7 = 2\ 100$

Calculate using mental calculation. Talk about it.



5 $5\ 045 \div 5 =$

$$\begin{array}{r} 1\ 009 \\ 5 \overline{) 5\ 045} \\ \underline{-5} \\ 00 \\ \underline{-0} \\ 04 \\ \underline{-0} \\ 45 \\ \underline{-45} \\ 0 \end{array}$$

$5\ 045 \div 5 =$

6

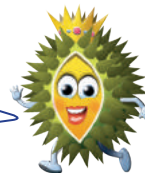
Blue Card

$$\begin{array}{r} 920 \\ 8 \overline{) 7216} \\ \underline{-72} \\ 016 \\ \underline{-16} \\ 0 \end{array}$$

Green Card

$$\begin{array}{r} 902 \\ 8 \overline{) 7216} \\ \underline{-72} \\ 01 \\ \underline{-0} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$

Which calculation is correct?



- Provide questions involving division in the form of games or number puzzles.
- Guide pupils to estimate before calculating the actual answers.

7 $690 \div 10 = \square$

$$\begin{array}{r} 69 \\ 10 \overline{) 690} \\ \underline{- 60} \\ 90 \\ \underline{- 90} \\ 0 \end{array}$$

$690 \div 10 = 69$

8 $8600 \div 100 = \square$

$$\begin{array}{r} 86 \\ 100 \overline{) 8600} \\ \underline{- 800} \\ 600 \\ \underline{- 600} \\ 0 \end{array}$$

$8600 \div 100 = 86$

9 $7000 \div 1000 = \square$

$$\begin{array}{l} 7000 \div 10 = 700 \\ 7000 \div 100 = 70 \\ 7000 \div 1000 = ? \end{array}$$

$7000 \div 1000 = 7$

10 $\square \div 10 = 204$

$$\begin{array}{r} 204 \\ \times 10 \\ \hline 2040 \end{array}$$

I use multiplication.



$2040 \div 10 = 204$



LET'S TRY

Divide.

a $2 \overline{) 36}$

b $3 \overline{) 603}$

c $5 \overline{) 840}$

d $6 \overline{) 1200}$

e $80 \div 4 = \square$

f $5004 \div 9 = \square$

g $180 \div 10 = \square$

h $4700 \div 100 = \square$

i $9000 \div 1000 = \square$

j $\square \div 100 = 11$



• Guide pupils to check their answers using multiplication.

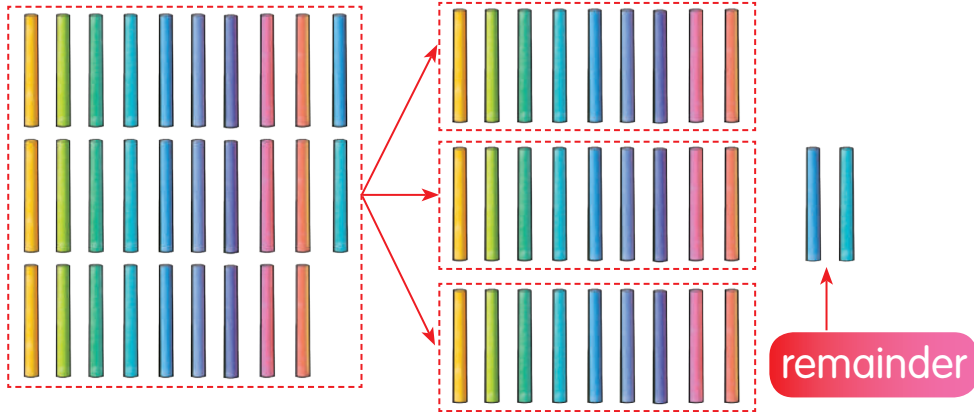
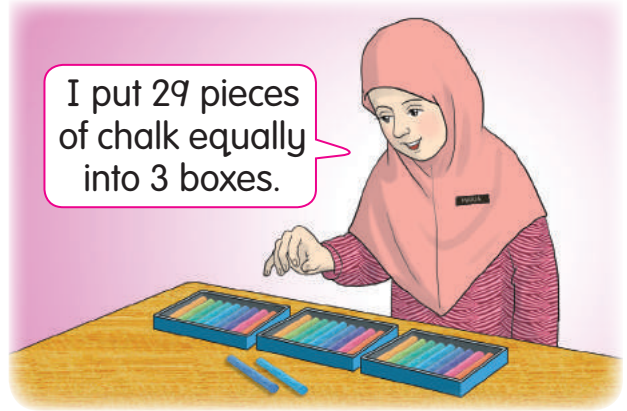




MORE DIVISION

1 How many pieces of chalk are there in each box? How many pieces of chalk are left?

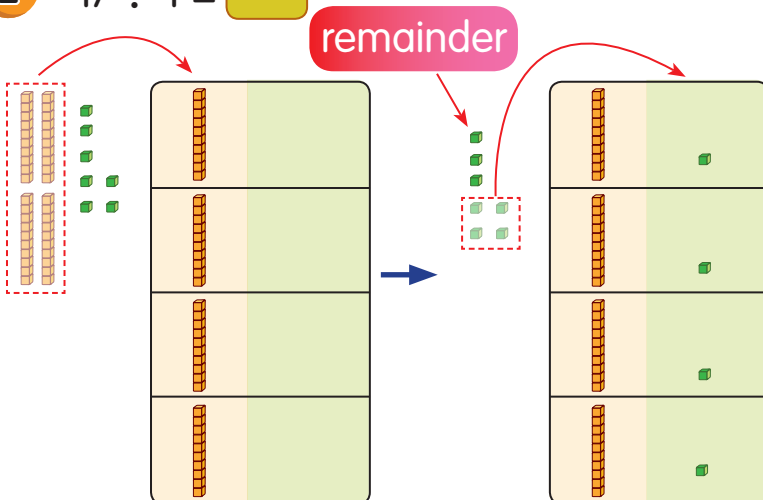
$$29 \div 3 = \square$$



$$29 \div 3 = 9 \text{ remainder } 2$$

Each box has 9 pieces of chalk.
There are 2 pieces of chalk left.

2 $47 \div 4 = \square$



$$\begin{array}{r} 11 \\ 4 \overline{) 47} \\ \underline{- 4} \\ 07 \\ \underline{- 4} \\ 3 \end{array} \text{ remainder}$$

$$47 \div 4 = 11 \text{ remainder } 3$$

- Carry out simulation activities using objects and representatives.
- Guide pupils to use other division strategies such as repeated subtraction according to pupils' level of understanding.

3 $376 \div 6 = \square$

$$\begin{array}{r} 62 \\ 6 \overline{) 376} \\ \underline{-36} \\ 16 \\ \underline{-12} \\ 4 \end{array}$$

$376 \div 6 = 62$ remainder 4

4 $8\,035 \div 9 = \square$

$$\begin{array}{r} \square q \square \\ 9 \overline{) 8035} \\ \underline{-72} \\ 83 \\ \underline{-81} \\ 25 \\ \underline{-} \\ \end{array}$$

$8\,035 \div 9 = \square q \square$ remainder \square

5 $682 \div 10 = \square$

$$\begin{array}{r} 68 \\ 10 \overline{) 682} \\ \underline{-60} \\ 82 \\ \underline{-80} \\ 2 \end{array}$$

$682 \div 10 = 68$ remainder 2

6 $7\,090 \div 100 = \square$

$$\begin{array}{r} 70 \\ 100 \overline{) 7090} \\ \underline{-700} \\ 90 \\ \underline{-0} \\ 90 \end{array}$$

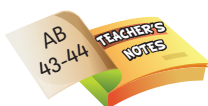
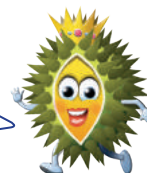
$7\,090 \div 100 = 70$ remainder 90

7 $8\,400 \div 1\,000 = \square$

$$\begin{array}{r} 8 \\ 1\,000 \overline{) 8\,400} \\ \underline{-8\,000} \\ 400 \end{array}$$

$8\,400 \div 1\,000 = 8$ remainder 400

Solve $5\,230 \div 1\,000$.



• Encourage pupils to check their answers using multiplication.



8

What is your answer for **c**?



a $9\ 768 \div 10 = 976 \text{ remainder } 8$

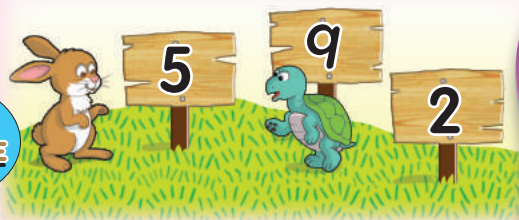
b $9\ 768 \div 100 = 97 \text{ remainder } 68$

c $9\ 768 \div 1\ 000 =$

Fill in the blanks with the digits given.



MIND CHALLENGE



3 | 7 remainder 1

3)



LET'S TRY

Divide.

a $2 \overline{)45}$

b $3 \overline{)590}$

c $7 \overline{)8\ 032}$

d $10 \overline{)607}$

e $92 \div 5 =$

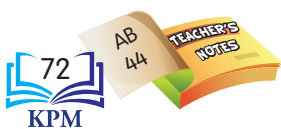
f $702 \div 8 =$

g $1\ 502 \div 9 =$

h $3\ 791 \div 10 =$

i $513 \div 100 =$

j $4\ 300 \div 1\ 000 =$



• Provide more exercises to reinforce pupils' understanding.

2.4.1



CREATE STORIES

1



$$3 \times 24 = 72$$

Puan Zurina distributed bags of souvenirs to **3** group leaders. Each group leader received **24** bags. The total number of bags is **72**.

2



$$8 \times \text{RM1 000} = \text{RM8 000}$$

8 pupils won the robotic competition. Each pupil received **RM1 000**. The total amount of money received is **RM** .

3

$$675 \div 9 = 75$$

There were **675** boxes of food distributed to orphanages. Each orphanage received boxes.

4

$$3\,740 \div 100 = 37 \text{ remainder } 40$$

key chains are put into **100** boxes. Each box contains **37** key chains. The remainder of the key chains are .



LET'S TRY

Create stories.

a $16 \times 4 = 64$

b $7 \times 1\,000 = 7\,000$

c $528 \div 6 = 88$

d $643 \div 100 = 6 \text{ remainder } 43$

AB
45-46

TEACHER'S
NOTES

- Guide pupils to create stories based on the pictures and number sentences.
- Provide suitable keywords to help pupils create stories.

2.7.1



SOLVE THE PROBLEMS

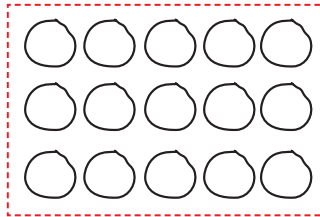
- I** Darren's mother bought 4 boxes of strawberries. Each box has 15 strawberries. What is the total number of strawberries?

Given bought 4 boxes of strawberries
A box has 15 strawberries.

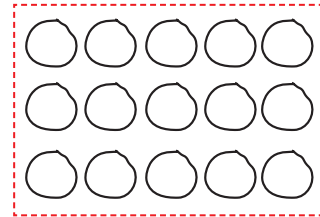
Find total number of strawberries

Method

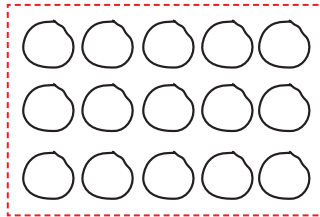
I draw pictures.



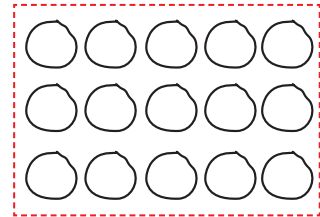
15 strawberries



15 strawberries



15 strawberries



15 strawberries

$$4 \times 15 = \square$$

$$\begin{array}{r} 2 \\ 15 \\ \times 4 \\ \hline 60 \end{array}$$

I use repeated addition to check the answer.

$$\begin{aligned} 4 \times 15 &= 15 + 15 + 15 + 15 \\ &= 30 + 30 \\ &= 60 \end{aligned}$$



$$4 \times 15 = \mathbf{60}$$

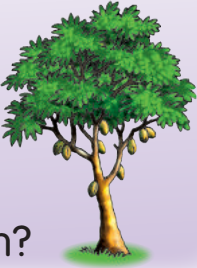
The total number of strawberries is **60**.

- Guide pupils to solve problems using various methods such as models and number lines.
- Provide more practise in constructing number sentences orally based on story cards.

2.7.3

2

Farm	Bee Tin's father	Jarjit's father
Number of cocoa trees	1 670	3 times the number of trees Bee Tin's father has



How many cocoa trees are there on Jarjit's father's farm?

Method

Bee Tin's father's farm 1 670

Jarjit's father's farm 1 670 1 670 1 670

$$3 \times 1\,670 = \square$$

$$\begin{array}{r} \times 1\,670 \\ \times 670 \\ \times 70 \\ \hline 5\,010 \end{array}$$

$$3 \times 1\,670 = 5\,010$$

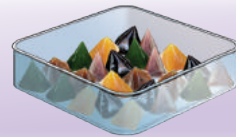
Check your answer using repeated addition.



The number of cocoa trees on Jarjit's father's farm is 5 010.

3

Hajar puts 96 packets of *dodol* equally into 4 containers. How many packets are there in each container?



Given

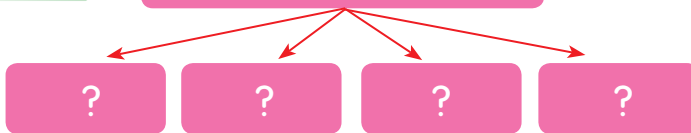
96 packets of *dodol*
4 containers

Find

number of packets of *dodol* in each container

Method

96 packets of *dodol*

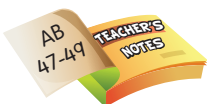


$$96 \div 4 = \square$$

$$\begin{array}{r} 24 \\ 4 \overline{) 96} \\ \underline{- 8} \\ 16 \\ \underline{- 16} \\ 0 \end{array}$$

$$96 \div 4 = 24$$

The number of packets of *dodol* in each container is 24.



- Guide pupils to underline important points and understand the questions.
- Guide pupils to solve problems using number lines and encourage them to check their answers.



- 4 A factory produces 9 507 bottles of soursop juice in one day. 8 bottles are packed in each box. How many boxes of soursop juice are there? What is the remainder of bottles?



Given There are 9 507 bottles of juice. Each box has 8 bottles.

Find number of boxes and remainder of bottles

Method $9\ 507 \div 8 =$ remainder

$$\begin{array}{r}
 1188 \\
 8 \overline{)9507} \\
 \underline{-8} \\
 15 \\
 \underline{-8} \\
 70 \\
 \underline{-64} \\
 67 \\
 \underline{-64} \\
 3
 \end{array}$$

I check by using multiplication.



$$9\ 507 \div 8 = 1\ 188 \text{ remainder } 3$$

1 188 boxes of juice are produced. The remainder is 3 bottles.



LET'S TRY

Solve these.

- Rita arranges 18 flowers in a vase. Calculate the total number of flowers in 6 vases.
- A charity organisation distributes 840 storybooks equally to 5 orphanages. How many storybooks does each orphanage get?
- There are 2 008 packets of batteries. Each box has 100 packets of batteries. How many packets of batteries are not in the boxes?





RECOGNISE MORE UNKNOWN

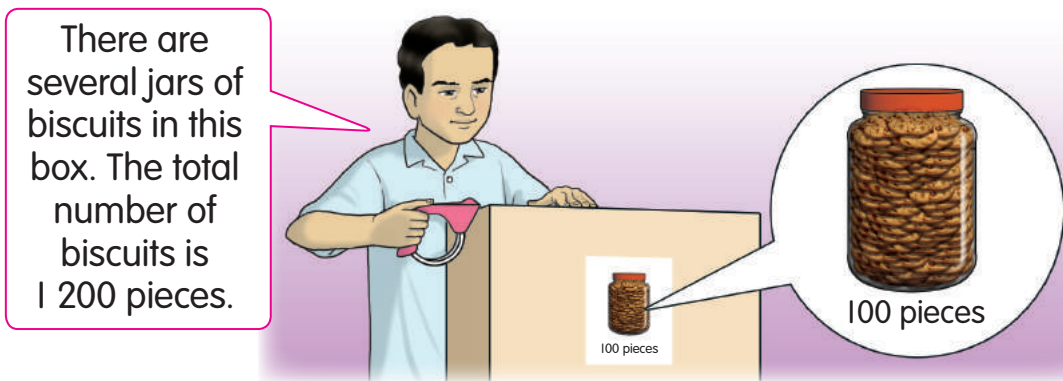
1



The number of pages for each comic is the unknown.
 3 comics times the certain number of pages is 150 pages.
 3 multiply unknown is equal to 150.

Number sentence $3 \times \square = 150$
 unknown

2



Several jars is the unknown.

Number sentence $\square \times 100 = 1\ 200$
 unknown



- Carry out simulation activities using story cards to identify the unknown.
- Provide a variety of unknown symbols in teaching and learning process. For example ▲ and ★.



3

Puan Siti hands out 20 pieces of coloured paper equally to several pupils. Each pupil receives 5 pieces of coloured paper.

Identify the unknown. Write the number sentence.

Several pupils is the **unknown**.

20 divided by the **unknown** is equal to 5.

$$20 \div \square = 5$$

4



State the unknown. Write the number sentence.

The **unknown** is .

$$\square \div 4 = 30$$

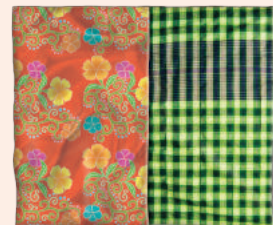


The total mass of several similar cakes is 4 000 g. State the unknown. Write the number sentence.



Identify the unknowns. Write the number sentences.

- a Jamit has several files. He keeps 20 certificates in one file. There are 40 certificates altogether.
- b Mogan's mother buys a quantity of apples. She puts 6 apples into each plastic bag and sells them. She has 30 bags of apples.
- c Habsah's textile factory donated 400 pieces of batik and *pelekat* sarong to several charities. Each charity received 80 pieces.
- d 35 schools take part in the Muafakat Johor Run. Each school is represented by a number of pupils. The total number of pupils participating in the run is 3 500.



- Guide pupils to identify the unknown based on several situations inside and outside the classroom.






COLLECT CHIPS

Tools/Materials

dice, A4 paper, pencil, 2 markers, 12 red chips, 12 blue chips

Participants

2 players and 1 referee

START →	$4\ 032 + 564 =$ <input type="text"/>	$6\ 170 + 298 + 79 =$ <input type="text"/>
FINISH	4 135	3 473
	2 180	$8\ 034 - 2\ 157 =$ <input type="text"/>
Rani has 1 430 stamps. The number of stamps Rani has is 5 times more than Dayang's stamps. How many stamps does Dayang have?	6 547	$3 \times 819 =$ <input type="text"/>
Yap has 1 860 marbles. Rina has 247 marbles less than Yap. How many marbles do they have altogether?	1 264	$8\ 720 \div 4 =$ <input type="text"/>
	5 877	
$6\ 004 - 1\ 237 - 984 =$ <input type="text"/>	286	MISS A TURN
$1\ 407 - 208 + 65 =$ <input type="text"/>	7 150	$6\ 032 -$ <input type="text"/> $= 1\ 897$
	2 107	

Method

- 1 Throw the dice. The first player moves the marker according to the number on the dice.
- 2 Answer the question. Show your calculation to the referee. If it is correct, put a chip on the answer in the middle.
- 3 If the marker stops on the flower, put a chip on any answer in the middle.
- 4 The next player takes his/her turn. Repeat steps 1 to 3. If the marker stops on a question answered correctly, throw the dice again.
- 5 The player with the most chips wins.



FRACTIONS, DECIMALS, AND PERCENTAGES



$\frac{2}{5}$

discount
20%

The tip of this pen
is 0.7 millimetre.

Reduced to
 $\frac{1}{2}$ price

50%
price cut

0.7 mm

~~RM100~~
only RM50

2 of these
5 notebooks
are yellow.



- Discuss fractions, decimals, and percentages shown in the picture above.
- Ask pupils to state several daily situations related to fractions, decimals, and percentages.

3.1.1, 3.2.1
3.3.1, 3.3.2





PROPER FRACTIONS

1

3 of the 4 mice are red.

3 of 4 is three over four.



Three over four is written as

$\frac{3}{4}$ numerator
denominator

$\frac{3}{4}$ is a proper fraction.
The numerator is smaller than the denominator.

2

4 of the 5 pencils are not green.

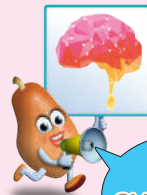


4 of 5 is four over five.
Four over five is written as $\frac{4}{5}$.

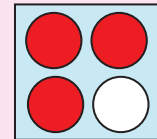
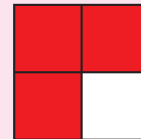
Say other proper fractions.



Look at the diagram. Do the red parts have the same fractions? Discuss.



MIND CHALLENGE



LET'S TRY

State the fractions of the balloons:



- a red.
- b blue.
- c yellow.
- d purple.

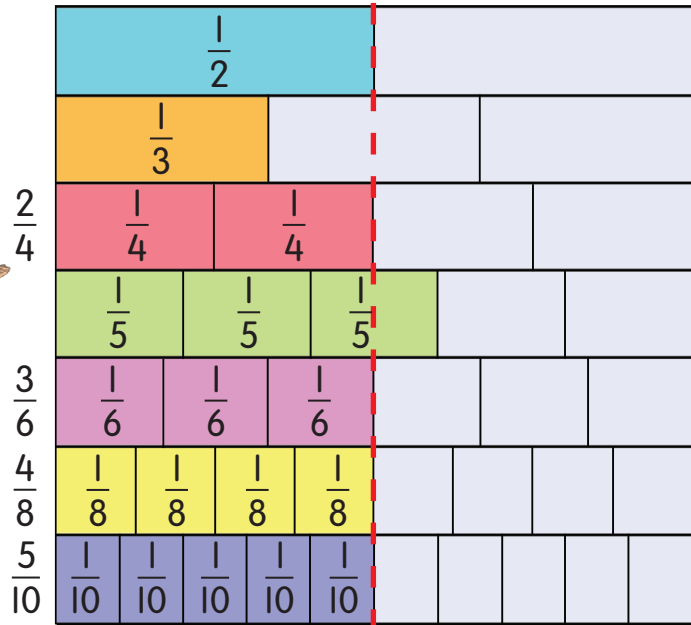
- Carry out activities of stating various proper fractions from a group of objects where the denominator is up to 10 using flash cards.
- Explain that the value of a proper fraction is less than 1.
- Surf <http://www.mathinenglish.com/worksheetview.php?id=3079&stid=10020>

3 What is the equivalent fraction of $\frac{1}{2}$?

Look at the parts with the same size as $\frac{1}{2}$.



FRACTION CHART



Which fraction is equal to $\frac{1}{2}$?



$\frac{1}{2} = \frac{2}{4}$
 $\frac{1}{2} = \frac{3}{6}$
 $\frac{1}{2} = \frac{4}{8}$
 $\frac{1}{2} = \frac{\square}{\square}$

The equivalent fractions of $\frac{1}{2}$ are $\frac{2}{4}$, $\frac{\square}{\square}$, $\frac{\square}{\square}$ and $\frac{\square}{\square}$.

Give examples of equivalent fractions based on the chart above.



LET'S TRY

Choose and say the following equivalent fractions.

a	$\frac{2}{3}$	b	$\frac{4}{5}$	c	$\frac{3}{4}$	d	$\frac{6}{9}$
$\frac{4}{6}$	$\frac{1}{6}$	$\frac{8}{5}$	$\frac{8}{10}$	$\frac{4}{8}$	$\frac{6}{8}$	$\frac{2}{3}$	$\frac{3}{2}$

- Emphasise that to find an equivalent fraction, multiply or divide the denominator and numerator by the same number.
- Explore the number pattern of the numerator and denominator for equivalent fractions.
- Surf www.mathfox.com/topics/fractions/ for reinforcement exercises.

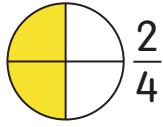
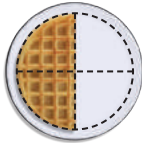


FRACTIONS IN THE SIMPLEST FORM

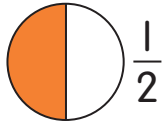
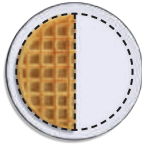
1 $\frac{2}{4}$ equals $\frac{1}{2}$.

Which fraction shows the simplest form?

2 and 4 can be divided by 2.



$$\frac{2 \div 2}{4 \div 2} = \frac{1}{2}$$

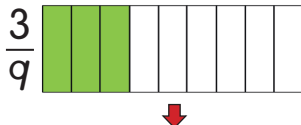


$$\frac{2}{4} = \frac{1}{2}$$



$\frac{1}{2}$ is the simplest form of $\frac{2}{4}$.

2 State $\frac{3}{9}$ in the simplest form.



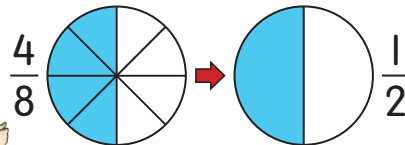
$$\frac{3 \div 3}{9 \div 3} = \frac{1}{3}$$



$$\frac{3}{9} = \frac{1}{3}$$

$\frac{3}{9}$ in the simplest form is $\frac{1}{3}$.

3 Simplify $\frac{4}{8}$.



$$\frac{4 \div 4}{8 \div 4} = \frac{1}{2}$$

$$\frac{4}{8} = \frac{1}{2}$$



- Emphasise that to simplify a fraction, the numerator and the denominator must be divided by the same number.
- Emphasise that the simplest form of fraction has the smallest value for the numerator and denominator, and can only be divided by 1.

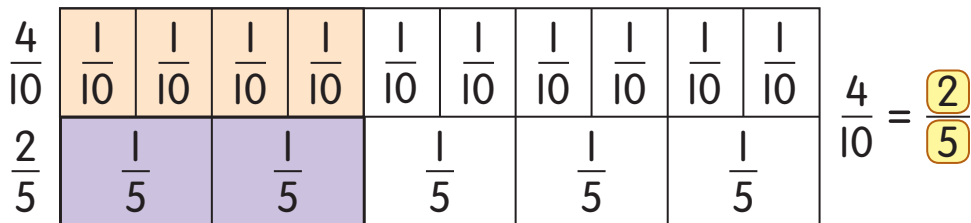


There are 10 hula hoops altogether.

There are 4 and 6 .

What is the simplest form of fraction for each of these coloured hoops?

a The fraction of is $\frac{4}{10}$.



The simplest form of $\frac{4}{10}$ is $\frac{2}{5}$.

b The fraction of is $\frac{6}{10}$.

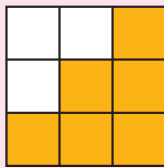
$$\frac{6}{10} = \frac{6 \div \square}{10 \div \square} = \frac{\square}{\square}$$



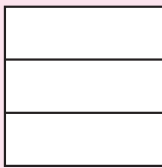
The simplest form of $\frac{6}{10}$ is $\frac{\square}{\square}$.



MIND CHALLENGE



Dina



Ailee

How many parts should Ailee colour so that it is equal to Dina's?



LET'S TRY

Simplify.

a $\frac{2}{6} = \frac{2 \div \square}{6 \div \square} = \frac{\square}{\square}$

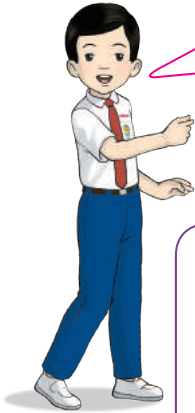
b $\frac{4}{8} = \frac{4 \div \square}{8 \div \square} = \frac{\square}{\square}$

c $\frac{8}{10} = \frac{8 \div \square}{10 \div \square} = \frac{\square}{\square}$

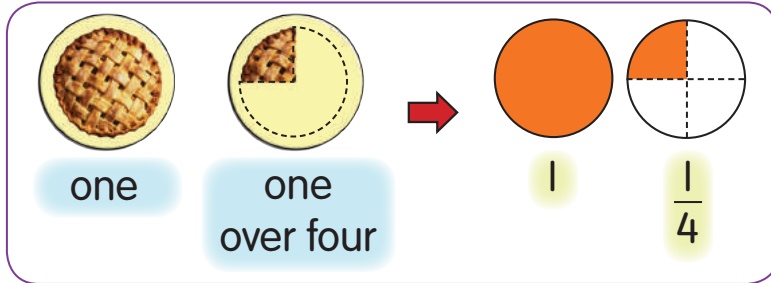
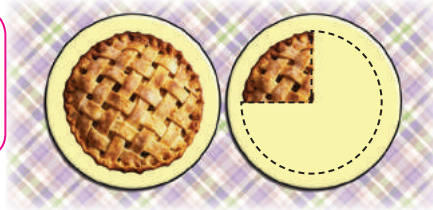


IMPROPER FRACTIONS AND MIXED NUMBERS

1



How many parts does this pie have?



There is **one and one over four** pie.

One and one over four is written as $1\frac{1}{4}$.

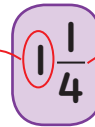
$1\frac{1}{4}$ is a mixed number.

1 is a whole number.

$\frac{1}{4}$ is a proper fraction.

mixed number

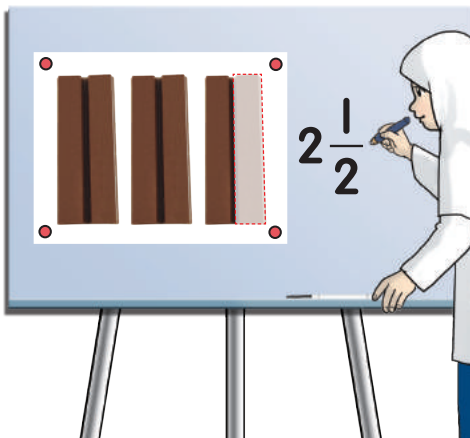
whole number



proper fraction

There is $1\frac{1}{4}$ pie.

2



There are **two and one over two** chocolate fingers.

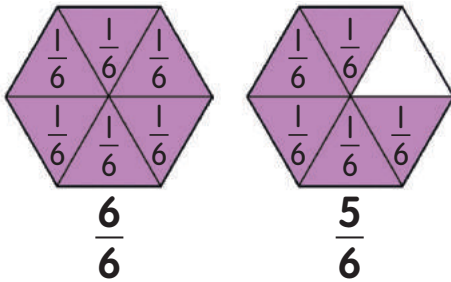
Give other examples of mixed numbers.



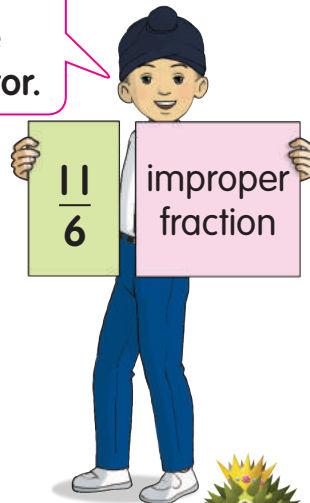
- Use various objects such as fraction kits to show mixed numbers.
- Explain that the value of a proper fraction is less than 1 and the value of a mixed number is more than 1.



- 3 Two hexagons are divided into 6 equal parts. What is the fraction of 11 parts?



The numerator is larger than the denominator.



11 parts of $\frac{1}{6}$ is $\frac{11}{6}$.

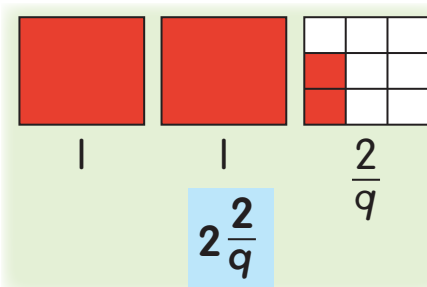
$\frac{11}{6}$ is an improper fraction.

The fraction of 11 parts is $\frac{11}{6}$.

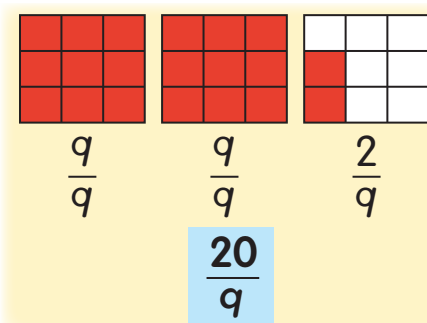
$\frac{6}{6}$ is also an improper fraction. Discuss.



- 4 State $2\frac{2}{q}$ as an improper fraction.



Overlap the transparent plastic.



20 parts of $\frac{1}{q}$ is $\frac{20}{q}$.

$$2\frac{2}{q} = \frac{20}{q}$$



5

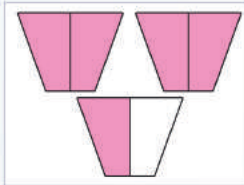
Monday

Improper Fractions and Mixed Numbers

4/3/2019

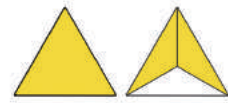
This is an improper fraction.

$$\frac{5}{2}$$



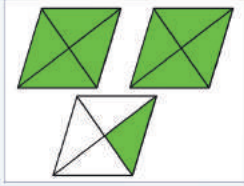
$$2\frac{1}{2}$$

$$\frac{5}{3}$$



$$1\frac{2}{3}$$

$$\frac{9}{4}$$



$$2\frac{1}{4}$$

$$1\frac{3}{5}$$



$$2\frac{3}{5}$$



$$\frac{8}{7} \quad 1\frac{1}{7}$$

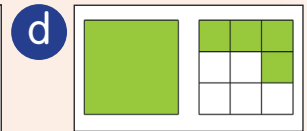
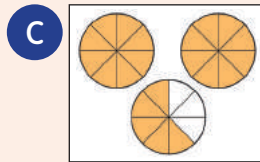
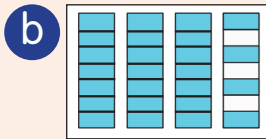


What can you tell about these two fractions?



LET'S TRY

1 Write the mixed numbers and improper fractions.



2

$$2\frac{1}{4}$$

$$\frac{6}{6}$$

$$3\frac{2}{9}$$

$$\frac{9}{4}$$

$$1\frac{4}{5}$$

$$\frac{7}{3}$$

$$\frac{14}{8}$$

$$\frac{15}{7}$$

a Say the improper fractions.

b Say the mixed numbers.

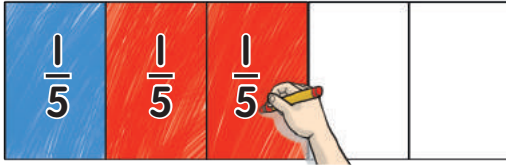
- Prepare suitable examples of improper fractions and mixed numbers involving the denominators up to 10 using shapes for identifying activities.





ADDITION OF FRACTIONS

1 $\frac{1}{5} + \frac{2}{5} =$



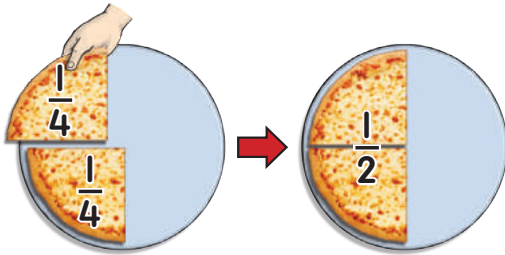
$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$



The denominator is the same. Just add the numerator.

2 Add $\frac{1}{4}$ and $\frac{1}{4}$.

$\frac{1}{4} + \frac{1}{4} =$



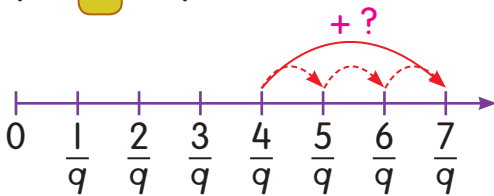
$\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$

$$\begin{aligned} \frac{1}{4} + \frac{1}{4} &= \frac{2}{4} \\ &= \frac{2 \div 2}{4 \div 2} \\ &= \frac{1}{2} \end{aligned}$$

Simplify $\frac{2}{4}$.



3 $\frac{4}{q} +$ $= \frac{7}{q}$



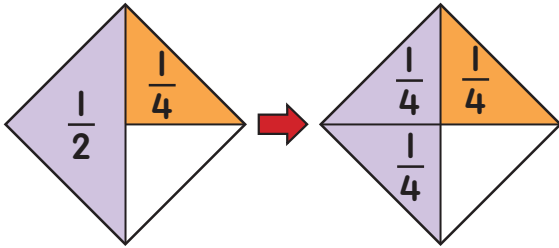
$\frac{4}{q} + \frac{3}{q} = \frac{7}{q}$

Look at the number line. What are two other fractions which give a total of $\frac{7}{q}$?



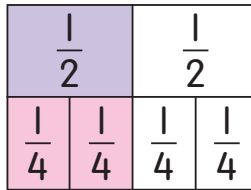
4 $\frac{1}{2} + \frac{1}{4} =$

Method 1



$\frac{1}{2} + \frac{1}{4} =$

Method 2



$\frac{1}{2} + \frac{1}{4} = \frac{2}{4} + \frac{1}{4}$
 $= \frac{3}{4}$

Different denominators.
Look at the fraction chart.

$\frac{1}{2} = \frac{2}{4}$



5 $\frac{1}{2} + \frac{1}{6} =$

$\frac{1}{2} + \frac{1}{6} = \frac{1 \times 3}{2 \times 3} + \frac{1}{6}$
 $= \frac{3}{6} + \frac{1}{6}$
 $= \frac{4 \div 2}{6 \div 2}$
 $= \frac{2}{3}$

The simplest form of $\frac{4}{6}$ is $\frac{2}{3}$.



$\frac{1}{2} + \frac{1}{6} =$

6 $\frac{2}{3} + \frac{1}{6} =$

$\frac{2}{3} + \frac{1}{6} = \frac{2 \times 2}{3 \times 2} + \frac{1}{6}$
 $=$ $+$ $\frac{1}{6}$
 $=$
 $\frac{2}{3} + \frac{1}{6} =$

Add these.

$\frac{1}{2} + \frac{1}{8} =$

$\frac{1}{2} + \frac{3}{10} =$

$\frac{1}{3} + \frac{4}{9} =$



- Guide pupils to construct a fraction chart to find equivalent fractions when adding two fractions of different denominators.
- Emphasise that in order to add two fractions of different denominators, they must find a common denominator for both.

3.1.5 (ii)
3.1.5 (iii)

7

$$\frac{2}{5} + \frac{3}{10} = \frac{\square}{\square}$$

$$\frac{2}{5} + \frac{3}{10} = \frac{2}{10} + \frac{3}{10}$$

$$= \frac{5 \div 5}{10 \div 5}$$

$$= \frac{1}{2}$$

$$\frac{3}{4} + \frac{1}{8} = \frac{\square}{\square}$$

$$\frac{3}{4} + \frac{1}{8} = \frac{3 \times 2}{4 \times 2} + \frac{1}{8}$$

$$= \frac{6}{8} + \frac{1}{8}$$

$$= \frac{7}{8}$$

Look at the calculations above. Which one is correct?
Discuss.



**MIND
CHALLENGE**

Show the workings for this answer.

$$\frac{3}{8} + \frac{\square}{\square} = \frac{7}{8}$$



LET'S TRY

Solve these.

a $\frac{1}{3} + \frac{1}{3} = \frac{\square}{\square}$

b $\frac{2}{7} + \frac{4}{7} = \frac{\square}{\square}$

c $\frac{5}{9} + \frac{2}{9} = \frac{\square}{\square}$

d $\frac{3}{5} + \frac{1}{5} = \frac{\square}{\square}$

e $\frac{2}{3} + \frac{2}{9} = \frac{\square}{\square}$

f $\frac{3}{8} + \frac{1}{2} = \frac{\square}{\square}$

g $\frac{4}{5} + \frac{1}{10} = \frac{\square}{\square}$

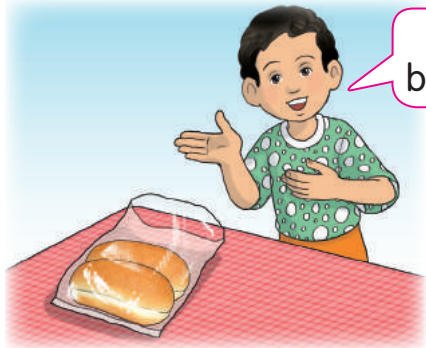
h $\frac{1}{8} + \frac{\square}{\square} = \frac{5}{8}$

i $\frac{1}{9} + \frac{\square}{\square} = \frac{7}{9}$



SUBTRACTION OF FRACTIONS

1

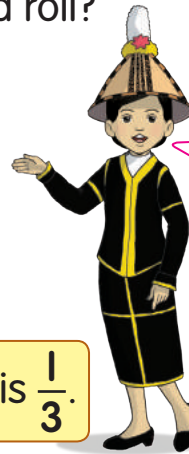
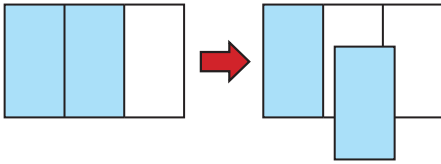


There are 2 out of 3 parts of a bread roll. I'm going to take 1 part.

What is the remaining part of the bread roll?

$$\frac{2}{3} - \frac{1}{3} = \text{[]}$$

$$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$$

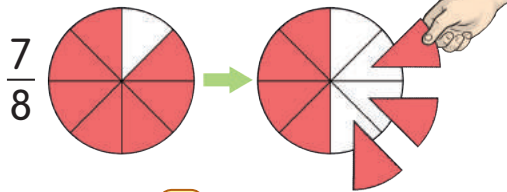


The denominator is the same. Just subtract the numerator.

The remaining part of the bread roll is $\frac{1}{3}$.

2 Subtract $\frac{3}{8}$ from $\frac{7}{8}$.

$$\frac{7}{8} - \frac{3}{8} = \text{[]}$$



$$\frac{7}{8} - \frac{3}{8} = \frac{4}{8} = \frac{1}{2}$$

Simplify the answer.

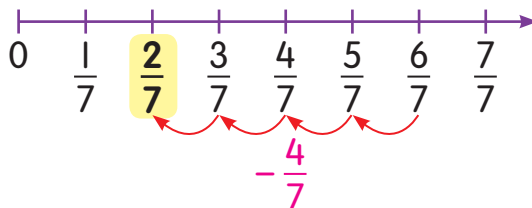
$$\frac{7}{8} - \frac{3}{8} = \frac{4}{8} = \frac{1}{2}$$

$\frac{4 \div 4}{8 \div 4} = \frac{1}{2}$



3 What is the difference between $\frac{4}{7}$ and $\frac{6}{7}$?

$$\frac{6}{7} - \frac{4}{7} = \text{[]}$$



$$\frac{6}{7} - \frac{4}{7} = \frac{2}{7}$$

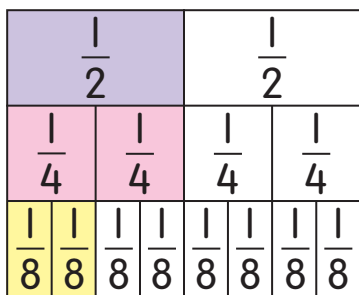


- Emphasise that to subtract fractions of the same denominator, pupils should subtract the numerator only.
- Surf www.superteacherworksheets.com/fractions-subtracting.html
- Emphasise that answers must be written in the simplest form.

4 $\frac{1}{2} - \frac{1}{4} =$

$\frac{1}{\cancel{2}} - \frac{1}{\cancel{4}} = \frac{2}{4} - \frac{1}{4}$
 $= \frac{1}{4}$

$\frac{1}{2} - \frac{1}{4} = \frac{1}{4}$



On the fraction chart, $\frac{1}{2} = \frac{2}{4}$ and $\frac{1}{4} = \frac{2}{8}$.



5 $\frac{1}{4} - \frac{1}{8} =$

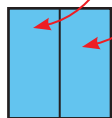
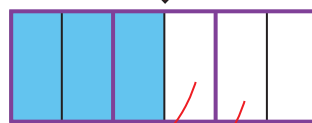
$\frac{1}{4} - \frac{1}{8} = \frac{2}{8} - \frac{1}{8}$
 $= \frac{1}{8}$

$\frac{1}{4} - \frac{1}{8} = \frac{1}{8}$

6 $\frac{5}{6} - \frac{1}{3} =$

$\frac{5}{6} - \frac{1}{3} = \frac{5}{6} - \frac{1 \times 2}{3 \times 2}$
 $= \frac{5}{6} - \frac{2}{6}$
 $= \frac{3 \div 3}{6 \div 3}$
 $= \frac{1}{2}$

$\frac{5}{6} - \frac{1}{3} = \frac{1}{2}$



Simplify the answer.

Can you subtract $\frac{1}{2}$ from $\frac{1}{6}$?
 Discuss.



- Emphasise that to subtract a fraction, the denominator must be of equal value.
- Use 2, 4, 6, 8 and 10 times tables to help pupils determine the equivalent fractions.

7 $\frac{7}{10} - \frac{1}{2} = \square$

$$\frac{7}{10} - \frac{1}{2} = \frac{7}{10} - \frac{1 \times 5}{2 \times 5}$$

$$= \frac{7}{10} - \frac{5}{10}$$

$$= \frac{2 \div 2}{10 \div 2}$$

$$= \frac{1}{5}$$

$\frac{7}{10} - \frac{1}{2} = \frac{1}{5}$

8 $\frac{2}{3} - \frac{5}{9} = \square$

$$\frac{2}{3} - \frac{5}{9} = \frac{2 \times \square}{3 \times \square} - \frac{5}{9}$$

$$= \frac{\square}{\square} - \frac{5}{9}$$

$$= \frac{\square}{\square}$$

$\frac{2}{3} - \frac{5}{9} = \frac{\square}{\square}$

9 $\frac{9}{10} - \square = \frac{3}{10}$

$$\frac{9}{10} - \frac{6}{10} = \frac{3}{10}$$

$$\frac{9}{10} - \frac{6}{10} = \frac{3}{10}$$

10 $\square - \frac{2}{5} = \frac{2}{5}$

$$\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$$

$$\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$$



LET'S TRY

Solve these.

a $\frac{7}{8} - \frac{5}{8} = \square$

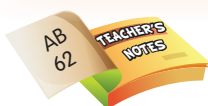
b $\frac{5}{6} - \frac{1}{6} = \square$

c $\frac{2}{3} - \frac{2}{9} = \square$

d $\frac{1}{2} - \frac{3}{10} = \square$

e $\frac{4}{5} - \square = \frac{1}{5}$

f $\square - \frac{7}{10} = \frac{1}{10}$



- Guide pupils to multiply correctly to find the equivalent fractions.
- Guide pupils to subtract fractions of the same denominator involving an unknown.





RECOGNISE FRACTIONS OF HUNDREDTHS AND DECIMALS

1

How beautiful! The kitchen tiles are so colourful.

There are 100 tiles, 16 of them are blue.



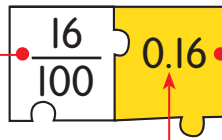
a 16 of 100 is sixteen hundredths.

Sixteen hundredths is written as $\frac{16}{100}$.

$\frac{16}{100}$ in decimal is 0.16.

It is read as zero point one six.

fraction of hundredths



decimal

decimal point

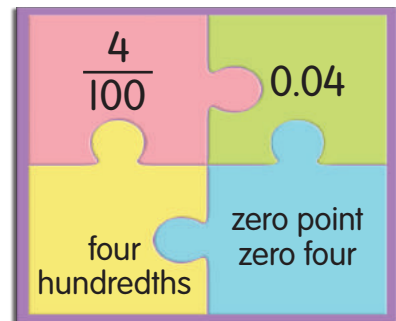


b 4 of 100 tiles are pink.

4 of 100 is $\frac{4}{100}$.

$\frac{4}{100}$ in decimal is 0.04.

ones	tenths	hundredths
0	0	4



- Ask pupils to state the fractions and the decimals of the white and the green tiles in the diagram above.
- Guide pupils to read out decimal numbers correctly according to their place value using word cards and number cards.

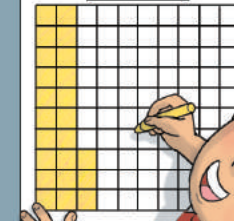
2

Zero point zero eight.
I coloured 8 of 100
squares.



0.08

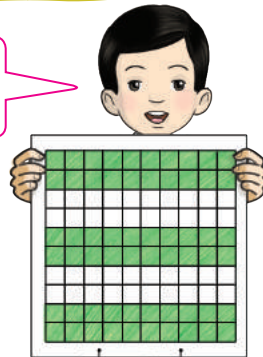
0.23



I coloured
23 of 100
squares.

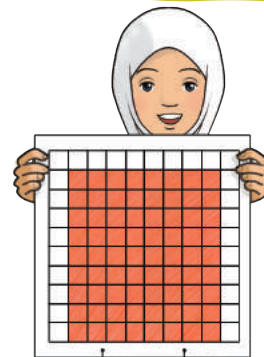
3

This is our
decimal project.



0.60

zero point sixty



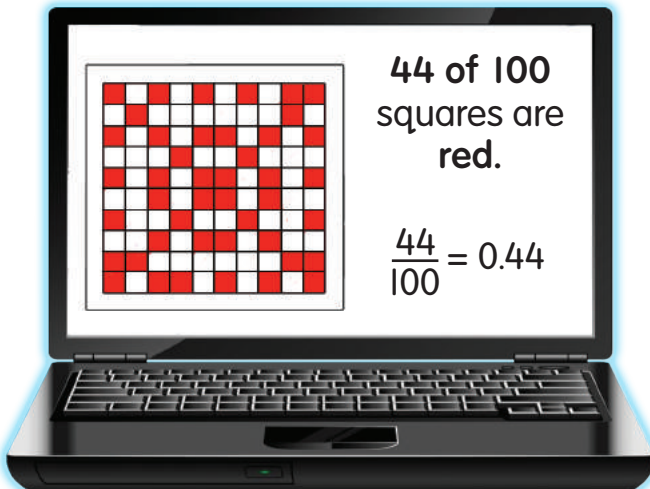
zero point
seven two

0.72

Correct the
incorrect.



4



What are the decimal
and hundredths fraction
of the white squares?

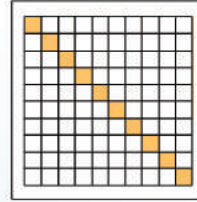
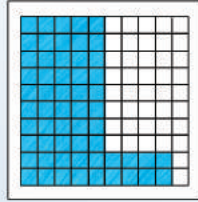
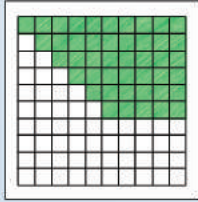


- Provide sufficient paper or hundred square grids for colouring activities to represent various decimal numbers.



5

Write the fractions and decimals of the coloured parts.



$0.45 = \frac{45}{100}$

$\frac{58}{100} = 0.58$

$\frac{10}{100} = 1.0$

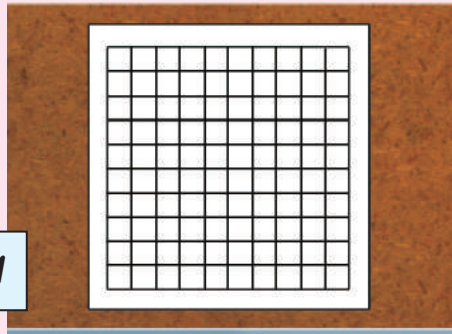
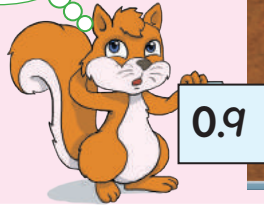


What is incorrect? Correct it.



MIND CHALLENGE

How many squares should be coloured?



LET'S TRY

1 Match the correct word cards to the numeral cards, and read them out.

zero point one eight

$\frac{9}{100}$

sixty-seven hundredths

0.05

nine hundredths

0.18

zero point zero five

$\frac{67}{100}$

2 Colour the decimal parts and fractions on hundred square grids.

a $\frac{3}{100} = 0.03$

b $\frac{24}{100} = 0.24$

c $0.65 = \frac{65}{100}$



COMPARE DECIMALS

1

Which mass is heavier, 0.45 kg or 0.2 kg?



The red squares are more.



ones	tenths	hundredths
0	4	5
0	2	0

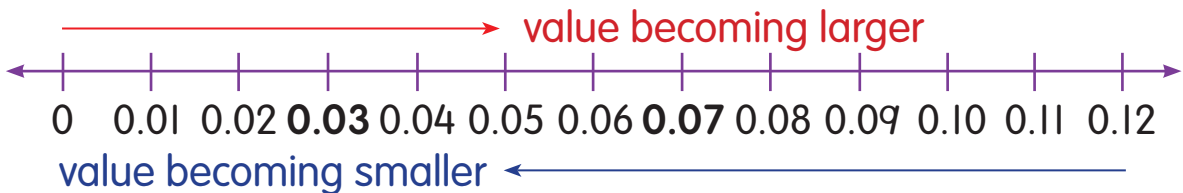
Compare the tenths digits.
4 is larger than 2.

0.45 is larger than 0.2

0.45 kg is more than 0.2 kg.

2

Which is smaller, 0.03 or 0.07?



0.03 comes before 0.07

0.03 is smaller than 0.07



LET'S TRY

Which decimal is larger? Explain.

a

0.1

0.11

b

0.52

0.25

c

0.08

0.8



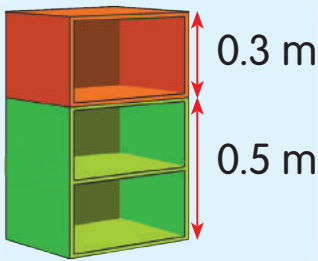
- Surf www.superteacherworksheets.com/place-value/offering-cards-set
- Use common objects in daily life for the activity of comparing decimals.





ADDITION OF DECIMALS

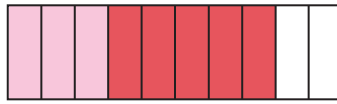
1



What is the total height of this shelf?

$$0.3 \text{ m} + 0.5 \text{ m} = \text{ } \text{ m}$$

Method 1



Colour 3 of the 10 parts. Colour another 5 parts.



Arrange the digits. Make sure that the decimal point is aligned.



Method 2

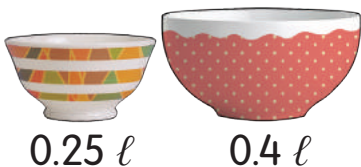
	ones	.	tenths
	0	.	3
+	0	.	5
	0	.	8

Add the tenths

$$0.3 \text{ m} + 0.5 \text{ m} = 0.8 \text{ m}$$

The total height of the shelf is 0.8 m.

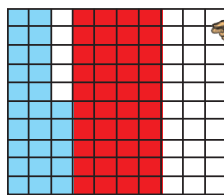
2



Add both volumes.

$$0.25 \text{ l} + 0.4 \text{ l} = \text{ } \text{ l}$$

Method 1



0.25 0.40

$$0.4 = 0.40$$

Add the blue and the red squares.

Method 2

	0	.	2	5
+	0	.	4	0
	0	.	6	5

$$0.25 \text{ l} + 0.4 \text{ l} = 0.65 \text{ l}$$

The total volume is 0.65 l.

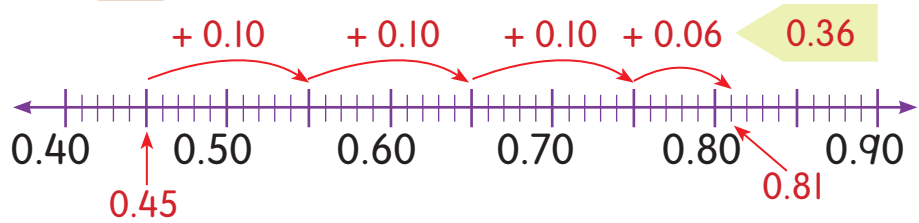
- Emphasise that when pupils write decimal numbers, the decimal points must be aligned before adding any numbers.

3.2.4

3 Add 0.45 and 0.36.

$$0.45 + 0.36 = \boxed{}$$

Method 1

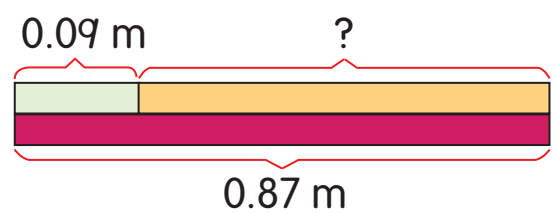


Method 2

		↓	
0	•	4	5
+	0	•	3 6
0	•	8	1

$$0.45 + 0.36 = \boxed{0.81}$$

4 $0.09 \text{ m} + \boxed{} \text{ m} = 0.87 \text{ m}$



$$0.09 \text{ m} + \boxed{0.78} \text{ m} = 0.87 \text{ m}$$

Subtract 0.09 from 0.87.

$$\begin{array}{r} 7 \ 17 \\ 0.87 \\ - 0.09 \\ \hline 0.78 \end{array}$$



LET'S TRY

Solve these.

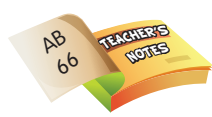
a $0.2 \text{ kg} + 0.69 \text{ kg} = \boxed{} \text{ kg}$

b $0.74 + 0.16 = \boxed{}$

c $0.58 + \boxed{0.00} = \boxed{}$

d $0.03 + 0.5 = \boxed{}$

e $0.8 + \boxed{} = 0.99$



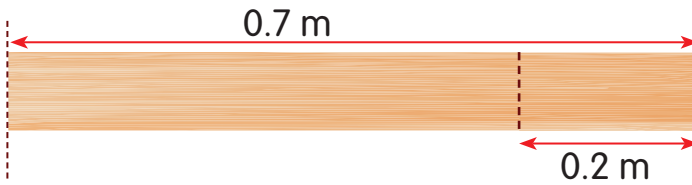
- Remind pupils that addition of decimal numbers is the same as addition of whole numbers.
- Provide questions on addition of decimal numbers involving an unknown for reinforcement.





SUBTRACTION OF DECIMALS

1



What is the length of the wooden plank after it is cut?

$$0.7 \text{ m} - 0.2 \text{ m} = \text{ } \text{ m}$$



Method 1

ones	tenths
0	7
- 0	2
0	5

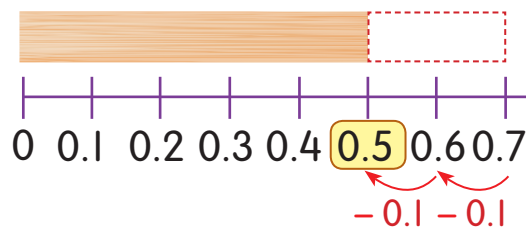
Subtract the tenths
7 tenths - 2 tenths = 5 tenths

$$0.7 \text{ m} - 0.2 \text{ m} = 0.5 \text{ m}$$

The remaining part of the wooden plank is 0.5 m.

Method 2

Use a number line.



2 Subtract 0.28 ℓ from 0.54 ℓ.

$$0.54 \text{ ℓ} - 0.28 \text{ ℓ} = \text{ } \text{ ℓ}$$

$$\begin{array}{r}
 \overset{4}{\cancel{5}} \overset{14}{\cancel{4}} \\
 - 0.28 \\
 \hline
 0.26
 \end{array}$$

$$0.54 \text{ ℓ} - 0.28 \text{ ℓ} = 0.26 \text{ ℓ}$$

- Emphasise that to subtract decimal numbers, the decimal points must be aligned.
- Remind pupils that subtraction of decimal numbers is the same as subtraction of whole numbers.

3 Calculate the difference between 0.13 kg and 0.6 kg.

$$0.6 \text{ kg} - 0.13 \text{ kg} = \boxed{} \text{ kg}$$



$$0.6 = 0.60$$

$$\begin{array}{r} 510 \\ 0.\cancel{6}\cancel{0} \\ - 0.13 \\ \hline 0.47 \end{array}$$



We cannot subtract 3 hundredths from 0 hundredths. Therefore, regroup from the tenths to the hundredths.

$$0.6 \text{ kg} - 0.13 \text{ kg} = \boxed{0.47} \text{ kg}$$

The difference between 0.13 kg and 0.6 kg is 0.47 kg.

4 $0.95 - \boxed{} = 0.52$

$$\begin{array}{r} 0.95 \\ - 0.52 \\ \hline 0.43 \end{array}$$

$$0.95 - \boxed{0.43} = 0.52$$



Check the answer.
 $0.43 + 0.52 = 0.95$



LET'S TRY

Solve these.

a
$$\begin{array}{r} 0.39 \text{ m} \\ - 0.28 \text{ m} \\ \hline \boxed{} \text{ m} \end{array}$$

b
$$\begin{array}{r} 0.7 \\ - 0.34 \\ \hline \boxed{} \end{array}$$

c
$$\begin{array}{r} 0.59 \\ - \boxed{}.\boxed{}\boxed{} \\ \hline 0.43 \end{array}$$

d $0.82 \text{ ml} - 0.63 \text{ ml} = \boxed{} \text{ ml}$

e $0.93 - \boxed{} = 0.4$



RECOGNISE PERCENTAGES

1

Did you know?
More than 60% of the human body contains water.

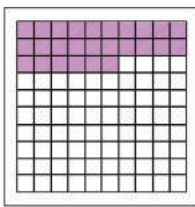
Did you know?
95% of a jellyfish contains water.

More than sixty percent of our body is water!

Jellyfish has more water in its body. Ninety-five percent.

2

a

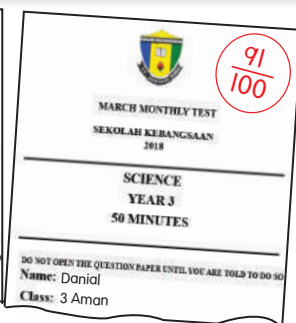
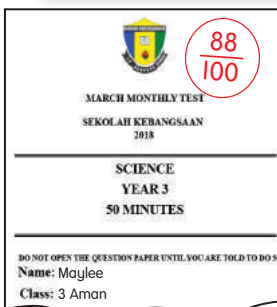
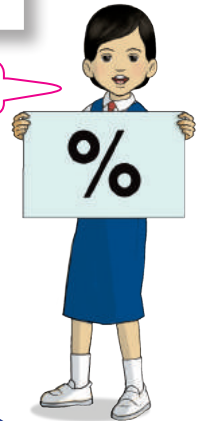
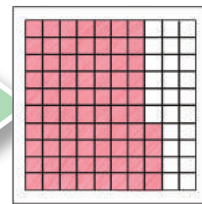


26 of 100 is $\frac{26}{100}$.
 $\frac{26}{100}$ in percentage is written as 26%.
 We read it as twenty-six percent.

This is the percentage symbol.

b

74 of 100 is $\frac{74}{100}$.
 $\frac{74}{100}$ in percentage is written as .
 We read it as .



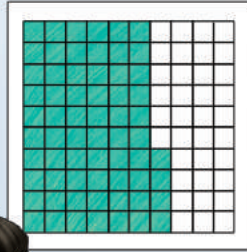
Say your test marks in percentages.



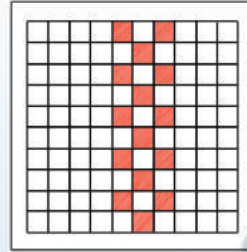
3

Write the percentages and fractions of hundredths.

Sixty-four percent.



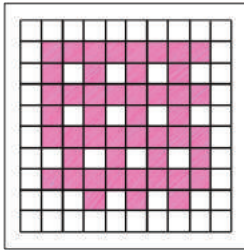
$$\frac{64}{100} = 64\%$$



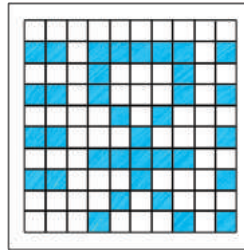
15% is $\frac{15}{100}$.

$$15\% = \frac{15}{100}$$

4



forty-seven percent



35%



Write the percentages above.

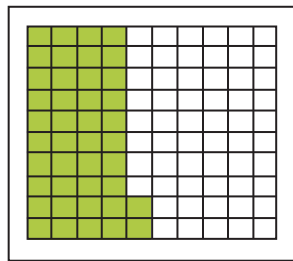


5

42% pupils of 3 Alpha are girls. State the percentage in decimal.

I coloured 42 squares green. 42% is equal to $\frac{42}{100}$.

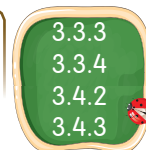
$\frac{42}{100}$ in decimal is 0.42.



$$42\% = 0.42$$



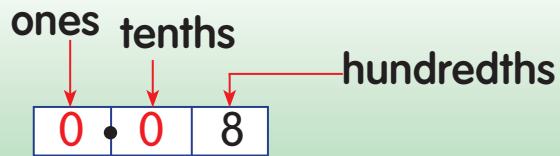
- Provide sufficient hundred square grids to represent various fractions of hundredths and percentages.
- Surf <https://www.extendoffice.com/documents/excel/2419-excel-grid-paper-template.html>



6 $8\% =$

$$8\% = \frac{8}{100}$$

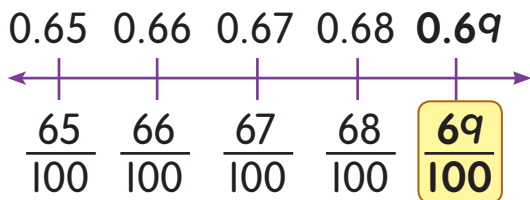
$\frac{8}{100}$ is 8 hundredths.



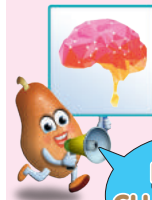
8 hundredths in decimal is 0.08.

$8\% =$ 0.08

7 $0.69 =$



$0.69 =$ 69%



MIND CHALLENGE

Which decimals have equal percentage values? Explain.



LET'S TRY

1 Say and write the percentages in words.

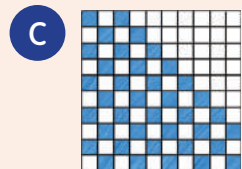
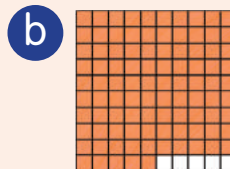
a 6%

b 27%

c 30%

d 54%

2 Write the fractions of hundredths and percentages of the coloured parts.



3 State in decimals.

a 25%

b 3%

c 19%

4 State in percentages.

a 0.42

b 0.07

c 0.86

5 Colour the hundred square grids.

a 9%

b 71%

c $\frac{40}{100}$

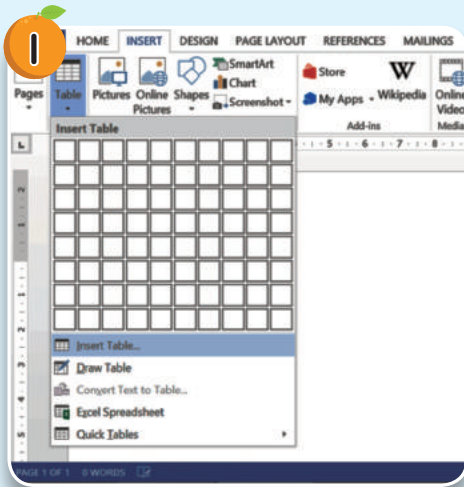
d $\frac{13}{100}$



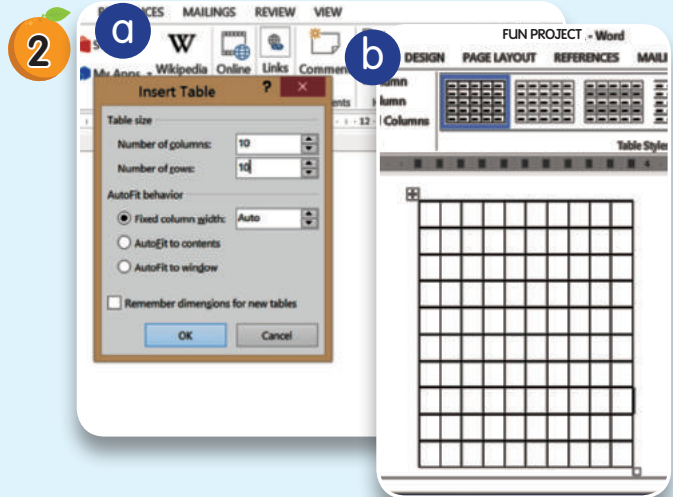
FUN PROJECT

Tools/Materials MS Word software

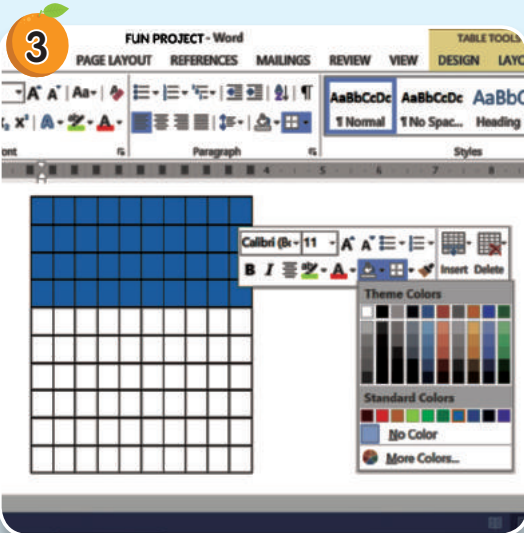
Method



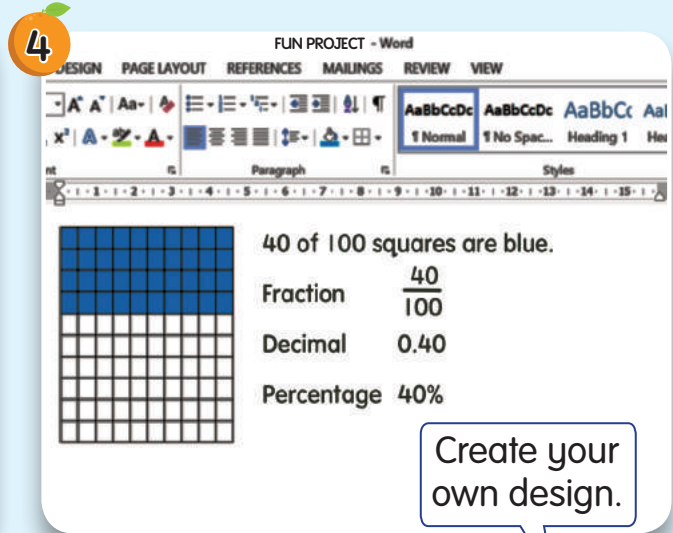
Launch MS Word. Click *Insert* and choose *Table*. Then, click *Insert Table*.



Type 10 for rows and columns. Select *AutoFit to Contents*. Click *OK*.



Select 40 square grids. Select a colour and click.



Create your own design.

Type fraction, decimal, and percentage for the coloured square grid.



- Guide pupils to type fractions in their Fun Project.
- Carry out activities individually or in pairs. Print pupils' work and display them at the mathematics corner.

3.1.4
3.2.2
3.3.3





CREATE STORIES

1



$$\frac{1}{2} \text{ kg} + \frac{1}{8} \text{ kg} = \frac{5}{8} \text{ kg}$$

Devi's father bakes a fruit cake. He adds $\frac{1}{2}$ kg of flour to $\frac{1}{8}$ kg of mixed dried fruits. The total mass is $\frac{5}{8}$ kg.

2



$$\frac{9}{10} \text{ m} - \frac{3}{5} \text{ m} = \frac{3}{10} \text{ m}$$

Li Yin has $\frac{9}{10}$ m of ribbon. She uses $\frac{3}{5}$ m to decorate a gift box. The length of the ribbon left is m.

3



0.6 l

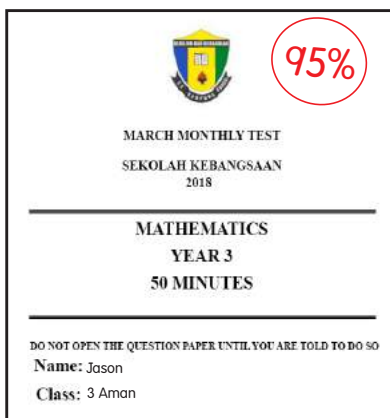


0.25 l

$$0.6 \text{ l} - 0.25 \text{ l} = 0.35 \text{ l}$$

A bottle contains 0.6 l of mineral water. Another bottle has 0.25 l of mineral water. The difference in volume of water for the two bottles is l.

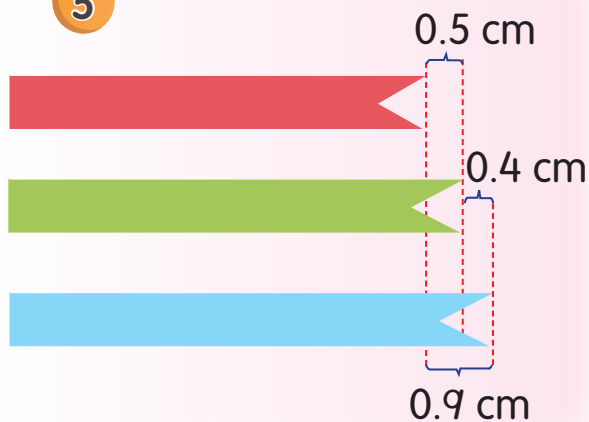
4



$$95\% = \frac{95}{100}$$

Jason gets **95%**
in a Mathematics test.
His marks in fraction is .

5



$$0.5 \text{ cm} + 0.4 \text{ cm} = 0.9 \text{ cm}$$

The length of the green ribbon is **0.5 cm** more than the red ribbon. The length of the blue ribbon is **0.4 cm** more than the green ribbon. So, the length of the blue ribbon is cm more than the red ribbon.



LET'S TRY

Create stories based on number sentences.

a $\frac{2}{3} \text{ m} + \frac{1}{9} \text{ m} = \frac{7}{9} \text{ m}$

b $\frac{1}{2} \text{ l} - \frac{3}{10} \text{ l} = \frac{1}{5} \text{ l}$

c $0.7 \text{ ml} + 0.05 \text{ ml} = 0.75 \text{ ml}$

d $0.9 \text{ kg} - 0.38 \text{ kg} = 0.52 \text{ kg}$

e $63\% = \frac{63}{100}$

f $\frac{54}{100} = 54\%$



- Provide number sentences involving addition of fractions, subtraction of fractions, decimals, and percentages for creating stories.





SOLVE THE PROBLEMS

I Danny's sister is making spaghetti sauce. She adds $\frac{1}{4}$ kg of mushrooms and $\frac{1}{2}$ kg of minced beef. What is the mass of the mixed ingredients?



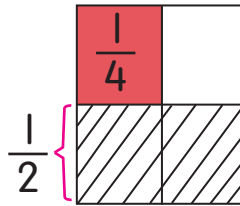
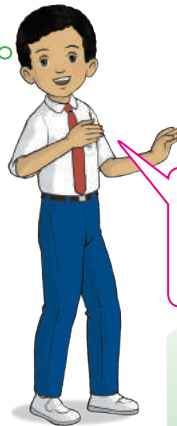
Given $\frac{1}{4}$ kg of mushrooms

$\frac{1}{2}$ kg of minced beef

Find mass of the mixed ingredients

Method $\frac{1}{4}$ kg + $\frac{1}{2}$ kg = kg

$\frac{1}{2} = \frac{2}{4}$



I draw a diagram.
It is $\frac{3}{4}$ in total.

$$\frac{1}{4} + \frac{1 \times 2}{2 \times 2} = \frac{1}{4} + \frac{2}{4}$$

$$= \frac{3}{4}$$

Check.



$$\frac{1}{4} \text{ kg} + \frac{1}{2} \text{ kg} = \frac{3}{4} \text{ kg}$$

The mass of the mixed ingredients is $\frac{3}{4}$ kg.

- Prepare paper strips and a fraction chart for simulation activities. Carry out group activities to solve problems. Provide questions such as the above to reinforce pupils' understanding.

2 Eli wants to make a tablecloth. She only has $\frac{2}{5}$ m of cloth but she needs $\frac{9}{10}$ m. How much more length of cloth does she need to buy?

Given she has $\frac{2}{5}$ m of cloth

Find length of cloth to buy

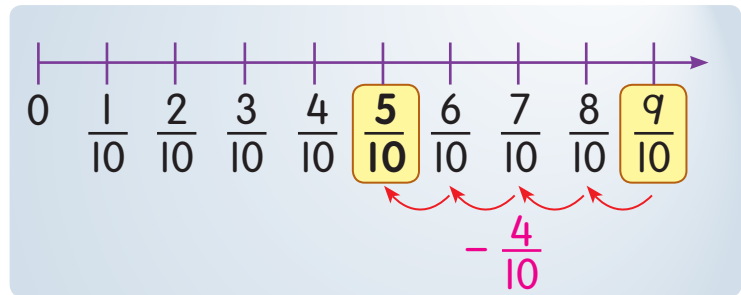
she needs $\frac{9}{10}$ m of cloth

Method $\frac{9}{10}$ m - $\frac{2}{5}$ m =

Find an equivalent fraction for $\frac{2}{5}$.



$$\frac{2 \times 2}{5 \times 2} = \frac{4}{10}$$



Simplify the answer $\frac{5}{10}$.



$$\frac{5 \div 5}{10 \div 5} = \frac{1}{2}$$

Check your answer using addition.



$$\frac{9}{10} \text{ m} - \frac{2}{5} \text{ m} = \frac{1}{2} \text{ m}$$

Eli needs to buy $\frac{1}{2}$ m of cloth.



- Use fraction chart and refresh pupils' memory on how to find equivalent fractions.
- Encourage pupils to check their answers using reverse operation, such as checking addition by subtraction and vice versa.





3 Haqim caught 0.9 kg of lobsters. Suresh caught 0.55 kg of lobsters. What is the difference between the two masses of lobsters?

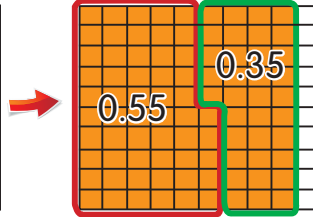
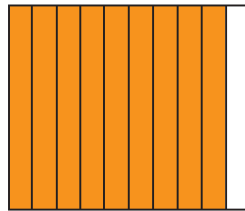
Given Haqim's lobsters is 0.9 kg
Suresh's lobsters is 0.55 kg

Find the difference between the masses of lobsters

Method $0.9 \text{ kg} - 0.55 \text{ kg} = \square$



Draw a diagram.



$$\begin{array}{r} 8 \ 10 \\ 0.9\cancel{0} \\ - 0.55 \\ \hline 0.35 \end{array}$$

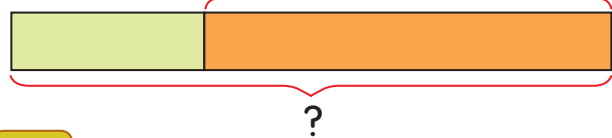
$$0.9 \text{ kg} - 0.55 \text{ kg} = \mathbf{0.35} \text{ kg}$$

The difference in mass is **0.35 kg**.

4 The length of a bracelet is 0.17 m. The length of a necklace is 0.38 m more than the bracelet. How long is the necklace?

Method Length of bracelet 0.17 m 0.38 m more

Length of necklace



$$0.17 \text{ m} + 0.38 \text{ m} = \square$$

$$\begin{array}{r} | \\ 0.17 \\ + 0.38 \\ \hline 0.55 \end{array}$$

Check

$$\begin{array}{r} 4 \ 15 \\ 0.5\cancel{5} \\ - 0.38 \\ \hline 0.17 \end{array}$$

$$0.17 \text{ m} + 0.38 \text{ m} = \mathbf{0.55} \text{ m}$$

The length of the necklace is **0.55 m**.

- 5 There are 100 pupils in the Chess Club. 45 pupils are girls. State the percentage of the boys.

Method



Write the information in a table.

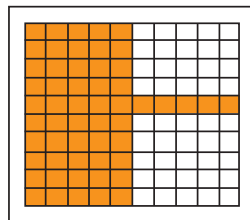
Pupil	Number
Girl	45
Boy	
Total	100

First, calculate the number of boys.

$$\begin{array}{r} 9 \\ 100 \\ - 45 \\ \hline 55 \end{array}$$



55 boys of 100 pupils is $\frac{55}{100}$.



$$\frac{55}{100} = 55\%$$

The percentage of boys is **55%**.



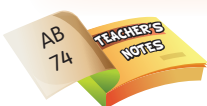
LET'S TRY

Solve the problems.

- a In a garden, $\frac{1}{4}$ of the area is covered with flowering plants. $\frac{3}{8}$ of the area is covered with non-flowering plants. What is the total area covered with plants?
- b There are 2 packets of sweets with the mass of 0.17 kg and 0.08 kg. What is the difference in mass between the two packets of sweets?
- c A cup of milk contains 30% of calcium. State 30% in decimal.



Let's drink milk for strong bones and teeth!



- Prepare various problem solving questions of fractions, decimals, and percentages. Ask pupils to solve them in groups using methods such as bar model to reinforce pupils' understanding.





MATCH AND WIN

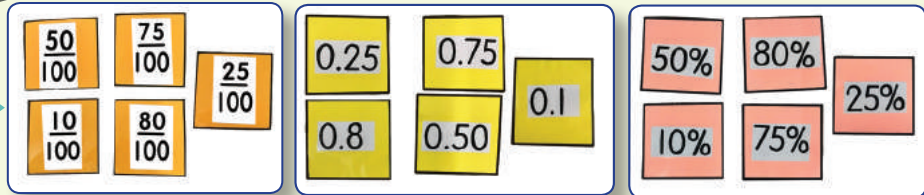
Tools/Materials

8 fraction cards, 8 percentage cards,
8 decimal cards

Participants

3 players and a referee

Examples of cards



Method

- 1 The referee distributes the cards equally among 3 players.
- 2 Each player aims to collect all 3 sets of matching cards and submit them to the referee.
- 3 The referee will then record the number of matching cards from each player.
- 4 The first player takes one of the remaining cards from the second player. If the player has 3 matching cards, submit them to the referee.
- 5 The second player then takes a card from the third player.
- 6 Continue playing until all matching cards are collected.
- 7 The player with the most number of matching cards wins.



- Ask pupils to determine their turns. The referee shuffles a deck of 24 cards consisting of fractions, decimals, and percentages.
- Instil values such as cooperation, honesty, and tolerance while playing.

Dengan ini, **SAYA BERJANJI** akan menjaga buku ini dengan baiknya dan bertanggungjawab atas kehilangannya, serta mengembalikannya kepada pihak sekolah pada tarikh yang ditetapkan.

Skim Pinjaman Buku Teks			
Sekolah _____			
Tahun	Darjah	Nama Penerima	Tarikh Terima
Nombor Perolehan: _____			
Tarikh Penerimaan: _____			
BUKU INI TIDAK BOLEH DIJUAL			

