National MATHEMATICS Textbook

Grade 1

Papua New Guinea
Department of Education

'FREE ISSUE NOT FOR SALE'

Issued free to schools by the Department of Education

First Edition

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Education Department acknowledges Global Partnership for Education (GPE) and Save the Children for the partnership and support in funding with the Curriculum Development Division.

National Mathematics Textbook

Grade 1

GPE Transforming Education

Papua New Guinea
Department of Education

Save the Children

Minister's Message

Dear Grade 1 Students,

I am interested in you and your learning about Mathematics using this National Mathematics Textbook.

This textbook is made for you to learn Mathematics. It is a very important subject.

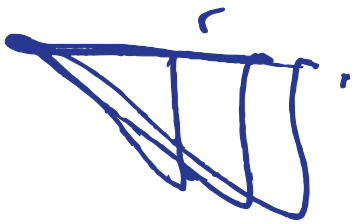
Your teacher will use it to help you learn many new ideas about Mathematics.

I thank many friends like Save the Children and others who have joined the Education Department to develop this textbook.

I encourage you to enjoy and learn Mathematics well.

I wish you happy and fun learning as you use this textbook.

Your Minister for Education,



Hon. Jimmy Uguro, MP

Secretary's Message

Dear Students,

This is your Mathematics Textbook that you will use in Grade 1. In this textbook, you will find your textbook friends, colourful pictures, and very interesting and enjoyable activities for you to do and learn from each day.

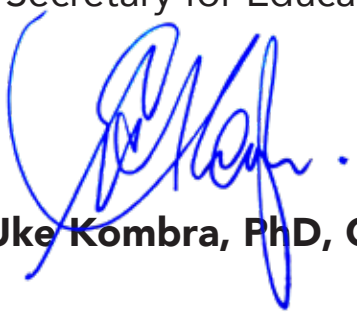
The activities will help you learn about important mathematical ideas and think of ways that will guide you to learn with your teacher.

As young mathematicians, you are encouraged to learn and be smart in solving problems and issues happening around you in your daily life.

I encourage you all to practice what you learn from this Mathematics textbook in your school, on your own, or with your family and friends.

I wish you all the best in studying Mathematics using this textbook.

Your Secretary for Education,



Dr. Uke Kombra, PhD, OBE.

Share ideas with your friend!

Let’s find solutions by ourselves!

Let’s learn Mathematics, it’s fun!

Friends learning together in this textbook


Mero


Naiko


Sare


Gawi


Kapi
(Kapul)


Kekeni


Ambai


Vavi


Yamo


Koko
(Kokomo)

Symbols in this textbook


- Discovered important ideas.


- Important definition or terms.


- Practice by yourself. Fill in your copy.


- New knowledge to apply in daily life.

- Let's do the exercise.


- Let's refer.

- Let's do mathematical activities by students.

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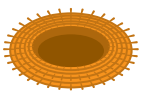
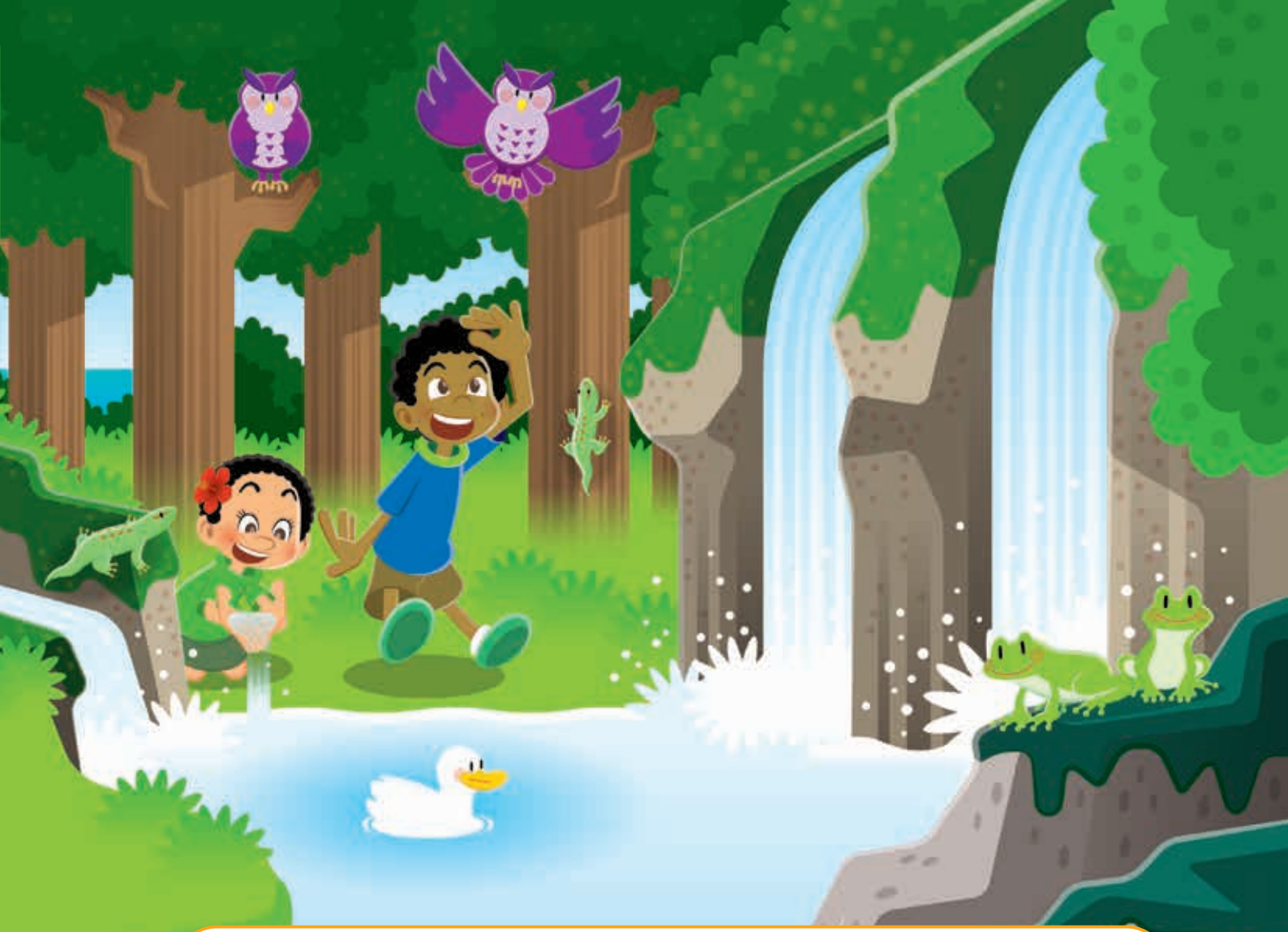
Explore the Island

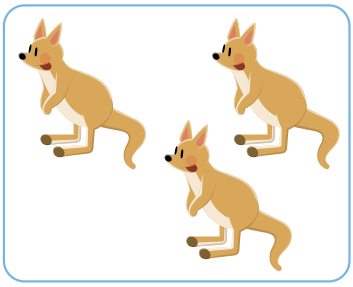
Beginning of Exploration

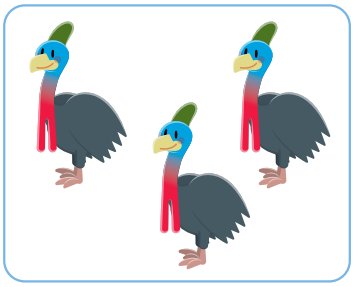


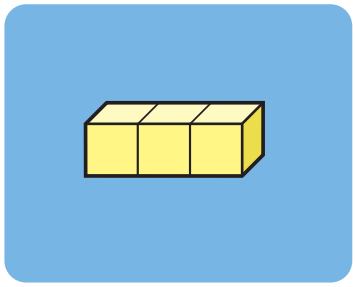


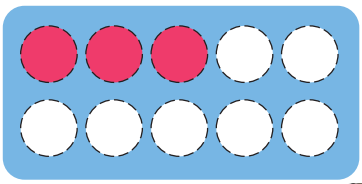

1 Numbers up to 10











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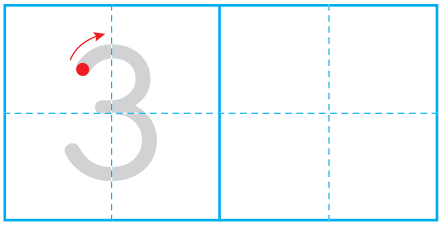
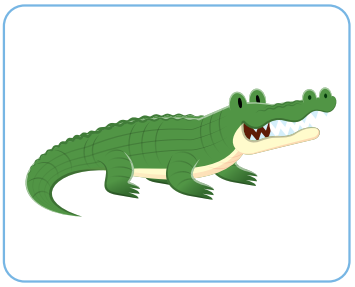
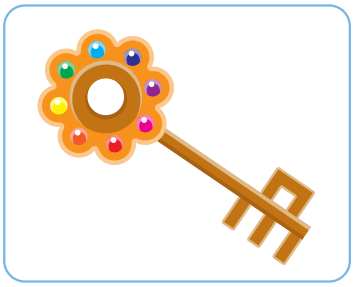
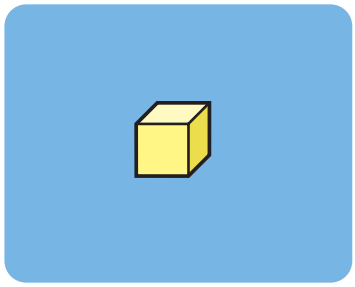
Three

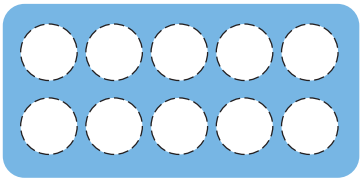


Searching for the Key









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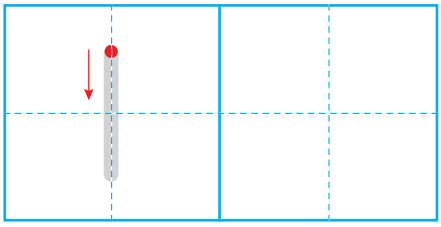

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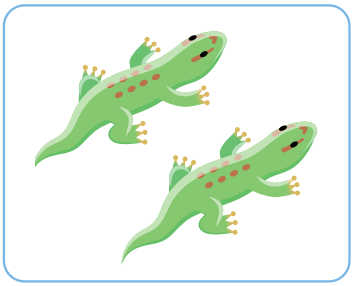

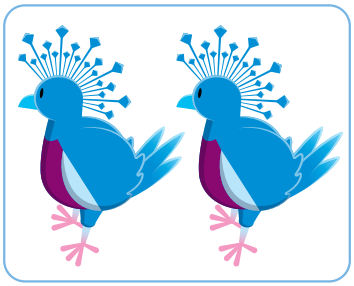

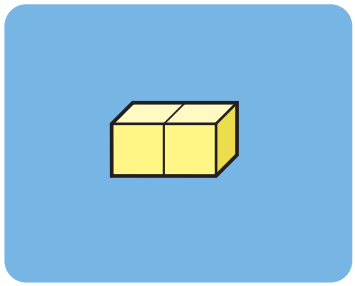

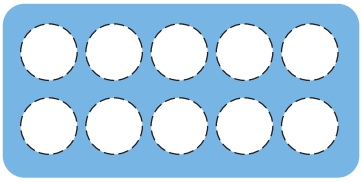

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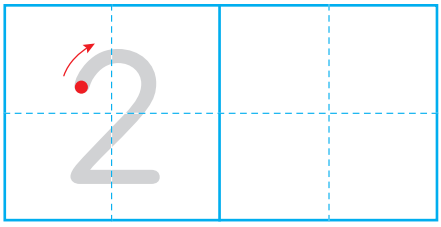

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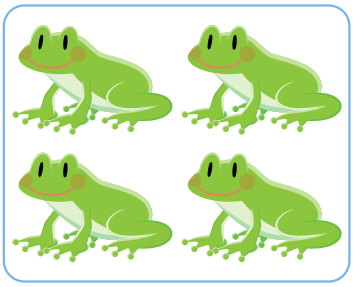

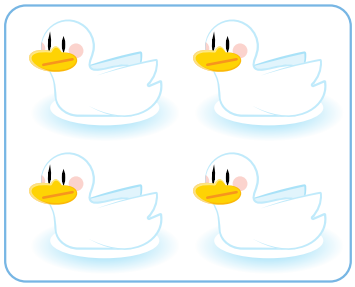

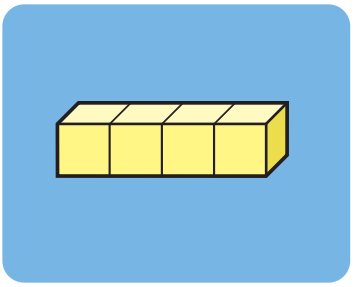

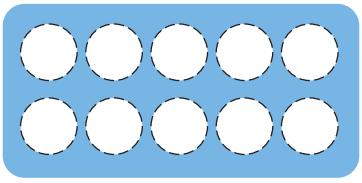

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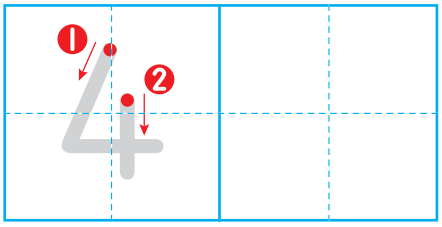

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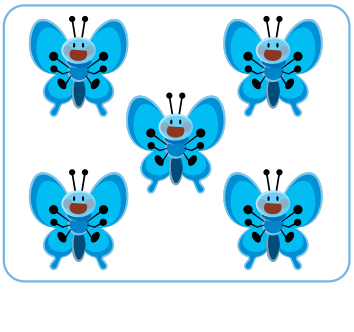

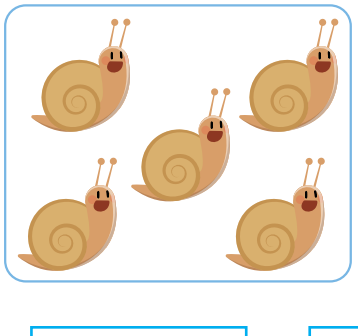

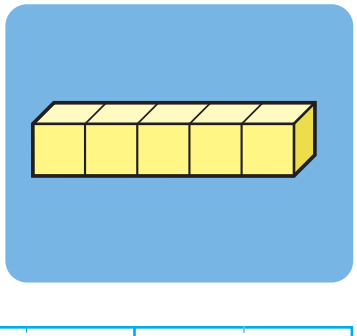

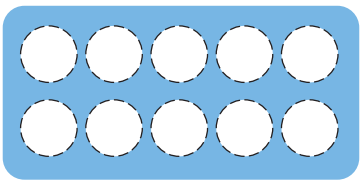

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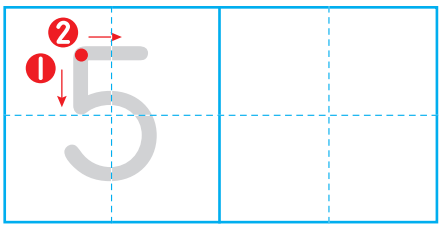

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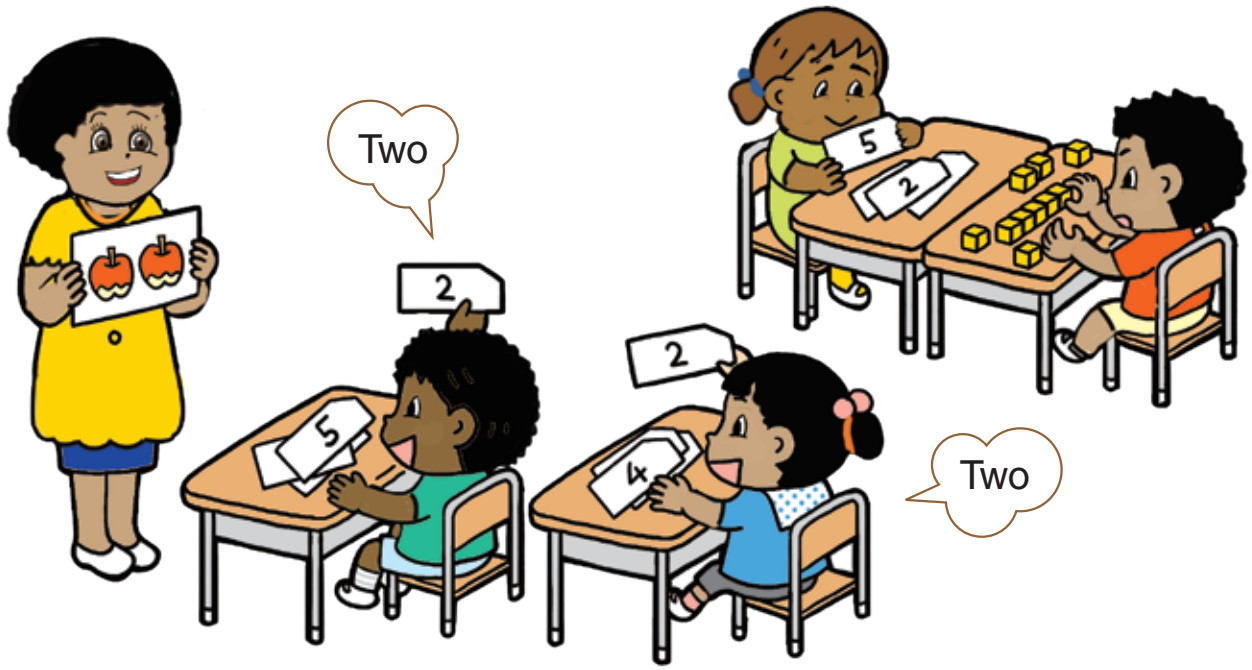
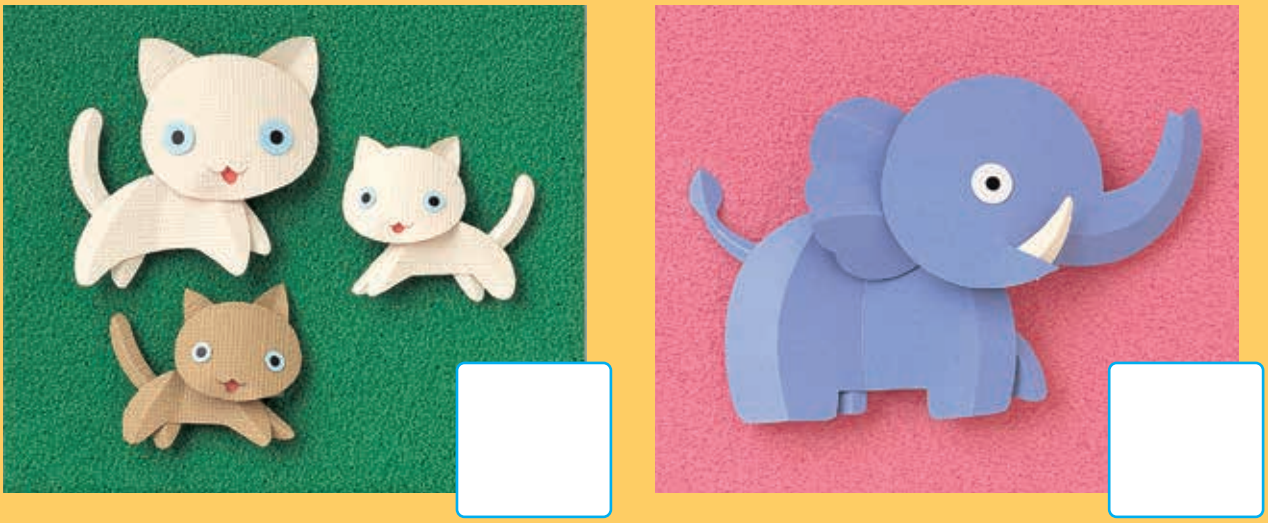
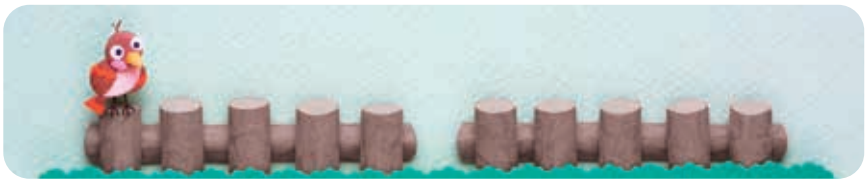
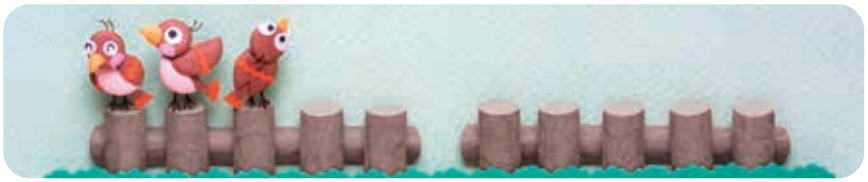
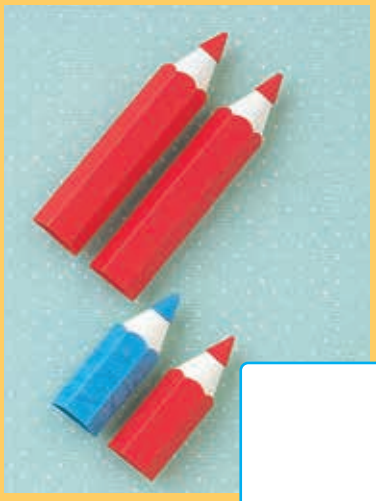


Activity

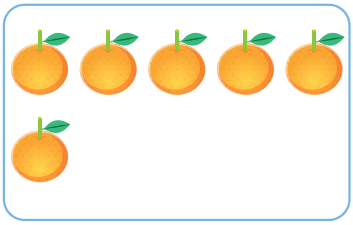


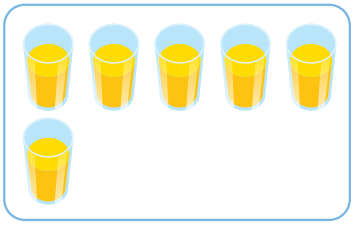


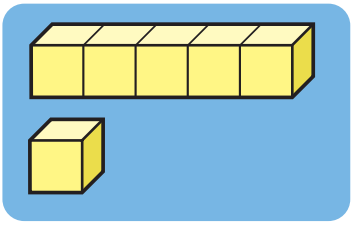


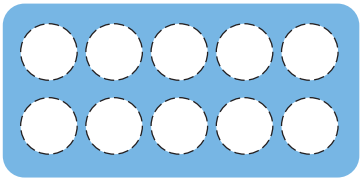


Deep in the Forest









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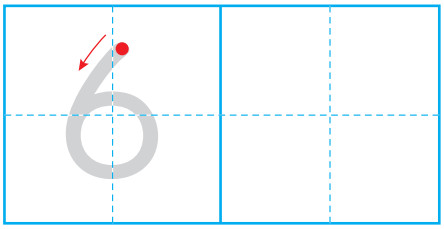

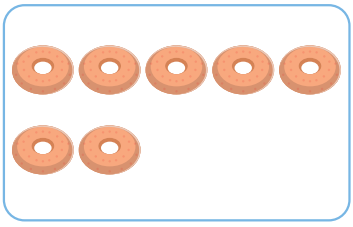

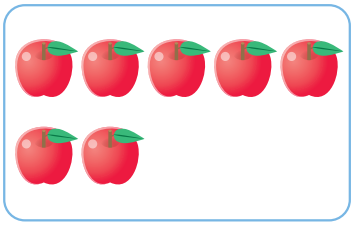

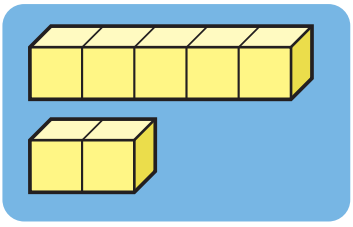

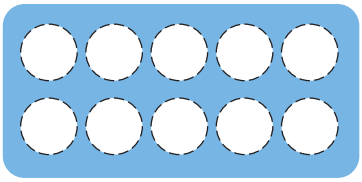

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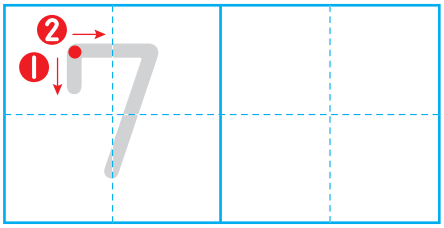

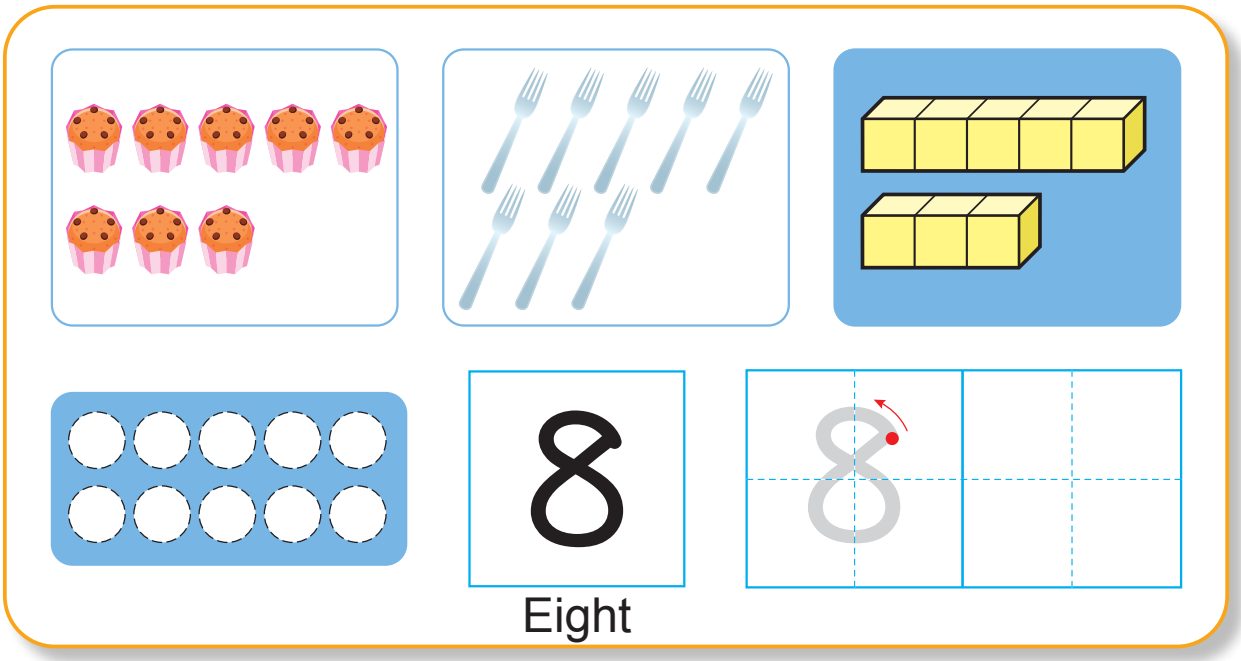
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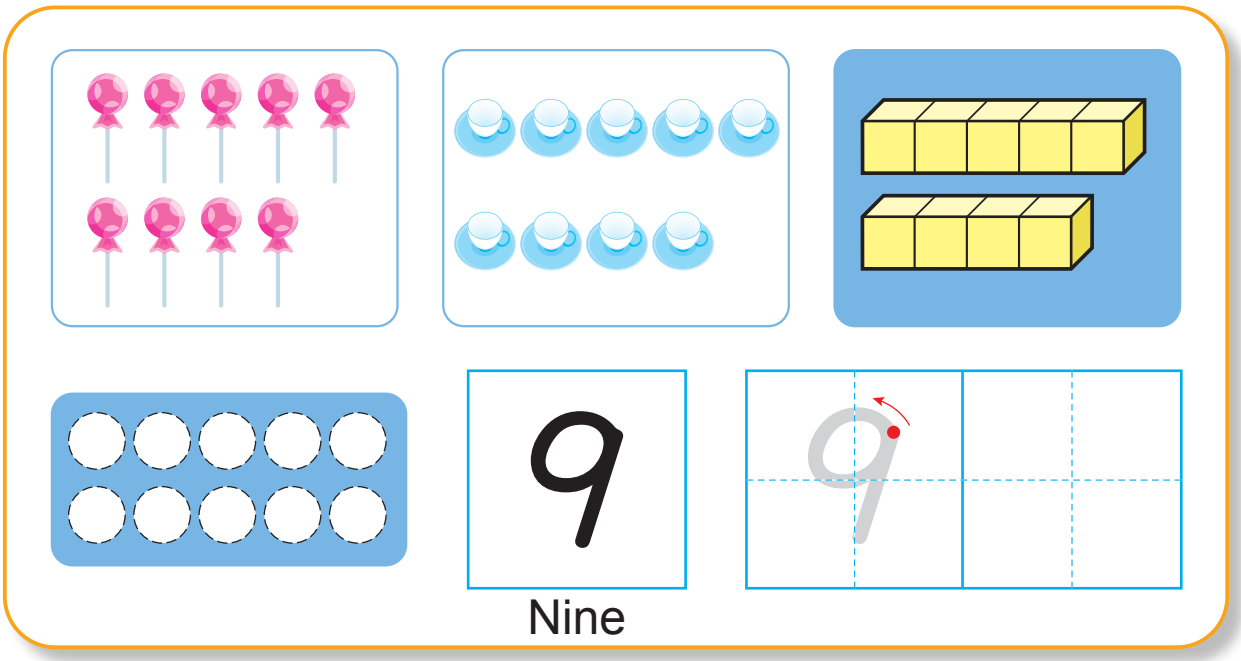
Eight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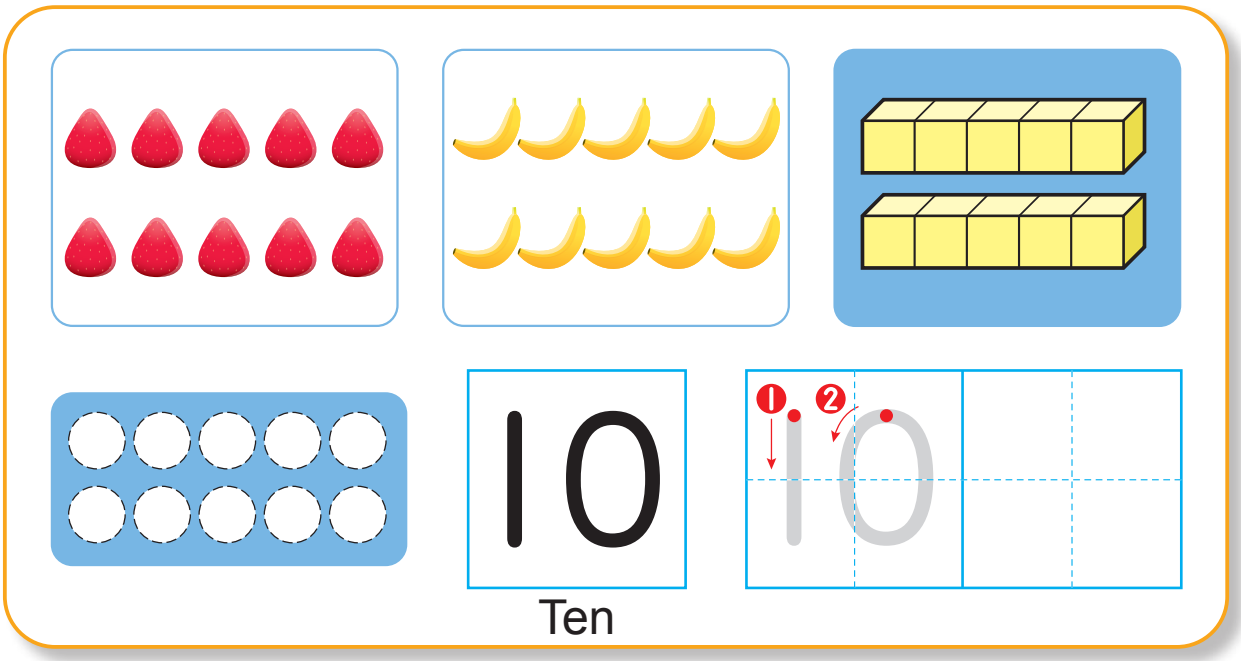
Nine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Ten


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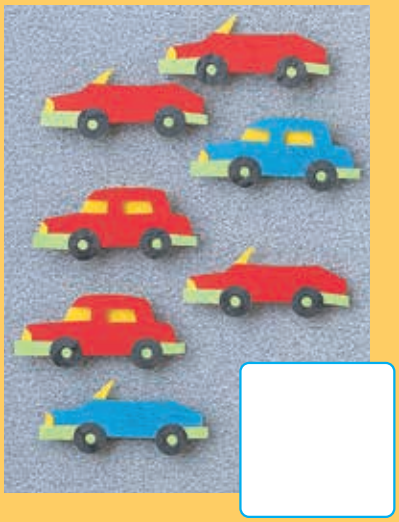

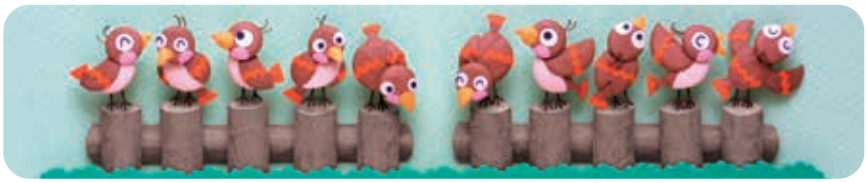

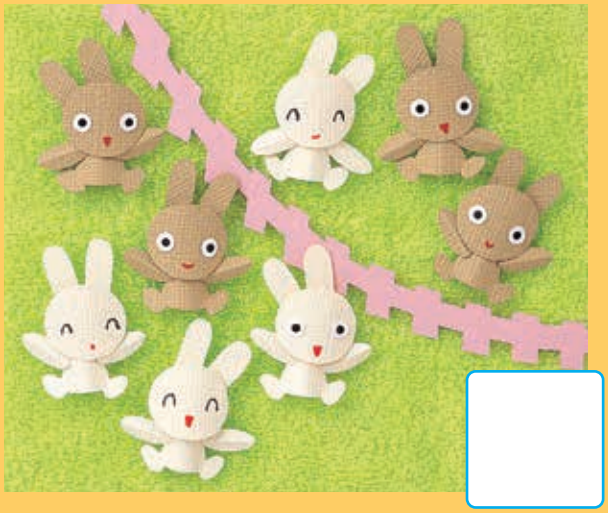

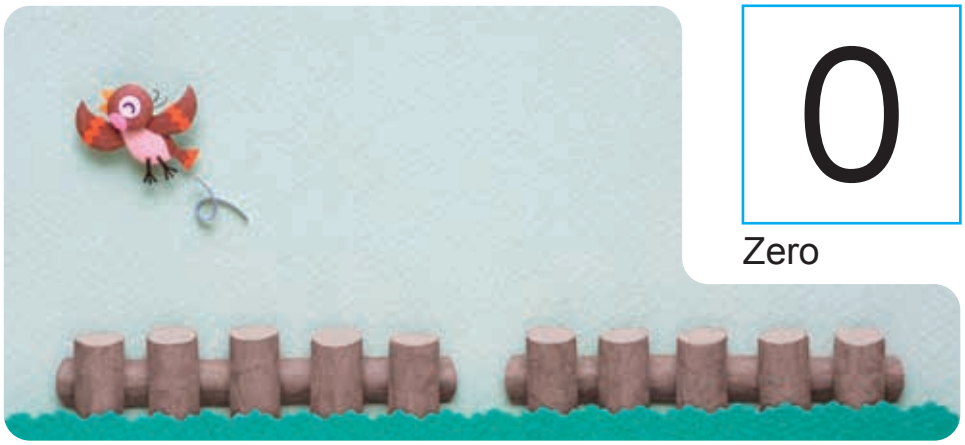

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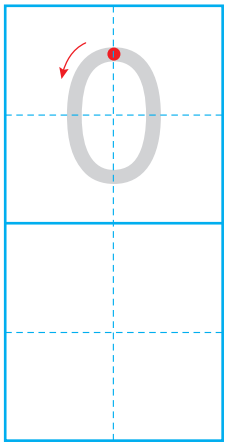
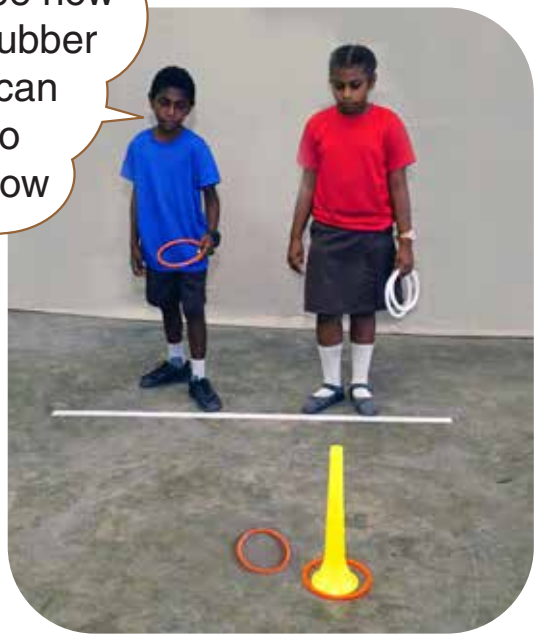
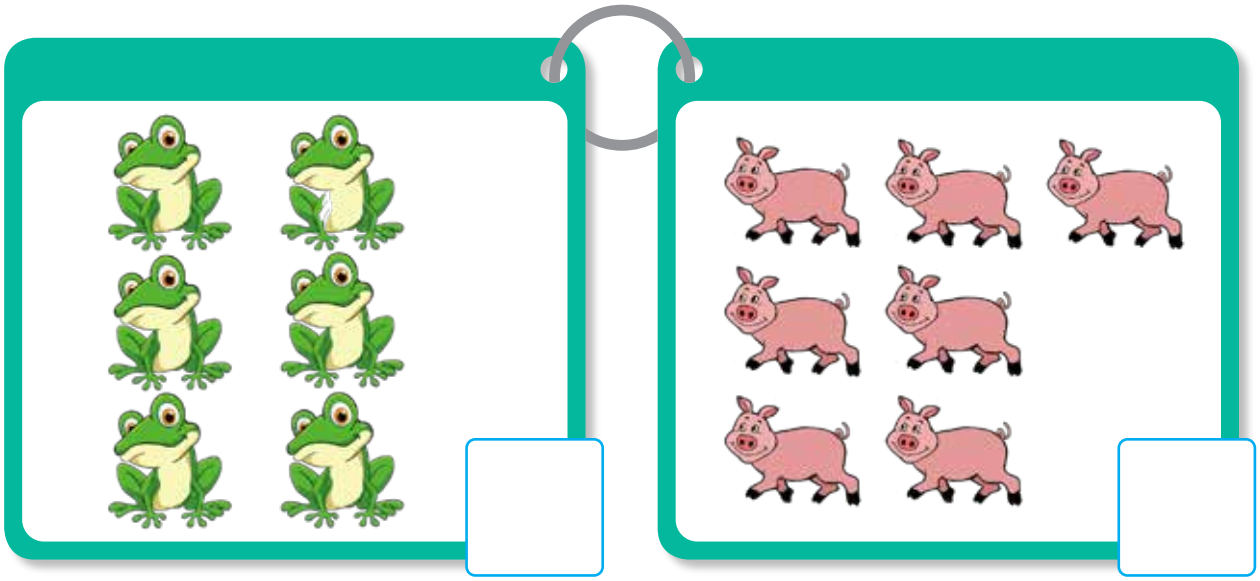
Zero

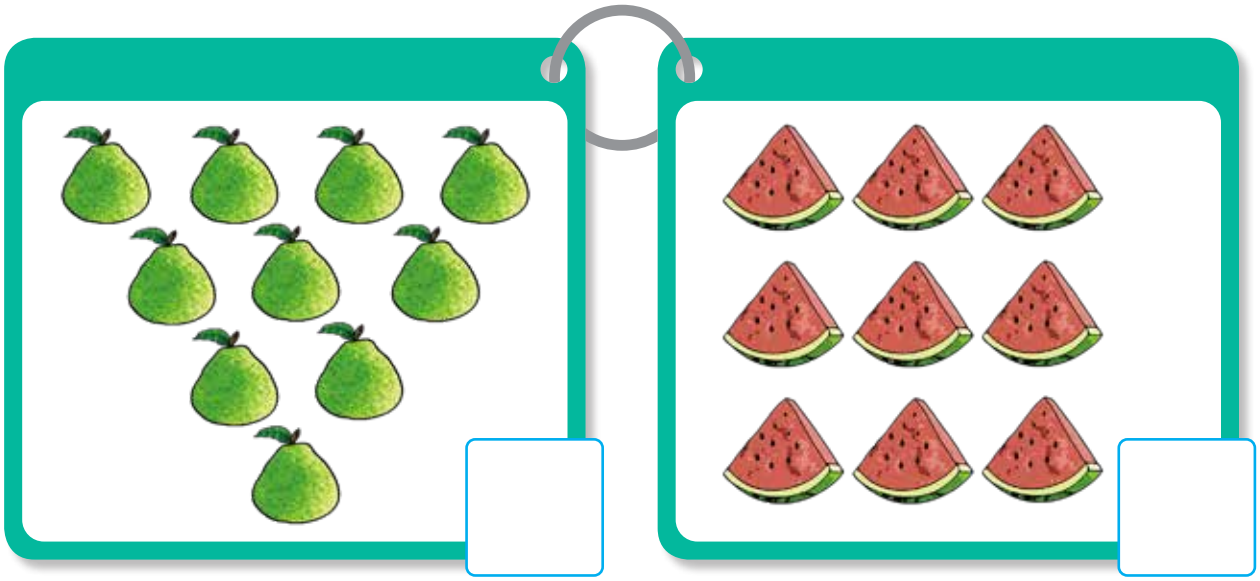


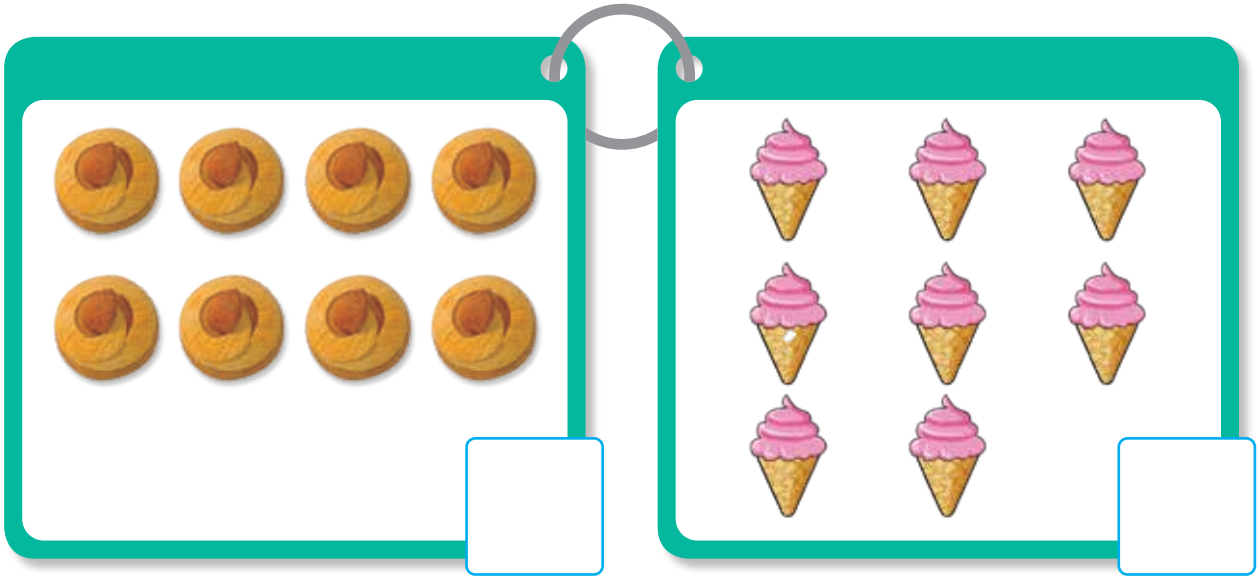
Let's see how many rubber rings I can toss into the yellow pole.



Which is more?

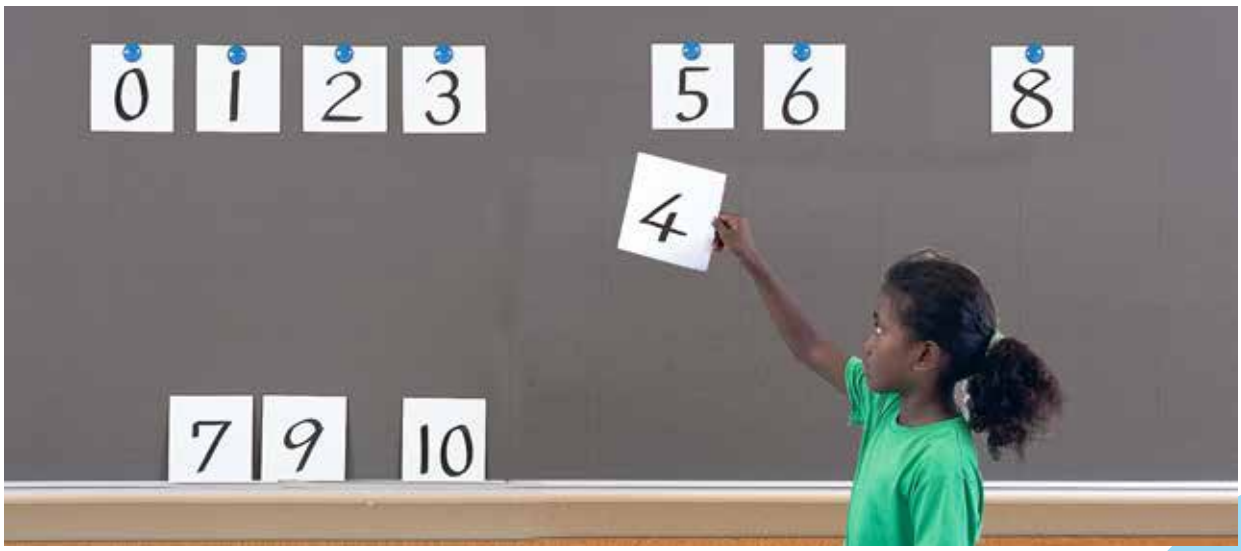


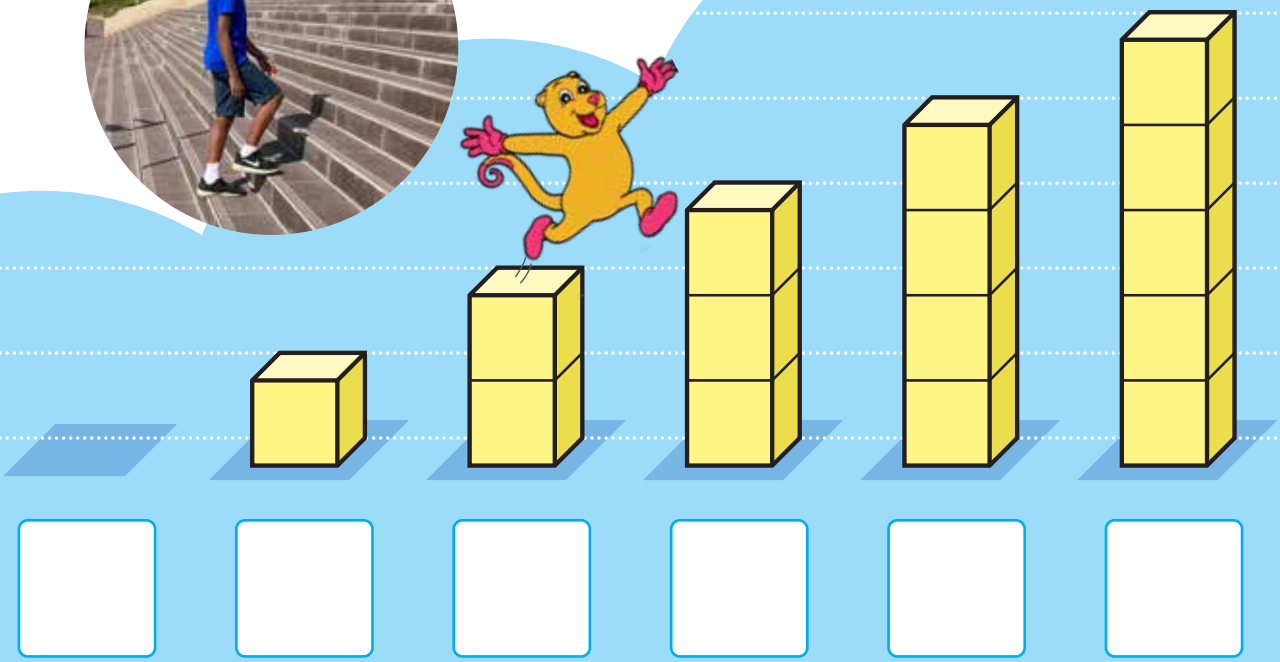


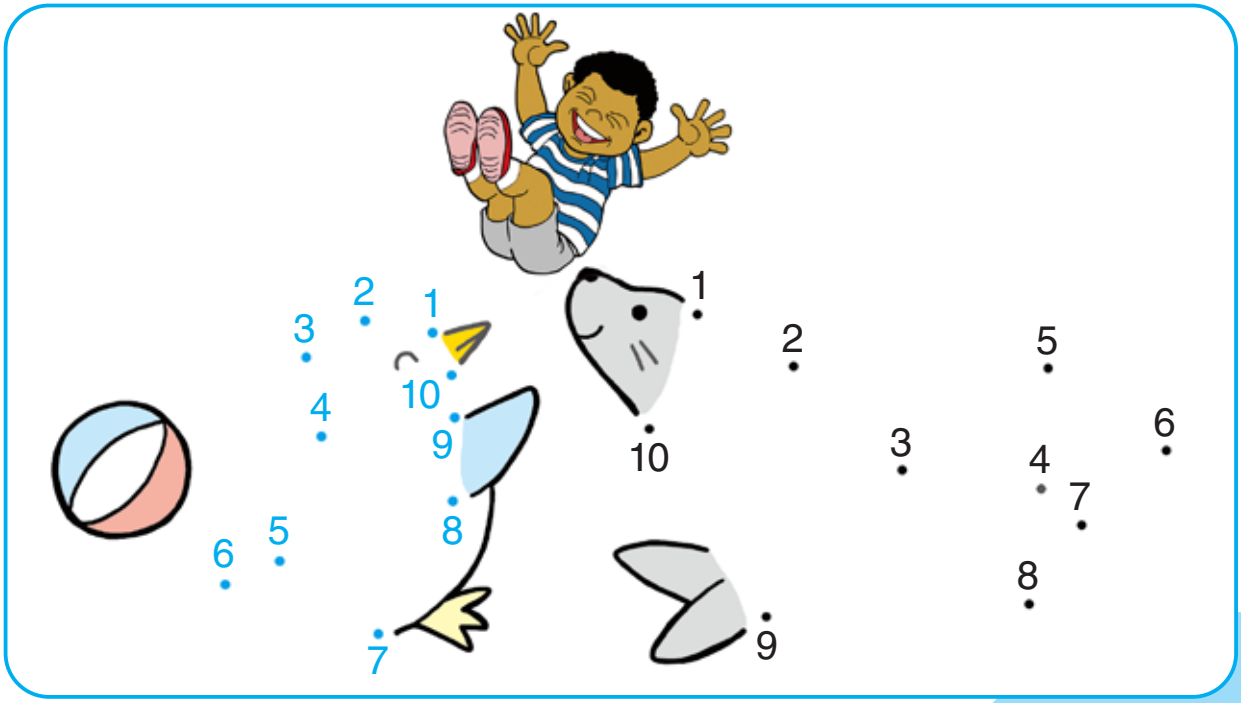


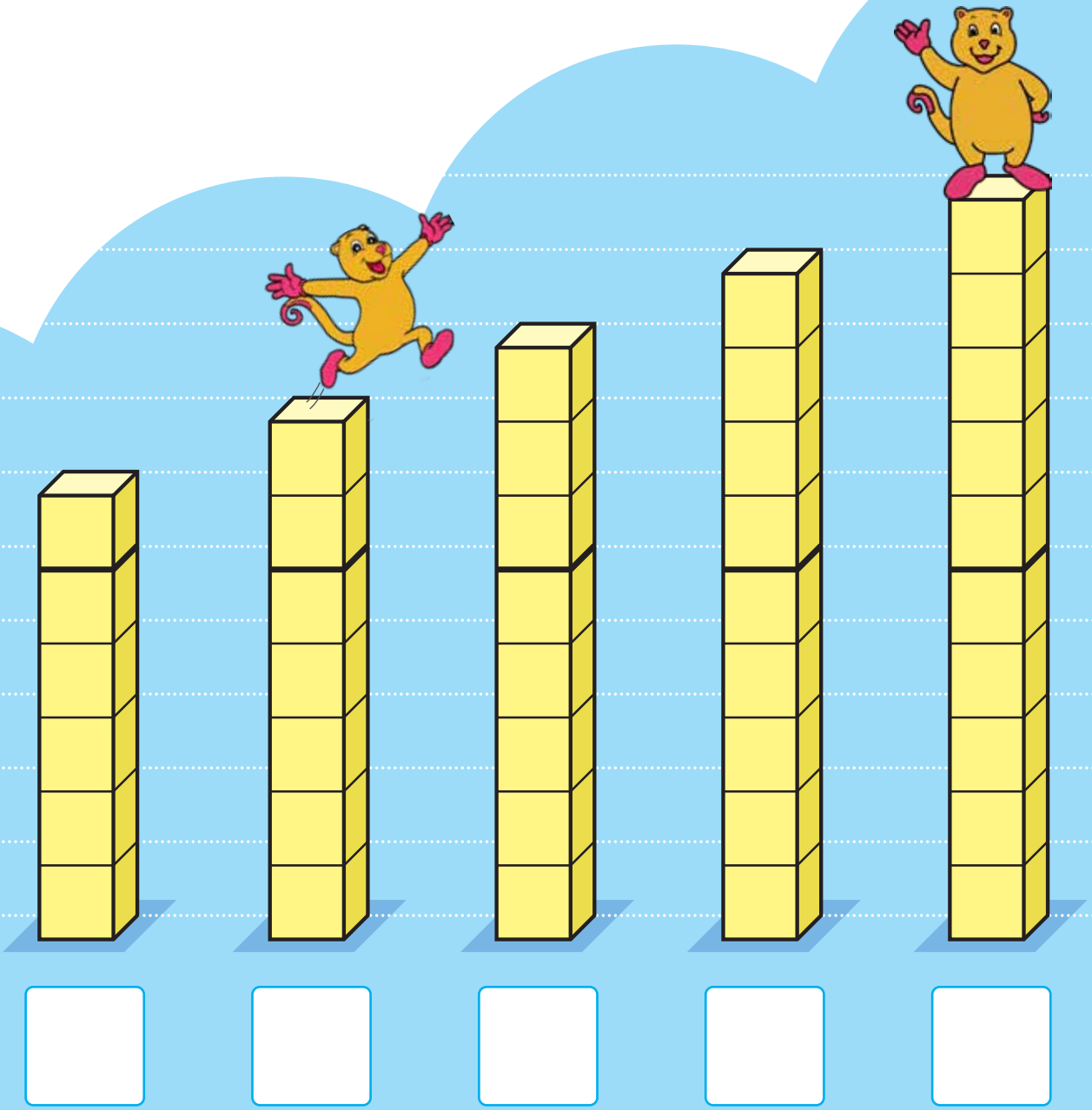
Which is larger?

Arrange the number cards in order.






1
2
3
4
5
6
7
8
9
10
1
2
3
4
5
6
7
8
9
10



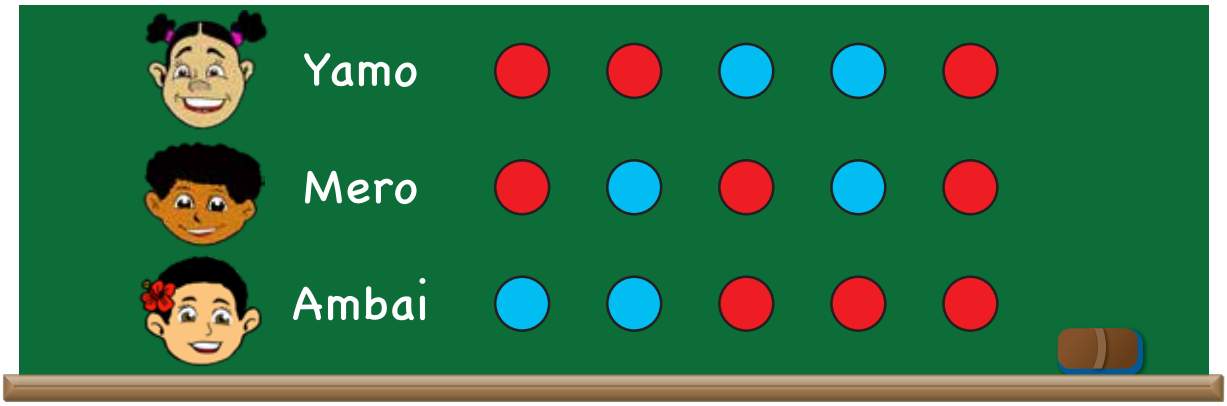
Let's make a pair!

2 Combine or Separate Numbers to Find How Many

Make up and Break down numbers

Play scissors-paper-rock game with your teacher.

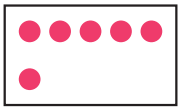
If you win, draw a red circle, if you lose or have a tie, draw a blue circle. Yamo, Mero, and Ambai played the game with their teacher.

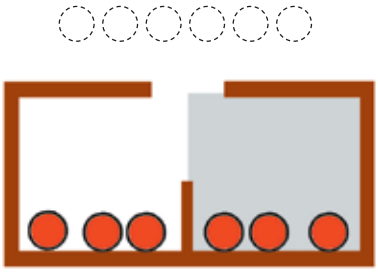


Look at the chart above. What can we say about it?

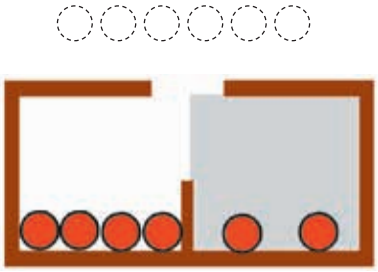
How many times did they win and lose or had a tie?

6





6	
3	3



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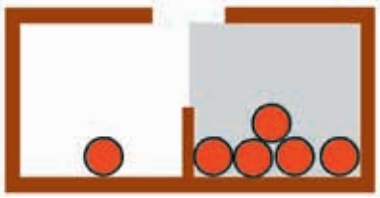
4	



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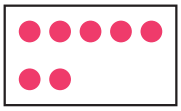
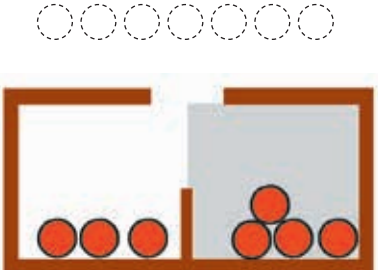
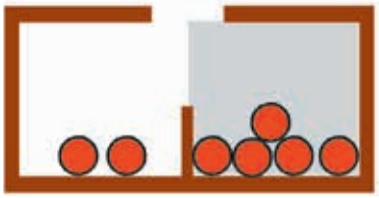
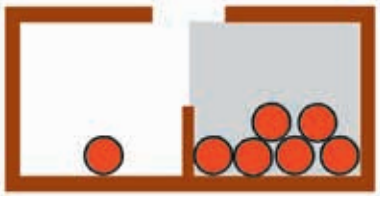




7	
3	4



7	
	5



7	

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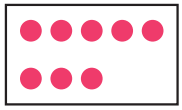
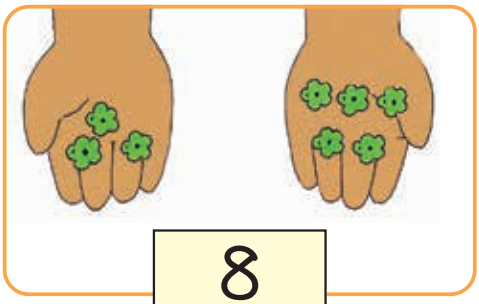
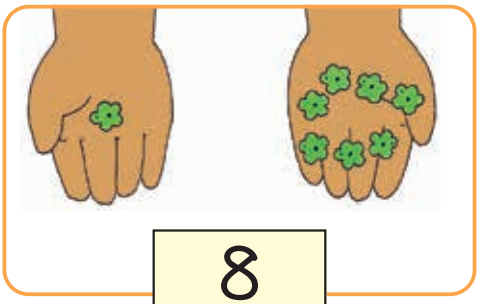




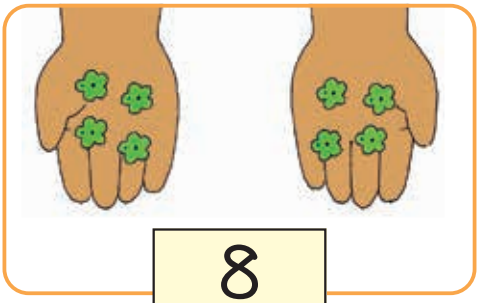
8	
3	5



8	
1	

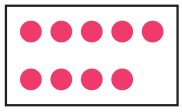
I have 8.

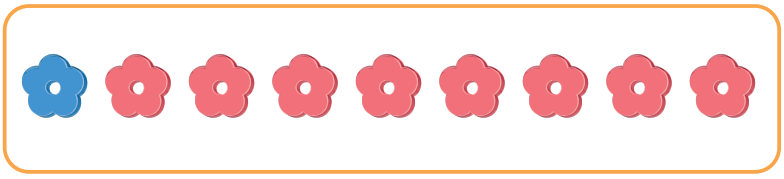
8	



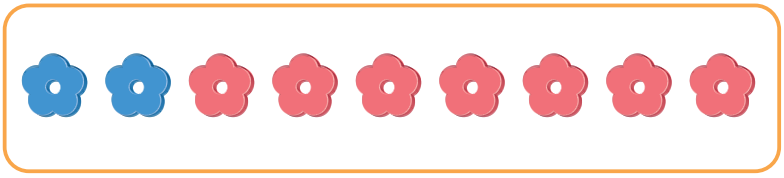
8	

9

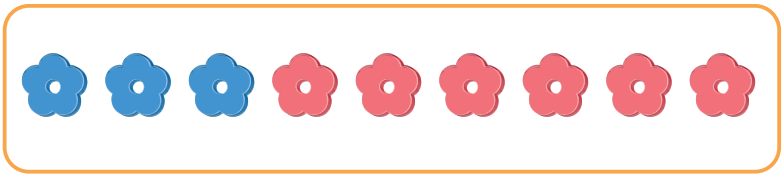




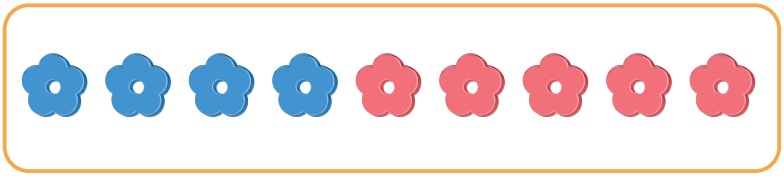
9	
1	8



9	



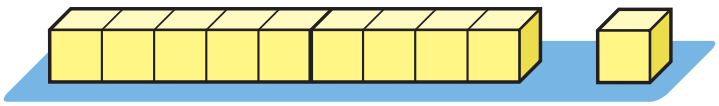
9	



9	

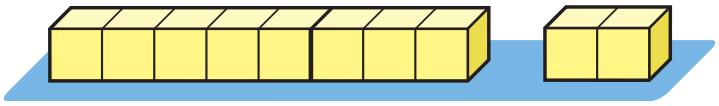
I got 9.

10



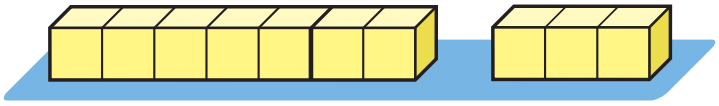
9 and 1

10 = 9 + ☐



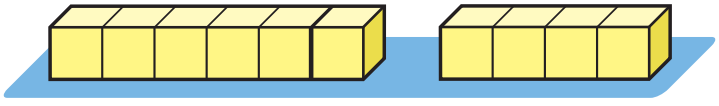
8 and ☐

10 = 8 + ☐



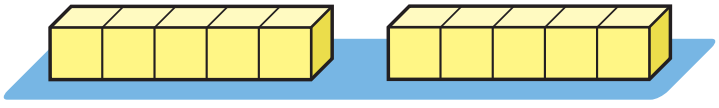
☐ and ☐

10 = ☐ + ☐



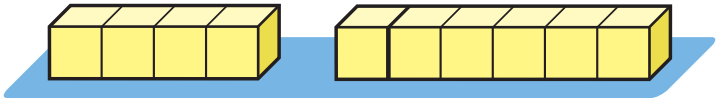
☐ and ☐

10 = ☐ + ☐



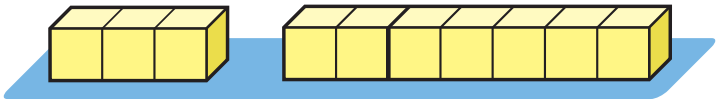
☐ and ☐

10 = ☐ + ☐



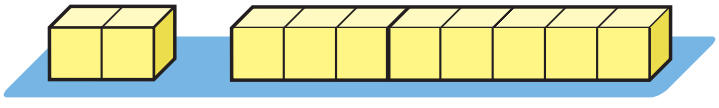
☐ and ☐

10 = ☐ + ☐



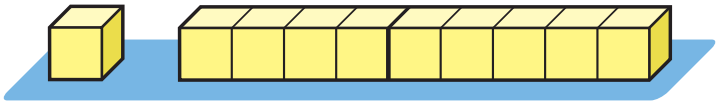
☐ and ☐

10 = ☐ + ☐



☐ and ☐

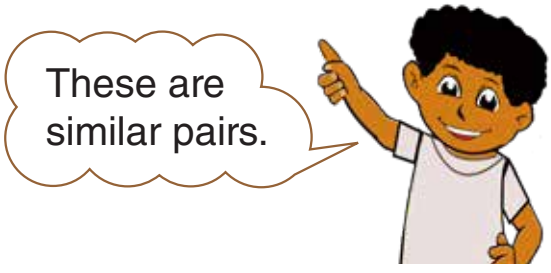
10 = ☐ + ☐



☐ and ☐

10 = ☐ + ☐

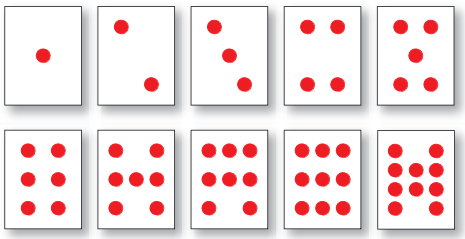
Which pairs are similar?



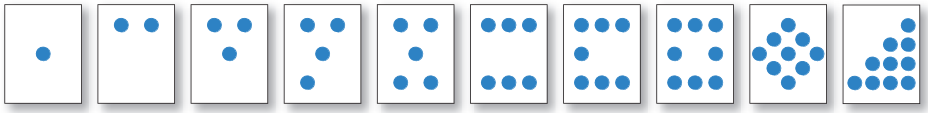
Let's make number cards from 1 to 10

1 Let's make our own number cards from 1 to 10.

Api's Number Cards

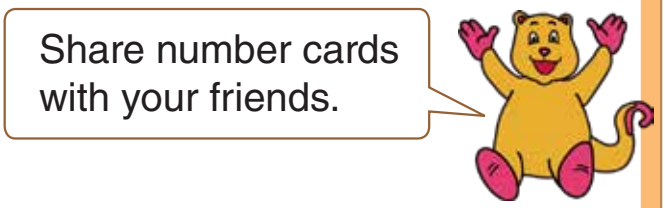


Tau's Number Cards



Let's make 10 with the cards

2 If you make 10, place the cards on the table.



3 Numbers to Show Order

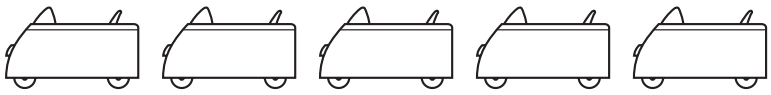
Order and Position

The first 4 children from the front

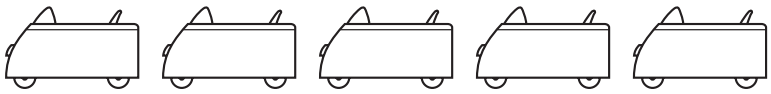
The fourth child from the front

Let's colour!

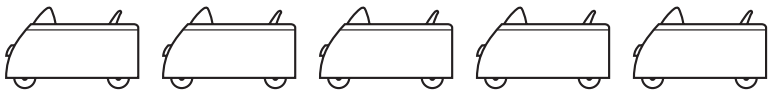
The first 2 cars from the front



The second car from the front



The third car from the back



1 Let's fill the ☐ by using the above picture.

1. The clock is ☐ the door.
2. The PNG flag is on the ☐ of the blackboard.

2 Let's think about math problems and find answers.

Where is the boy sitting?

The boy is sitting on the ☐ seat from the right.

Have you ever seen it? 4

Let's discuss the situations in the pictures.

4 Addition (1)

Let's look at the pictures and tell a story.

1

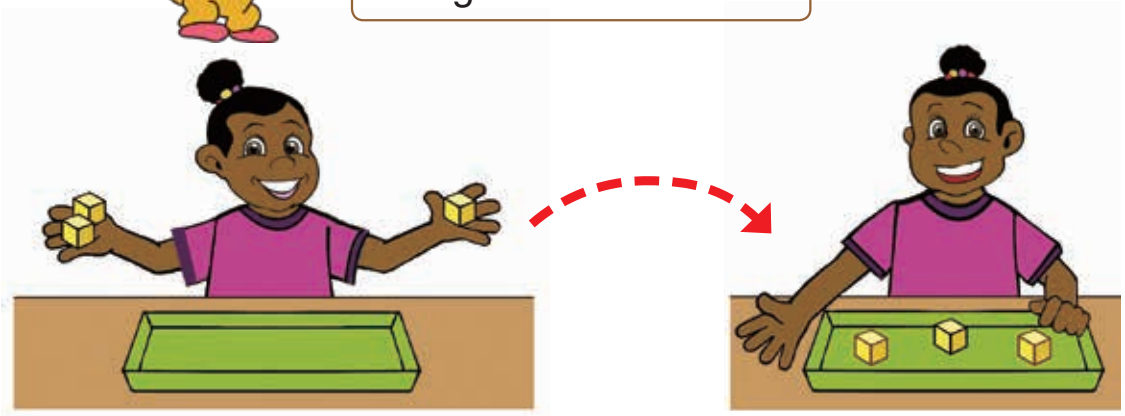
Naiko has ☐ balls.

Vavi has ☐ balls.

There are ☐ balls altogether.

Now, let's make a story using blocks.

2



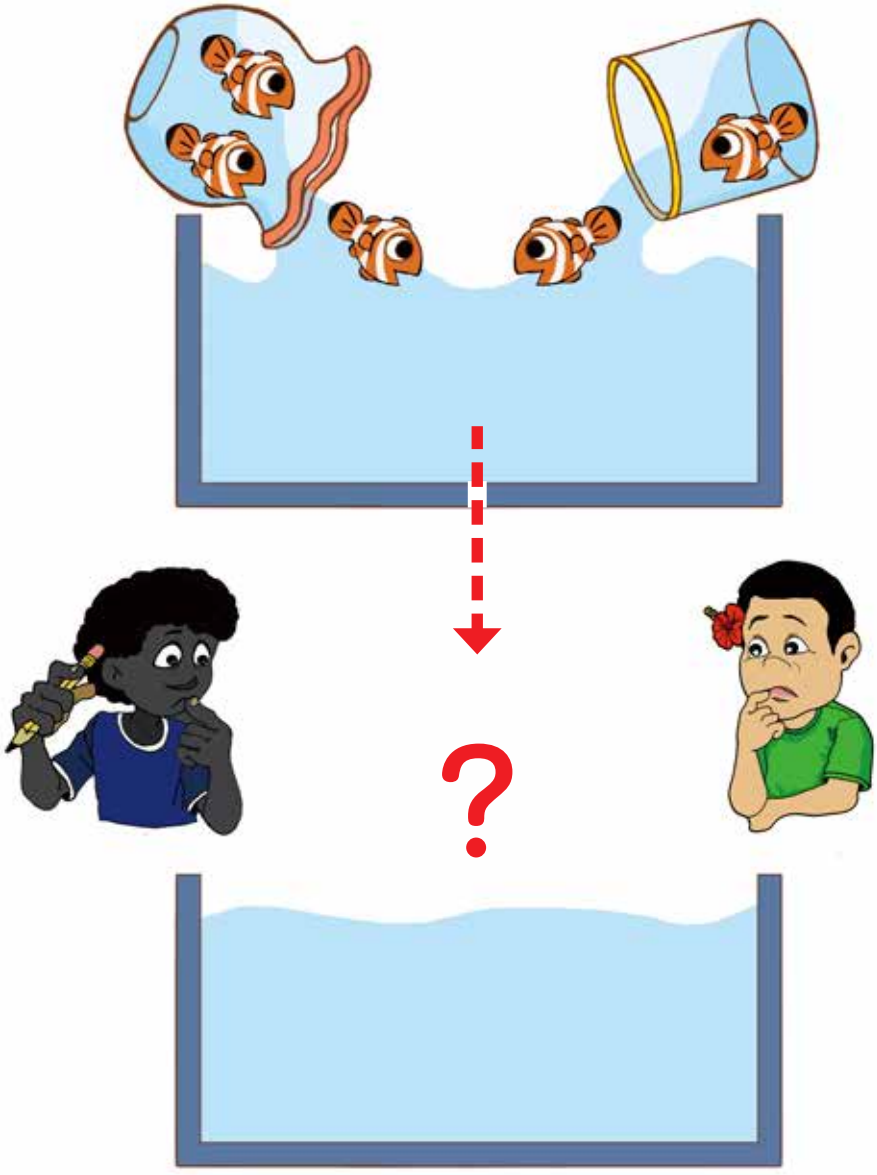
There are ☐ blocks in Vavi's left hand.

There is ☐ block in Vavi's right hand.

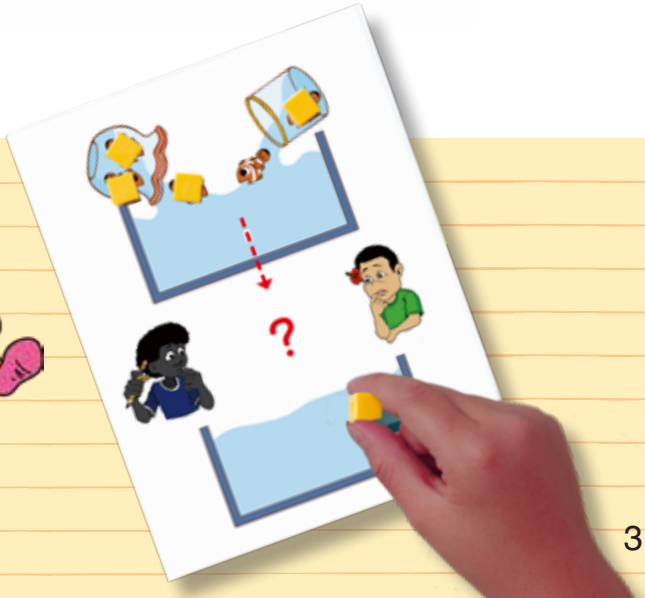
Vavi has ☐ blocks altogether.

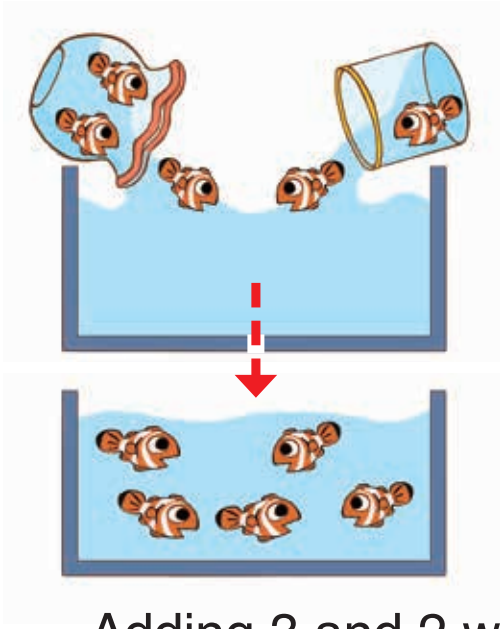
How Many Altogether?

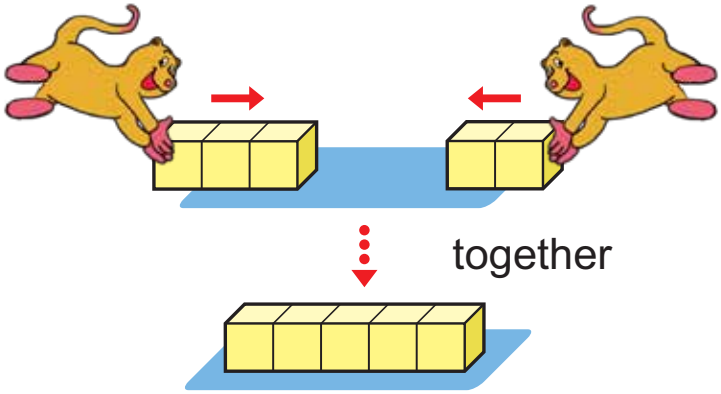
1 How many clownfish are there altogether?



Let's place blocks on the pictures and tell a story to your friend.





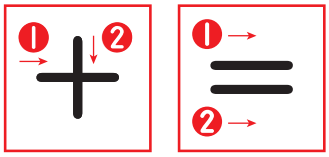


Adding 3 and 2 will make 5.

Math sentence : $3+2=5$

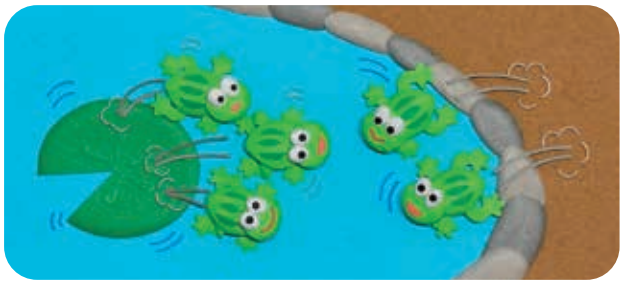
3 **plus** 2 **equals** 5.

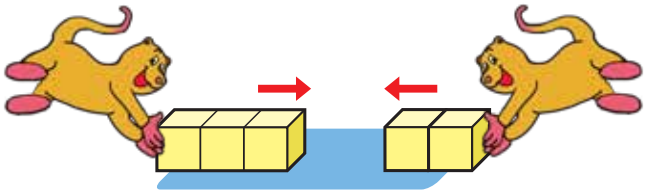
Answer : 5 clownfish



2 Let's write a math sentence and find the answer.

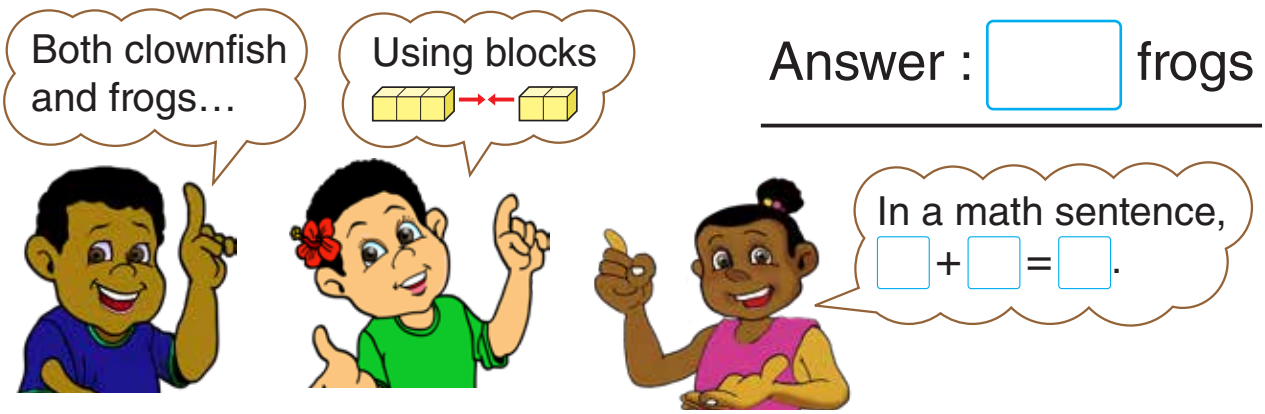
1 How many frogs are there altogether?





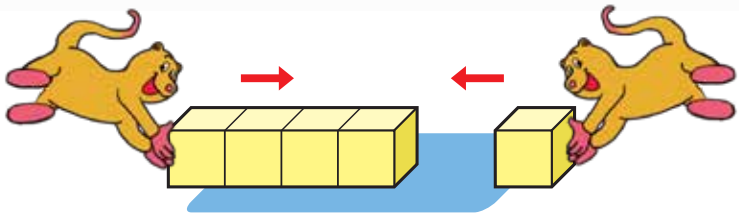
Math sentence : ☐ + ☐ = ☐

Answer : ☐ frogs



2 How many children are there altogether?

Math sentence :



Answer : ☐ children

3 Let's do **addition**.

1 2+1	**2** 1+4	**3** 3+1	**4** 2+3
5 1+2	**6** 1+1	**7** 2+2	**8** 4+1

4 There are 5 red flowers, and 4 white flowers.

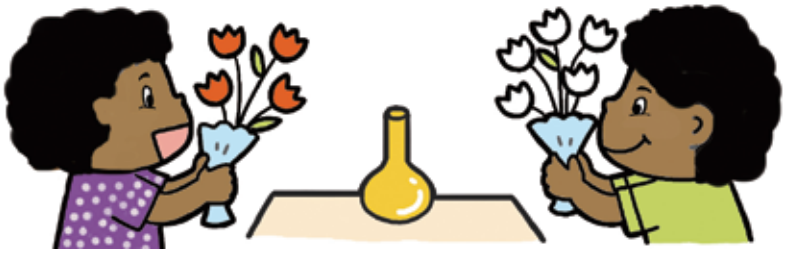
How many flowers are there altogether?

1 Let's think how this story looks like.

Choose the right picture from the next page

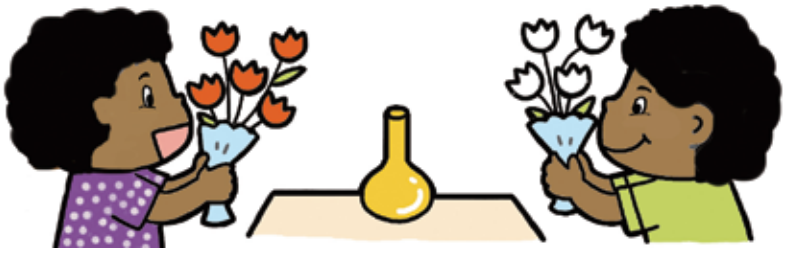
(1), (2) or (3).

(1)

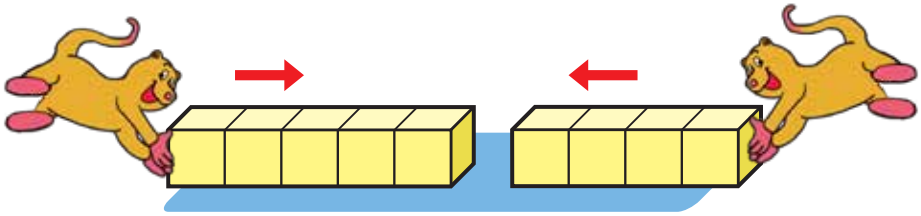


(2)

(3)



2 Let's write an expression and find the answer.



Expression : ☐

Answer : ☐ flowers

5 Let's read the math story below and draw pictures.

There are 2 brown bandicoots and 5 black bandicoots.

How many bandicoots are there altogether?

6 Let's do addition.

1. 5 + 1
2. 5 + 2
3. 3 + 5
4. 4 + 5

7 Let's make a math story for 5 + 3.

There are ☐ monkeys and ☐ monkeys.

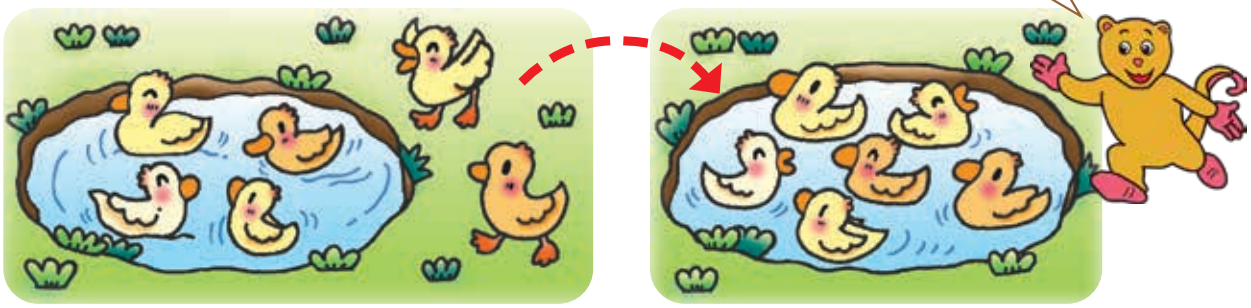
How many monkeys are there ☐?

8 Let's draw a picture for 1 + 5, and make a math story.

How Things Increase

Let's look at the pictures and tell a story.

1



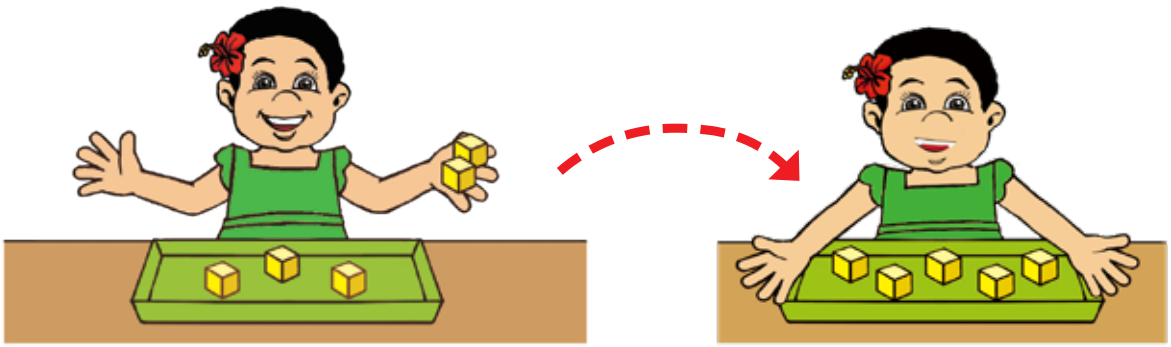
There are ☐ ducks.

☐ more ducks come in.

There are ☐ ducks altogether.

Now, let's make a story using blocks.

2



There are ☐ blocks.

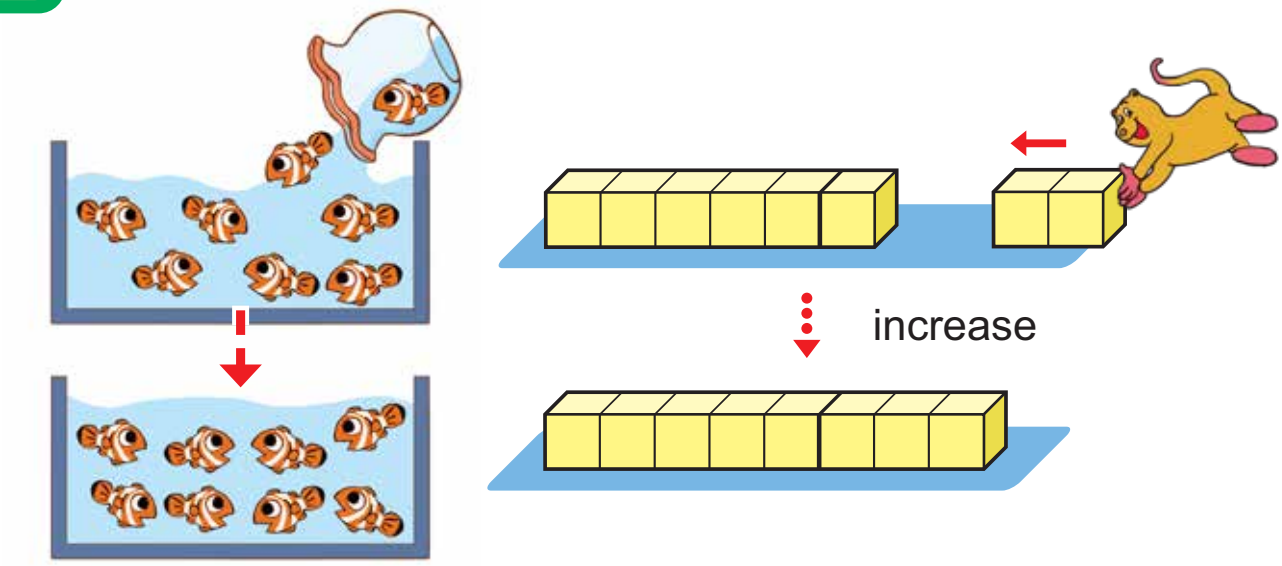
☐ more blocks are added.

Ambai has ☐ blocks altogether.

Change the numbers of blocks and make different stories.

Activity

1 How many clownfish are there after the change?



There are 6 clownfish, 2 more are added, there are 8 clownfish.

Math sentence : 6 + 2 = 8

Answer : ☐ clownfish

Exercise

Let's do addition.

① 8 + 1　　② 7 + 2　　③ 6 + 1　　④ 6 + 3

2 There are 4 cars at a car park. If 3 more cars come in to park, how many cars are there altogether?

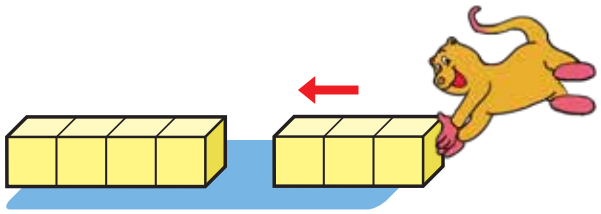
1 Let's think about how this story looks like. Choose the right picture from the next page (1), (2) or (3).

(1)

(2)

(3)

2 Let's write an expression and find the answer.



Expression : ☐

Answer : ☐ cars

3 Let's read the math story below and draw pictures.

You have 5 pencils. You will get 3 more pencils from your friend today. How many pencils will you have altogether?

Activity

4 Let's do addition.

1. 4+4
2. 3+4
3. 3+3
4. 2+4

5 Let's make a math story for 6+4.

There are ☐ cats. ☐ more cats come in.
How many cats are there ☐?

6 Let's draw a picture for 3+7, and make a math story.

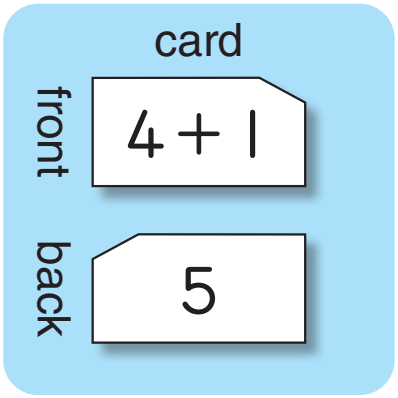
Activity

7 Let's find the answers.

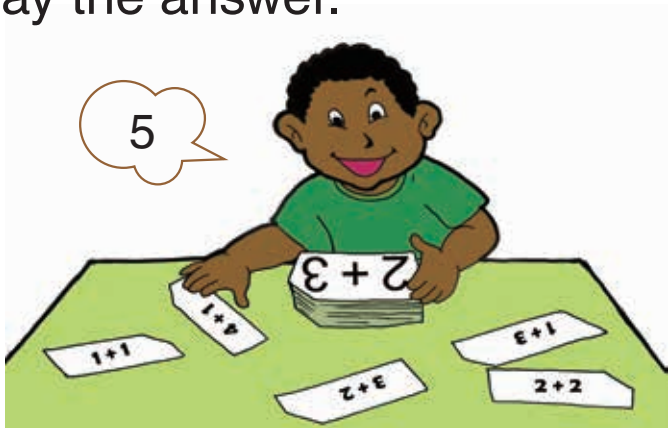
1. 9+1
2. 5+5
3. 4+6
4. 2+8
5. 7+3
6. 8+2
7. 1+9
8. 3+7
9. 2+5
10. 1+6
11. 3+6
12. 4+2
13. 1+8
14. 2+7
15. 7+1
16. 1+5

Addition Cards

Make addition cards and practice addition.



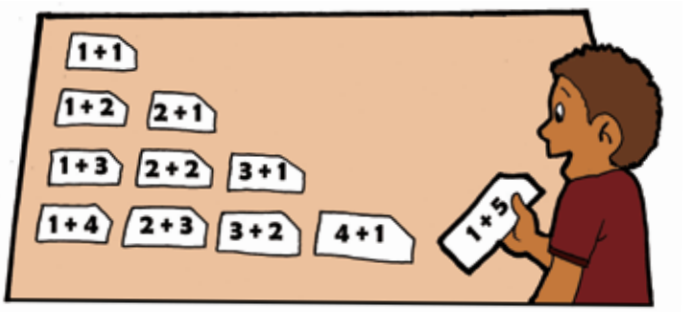
1 Say the answer.



2 Find the card with the same answer.

3 Line up the cards that have the same answer.

Let's talk about what you noticed.



Adding 0

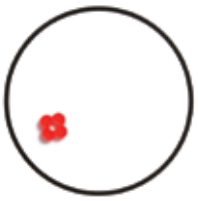
1 Three children shot their counters twice.
How many counters in total did they shoot into the circle?

1

Ambai

first try

second try

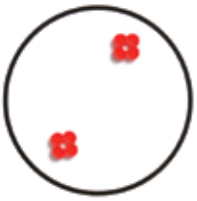


2 + 1 = ☐

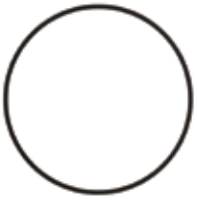
2

Kekeni

first try



second try

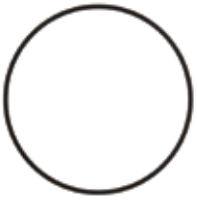


2 + ☐ = ☐

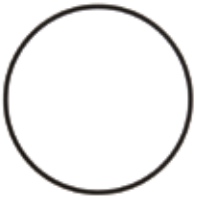
3

Gawi

first try



second try



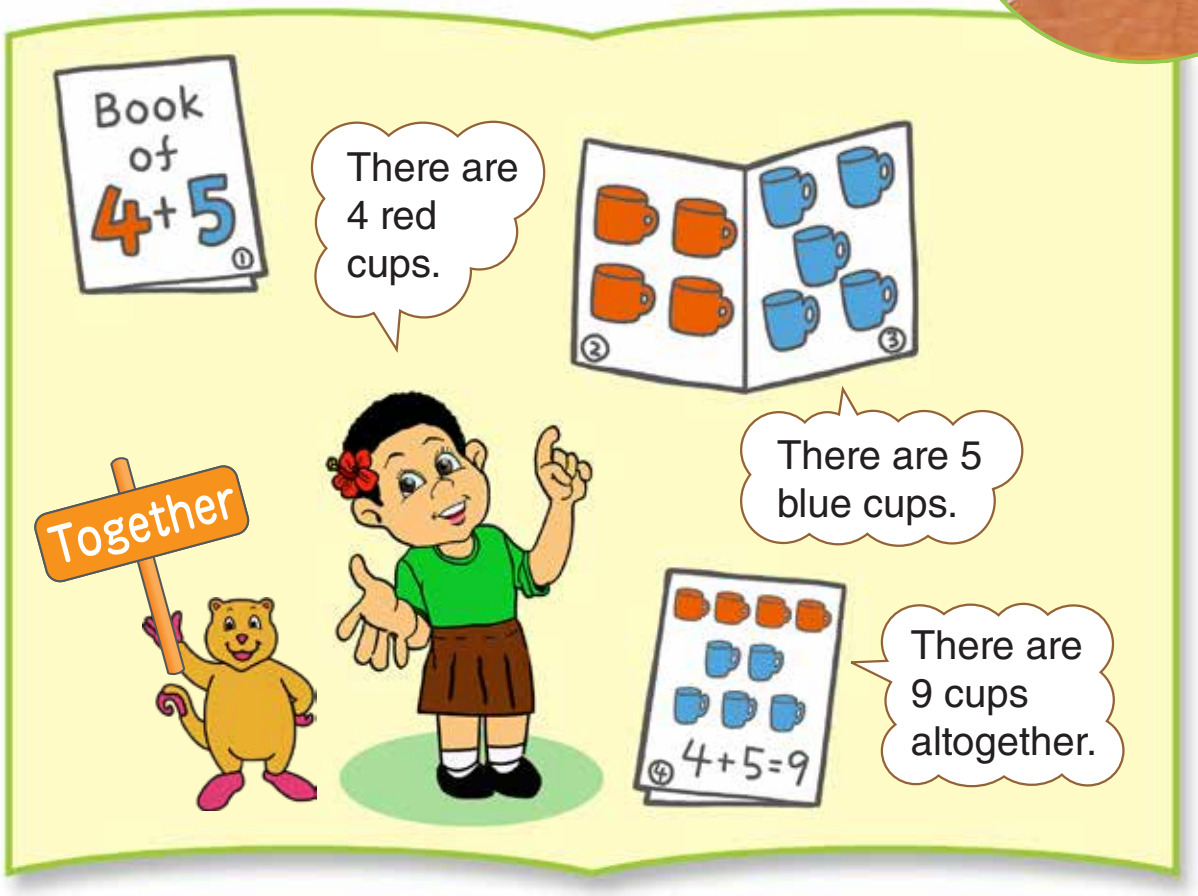
☐ + ☐ = ☐

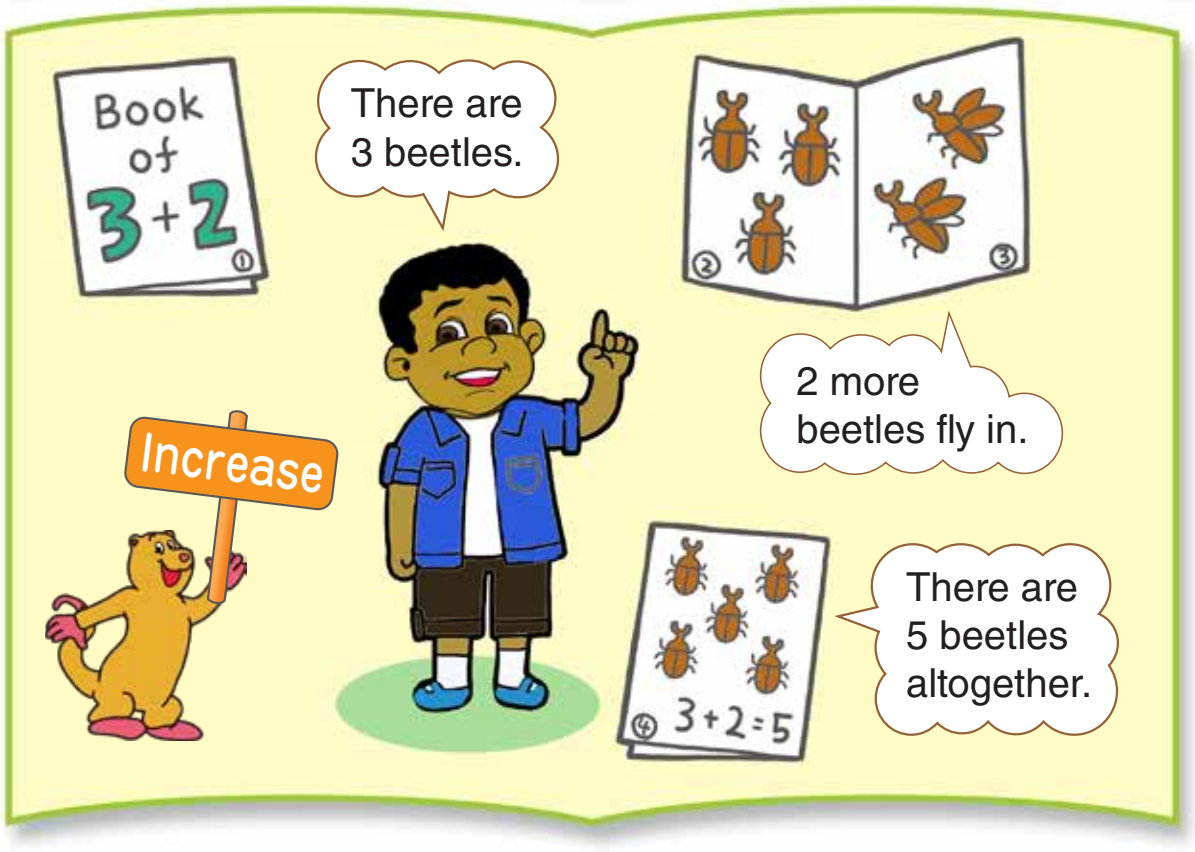
2 Let's find the answers.

1 4+0	2 9+0	3 7+0	4 8+0
5 0+6	6 0+5	7 0+1	8 0+0

Picture Book for Addition

Let's make a picture book for additon.





Problems 1

1 Let's find the answers.

① 2+3	② 0+3	③ 3+1
④ 2+5	⑤ 1+5	⑥ 5+4
⑦ 7+1	⑧ 2+6	⑨ 3+6
⑩ 3+4	⑪ 6+0	⑫ 4+2
⑬ 6+4	⑭ 8+2	⑮ 7+3

2 Connect the left card to the right card with the same answer.

3+5 •	• 4+4
2+4 •	• 6+3
4+5 •	• 5+1

3 There are 6 colour pencils. You got 2 more. How many colour pencils do you have altogether?

Problems 2

1 Let's play scissors-paper-rock!

If you win by Scissors, count 1, 2 and move 2 steps forward.

If you win by Rock, spell fish and, move 4 steps forward.

If you win by Paper, spell pawpaw and, move 6 steps forward.

①

Naiko

I won 2 times and went 6 steps forward. What did I win with?

How did Naiko win to move 6 steps?

②

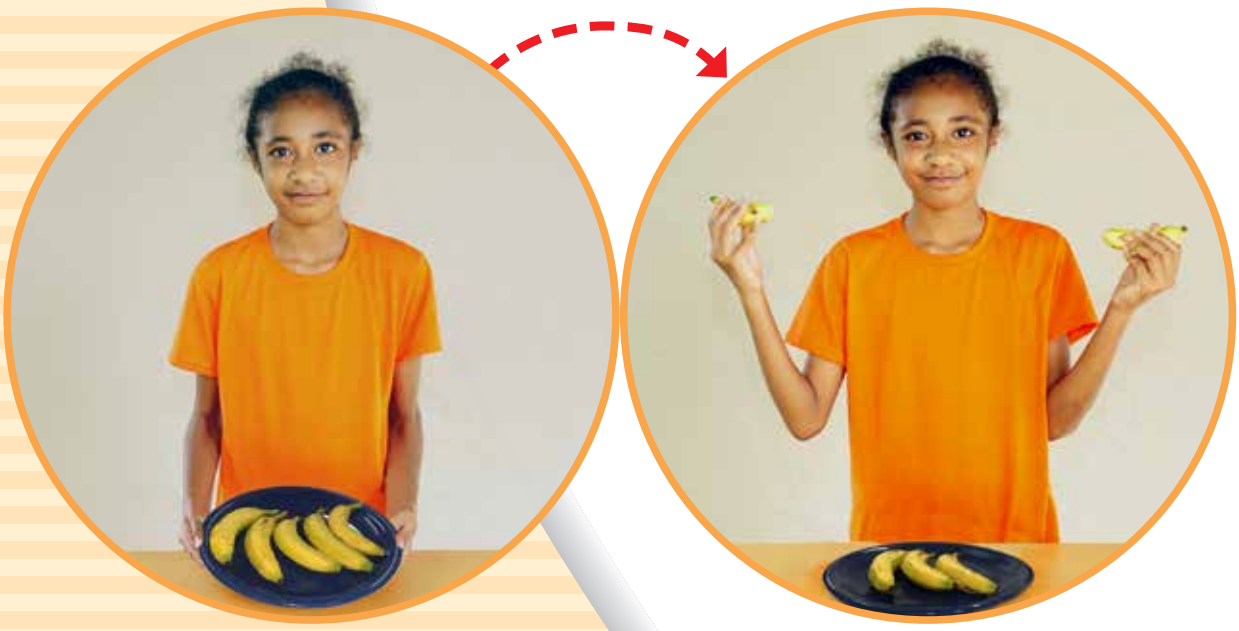
Ambai

I want to go 10 steps forward. How many times should I win and with what sign?

If Ambai wins with paper, she can go 6 steps forward.
How many more steps does she have to go forward to reach 10 steps?

Have you ever seen it? 5

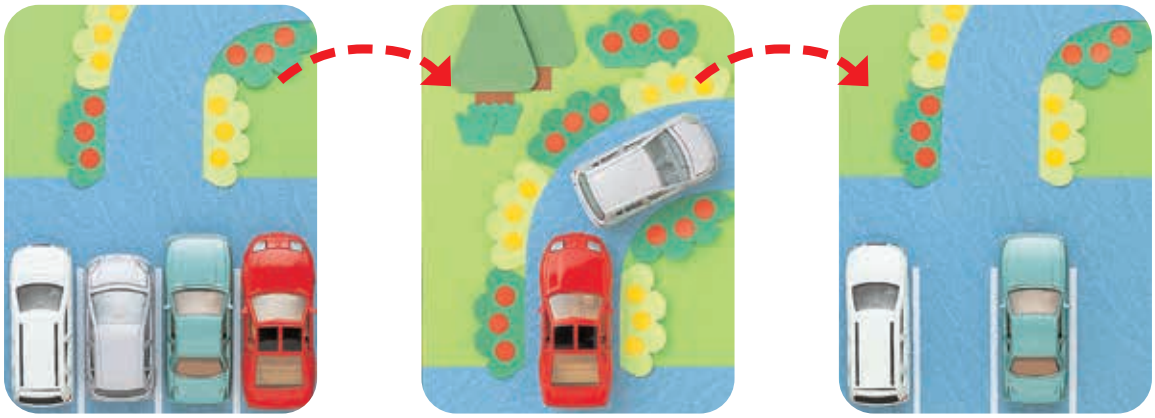
Let's discuss the situations in the pictures.



5 Subtraction (1)

Let's look at the pictures and tell a story.

1



There are ☐ cars parked.

☐ cars are leaving.

☐ cars are left.

Now, let's make a story using blocks.

2

Naiko has ☐ blocks.

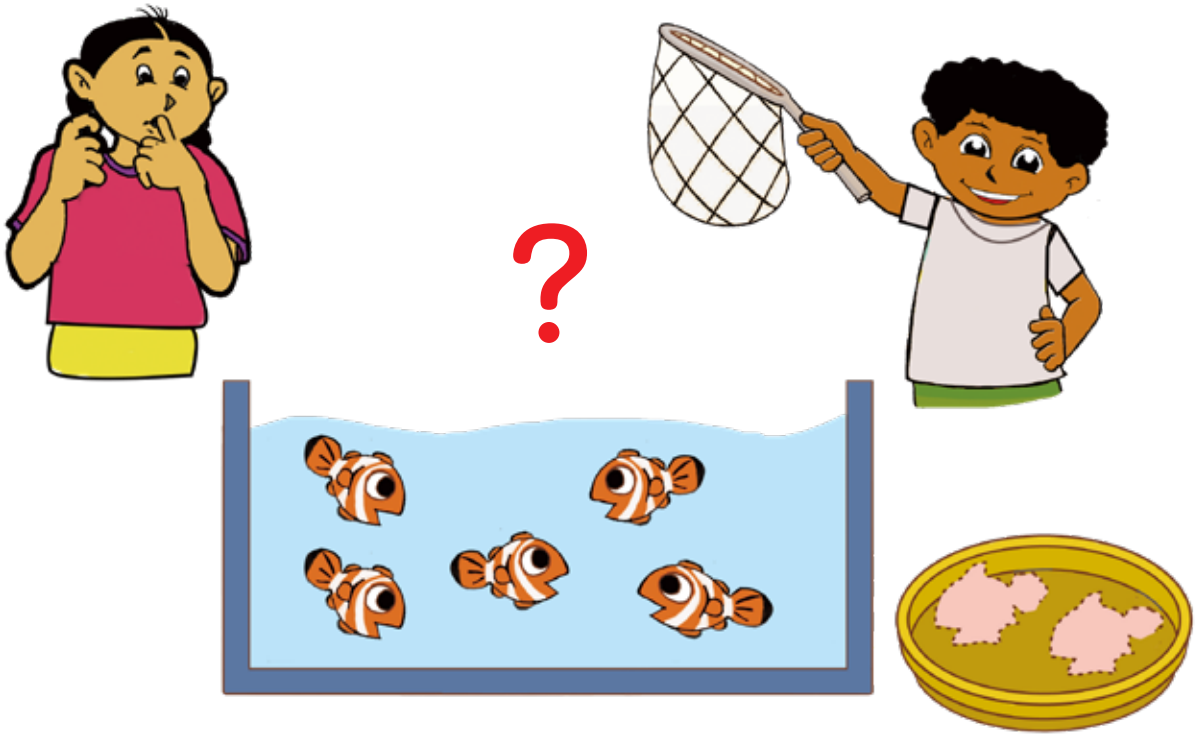
☐ block is taken away.

☐ blocks are left.

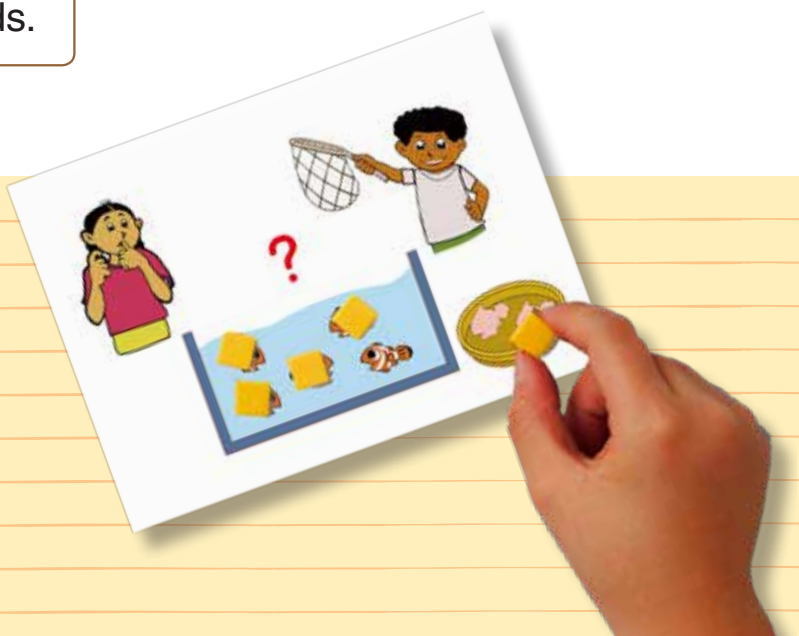
How Many Are Left?

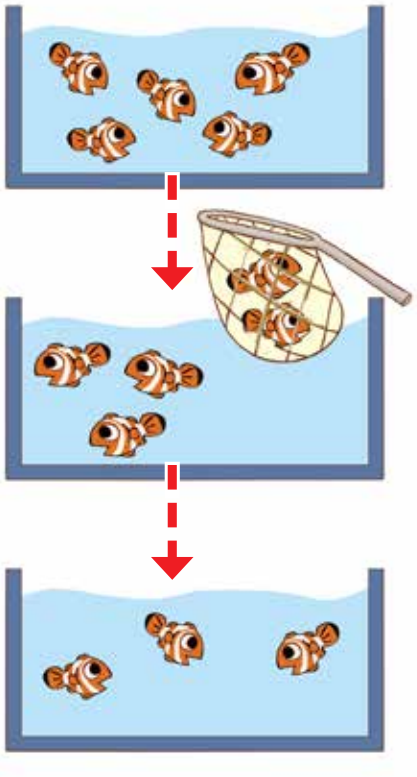
1 There are 5 clownfish. Mero took out 2 clownfish.

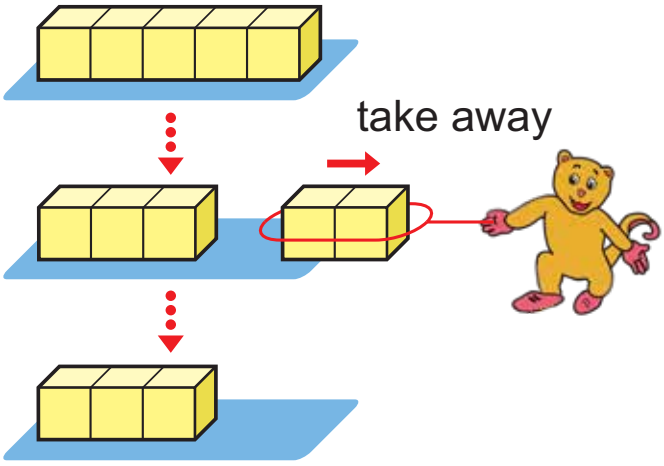
How many clownfish are left?



Let's place blocks on the picture and tell a story to your friends.







Subtracting 2 from 5 is 3.

Math sentence : $5-2=3$

5 **minus** 2 **equals** 3.

Answer : 3 clownfish

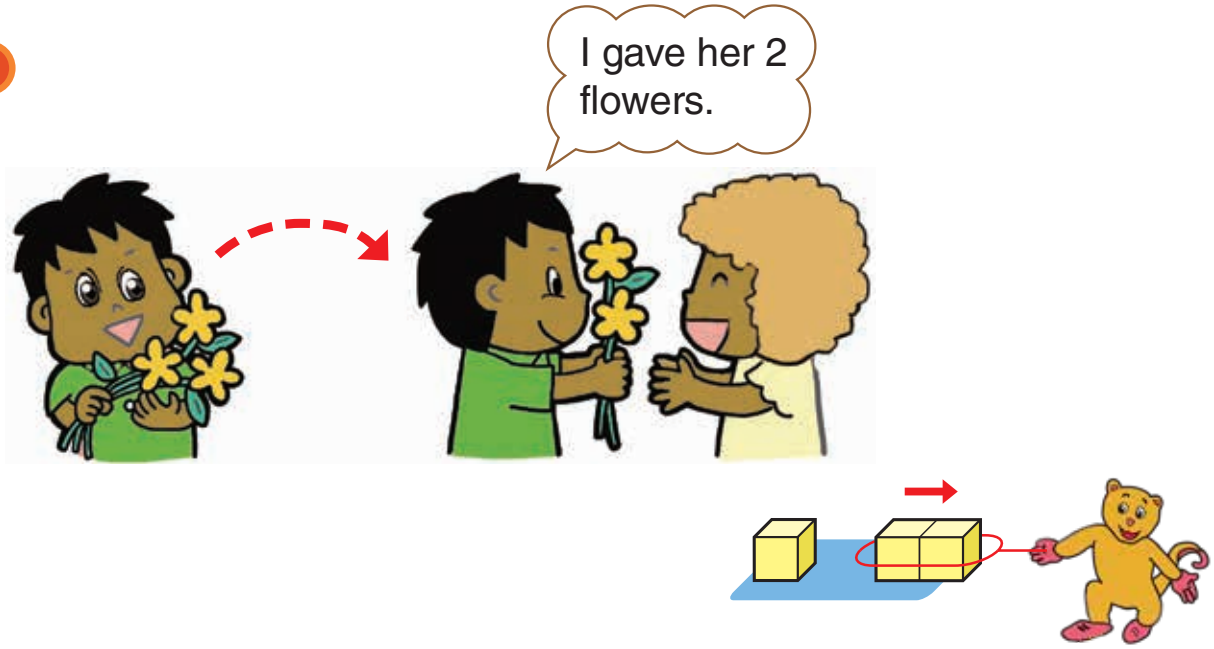
2 How many are left? Write a math sentence and find the answer.

1

Math sentence : ☐ – ☐ = ☐

Answer : ☐ cakes

2



Math sentence : ☐

Answer : ☐ flower

3 Let's do **subtraction**.

① 5 − 3	② 2 − 1	③ 4 − 2	④ 5 − 4
⑤ 4 − 3	⑥ 3 − 1	⑦ 5 − 1	⑧ 3 − 2

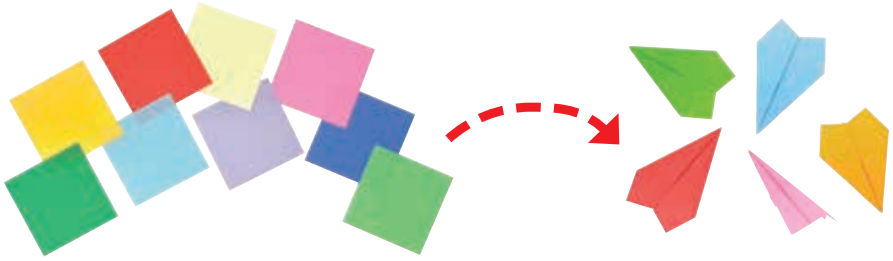
4 There were 9 square papers. You used 4 of them to make paper airplanes.

How many square papers are left?

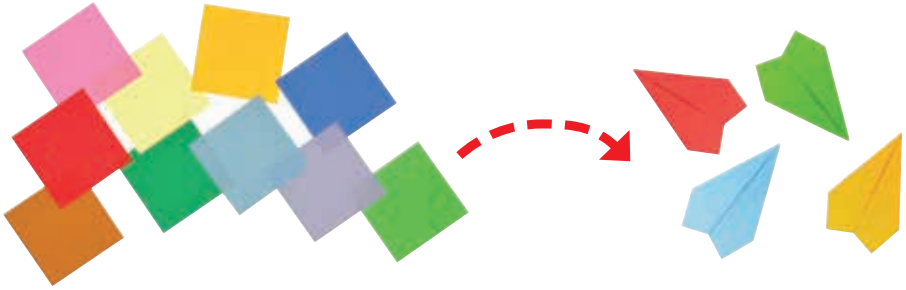
① Let's think how this story looks like.

Choose the correct picture from the next page (1), (2) or (3).

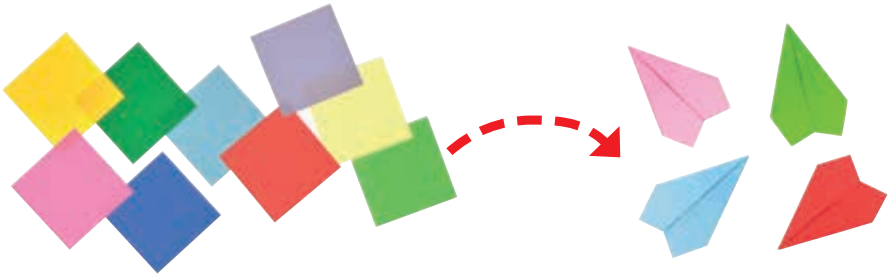
(1)



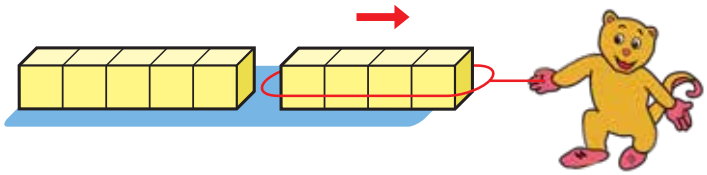
(2)



(3)



2 Let's write an expression and find the answer.



Expression : ☐

Answer : ☐ square papers

5 Let's read the math story below and draw pictures.

9 children are playing.

3 of them went home.

How many children are left?

6 Let's do subtraction.

1. 8 − 3
2. 7 − 2
3. 6 − 5
4. 9 − 5

7 Let's make a math story for 8 − 2.

There are ☐ flying foxes hanging on the branch.

☐ flying foxes flew away.

How many flying foxes are ☐?

8 Let's draw a picture for 6 − 1, and make a math story.

Activity

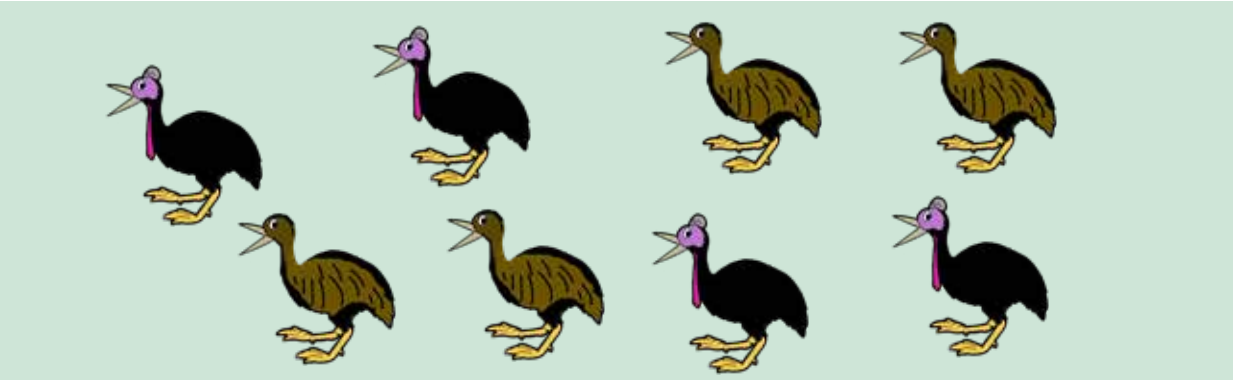
Exercise

Let's find the answers.

① 9 − 2　② 7 − 1　③ 8 − 6　④ 9 − 7

⑤ 8 − 1　⑥ 9 − 8　⑦ 9 − 1　⑧ 8 − 7

9 There are 8 cassowaries. 4 of them are males.
How many are females?



Exercise

Let's find the answers.

① 6 – 3　② 7 – 4　③ 8 – 5　④ 7 – 3

⑤ 9 – 6　⑥ 6 – 4　⑦ 7 – 5　⑧ 6 – 2

10 There are 10 pencils and
Ikau sharpened 3.
How many pencils are not
sharpened?

Exercise

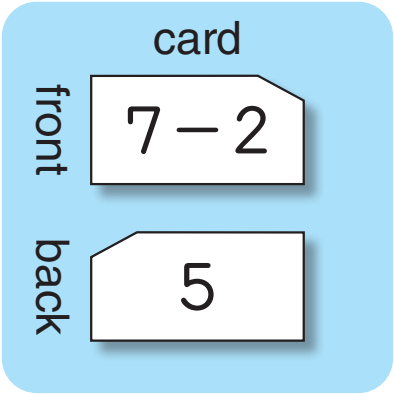
Let's find the answers.

① 10 – 4　② 10 – 1　③ 10 – 9　④ 10 – 2

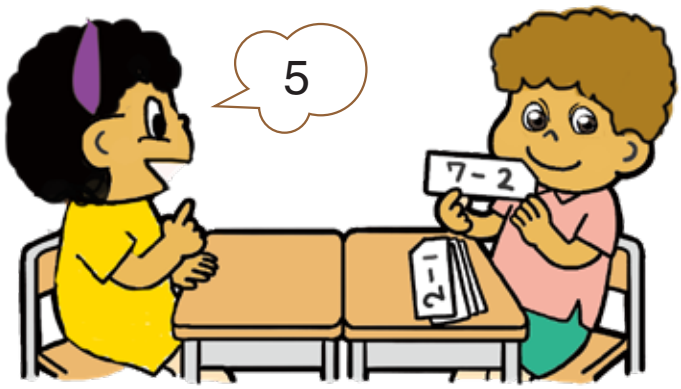
⑤ 10 – 6　⑥ 10 – 8　⑦ 10 – 7　⑧ 10 – 5

Subtraction Cards

Make subtraction cards and practice subtraction.



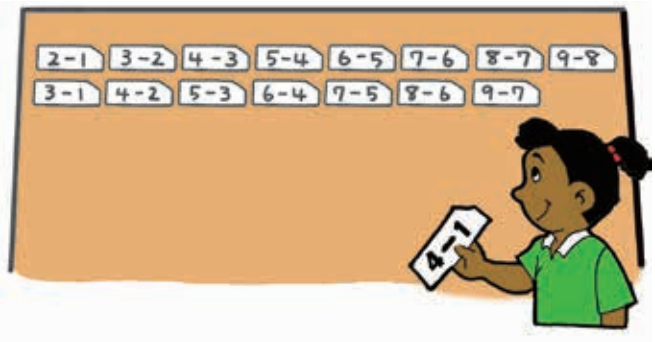
1 Say the answer.



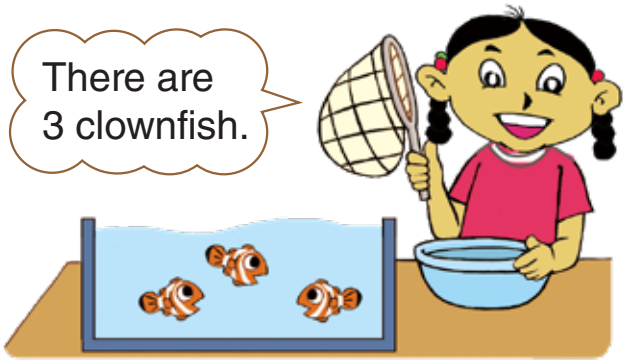
2 Find the cards with the same answer.

3 Line up the cards that have the same answer.

Let's talk about what you noticed.

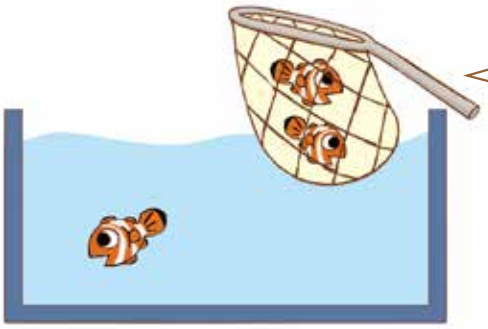


Subtracting 0



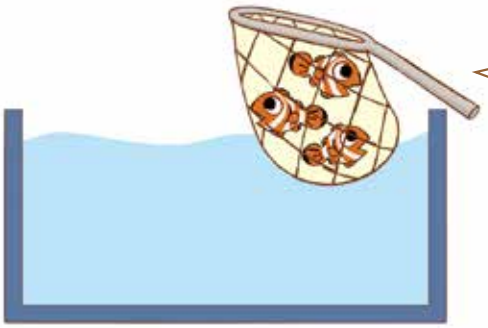
1 How many are left?

1



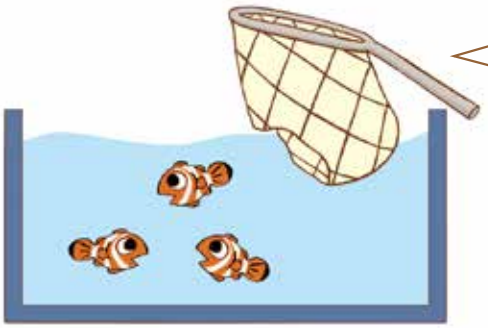
3 − 2 = ☐

2



3 − 3 = ☐

3



3 − 0 = ☐

2 Let's find the answers.

1 7 − 7　　2 4 − 4　　3 5 − 5　　4 9 − 9

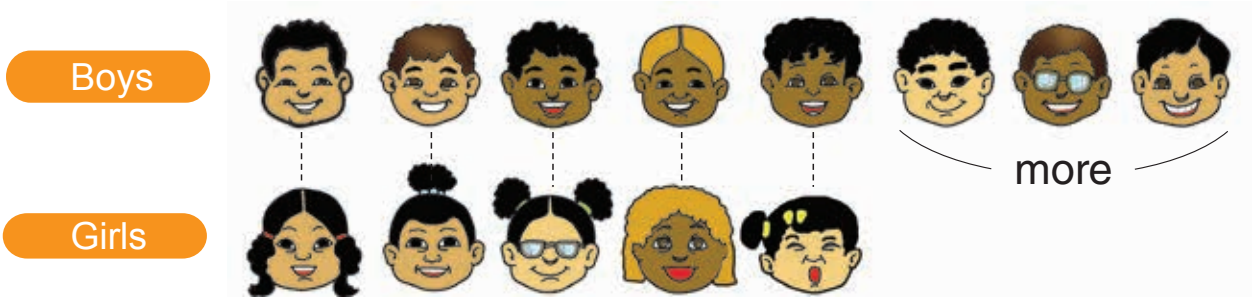
5 8 − 0　　6 1 − 0　　7 6 − 0　　8 0 − 0

What Is the Difference?

1 How many more boys are there than girls?

Pair up a boy and a girl.

Count the number of boys and girls.



8 is 3 more than 5.

Math sentence : 8 − 5 = ☐

Answer : ☐ more boys

2 How many more pieces of cake are there than the plates?

Math sentence : ☐ − ☐ = ☐

Answer : ☐ more piece of cake

3 There are red cars and yellow cars.

Which colour car is more?

And by how many more?

Math sentence : ☐ − ☐ = ☐

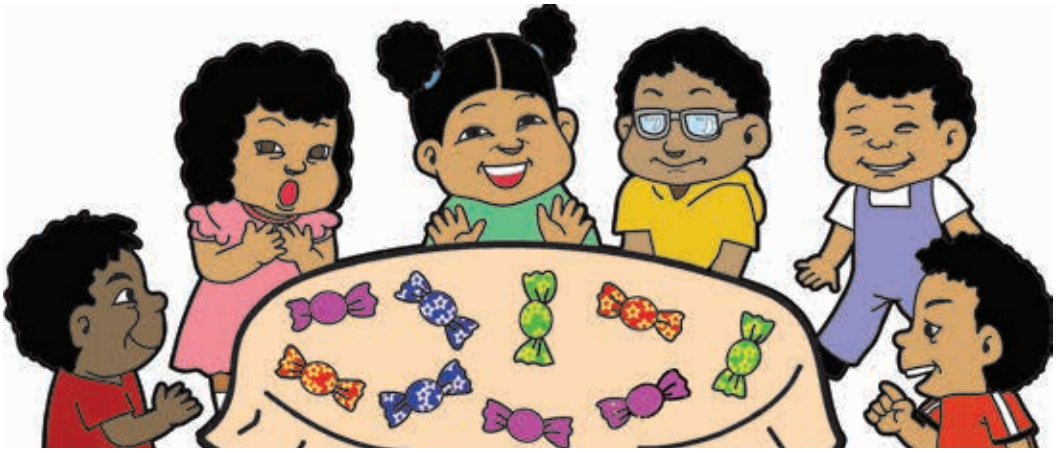
Answer : There are ☐

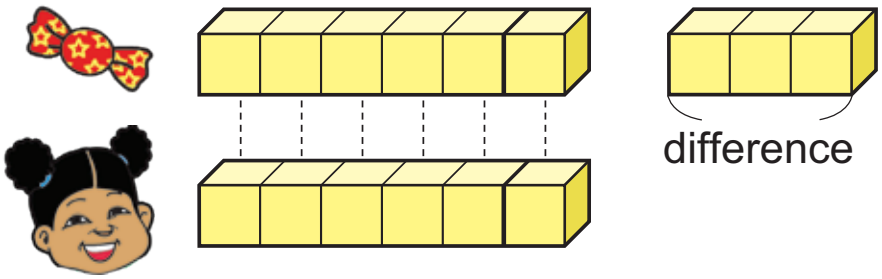
more ☐ cars than ☐ cars.

4 There are 5 dogs. Cats are 2 less than dogs.

How many cats are there?

5 What is the difference between the number of children and candies?

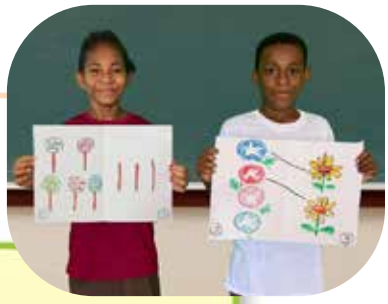




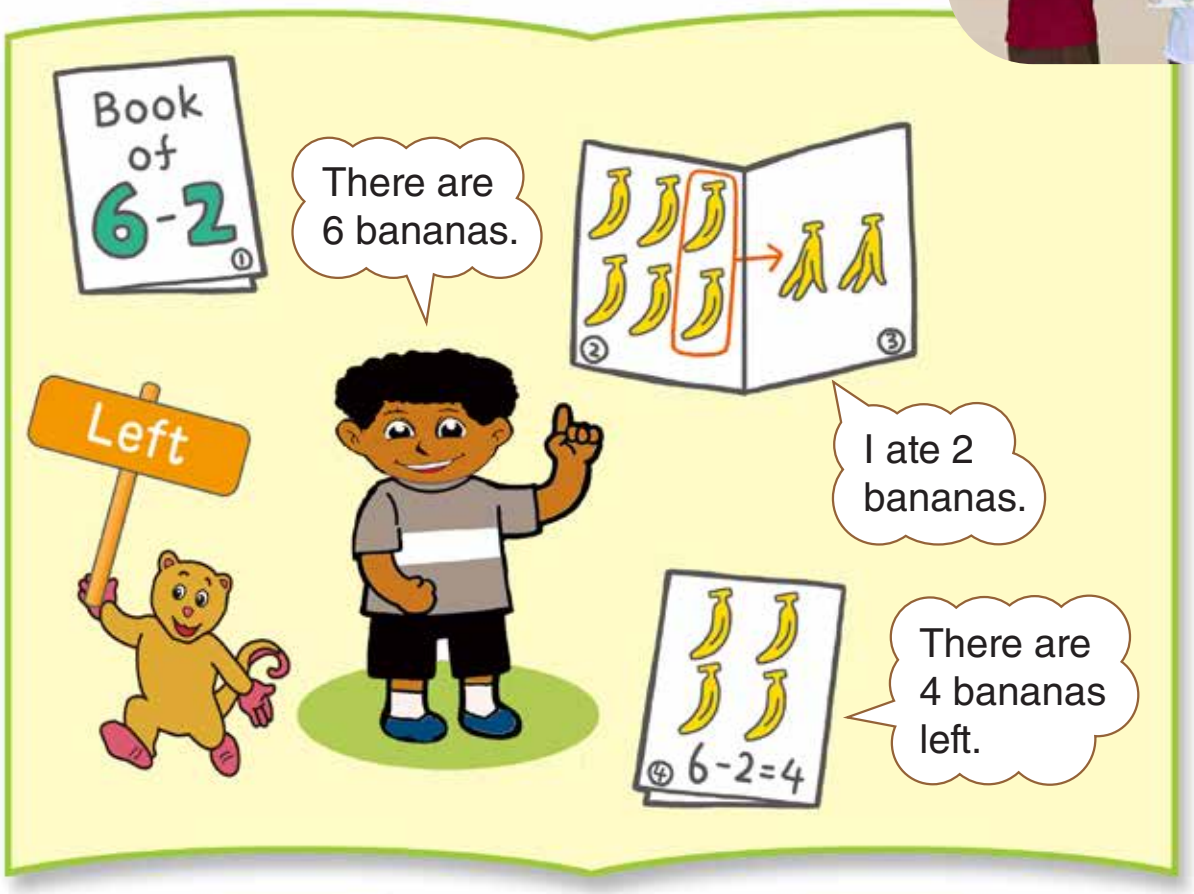
Math sentence : _____

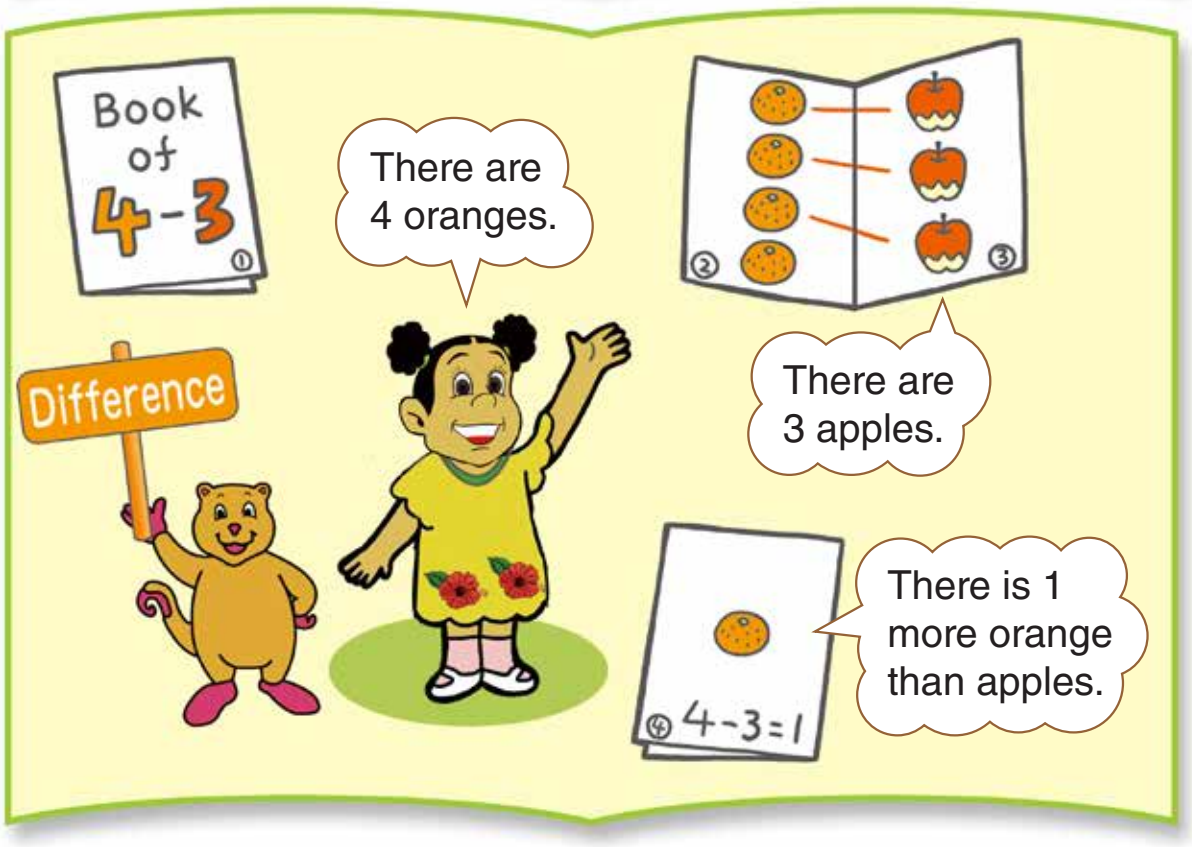
Answer : _____

Picture Book for Subtraction



Let's make a picture book for subtraction.





Problems 1

1 Let's find the answers.

① 4 – 1　② 9 – 4　③ 2 – 2

④ 5 – 2　⑤ 7 – 5　⑥ 8 – 8

⑦ 6 – 0　⑧ 10 – 3　⑨ 3 – 1

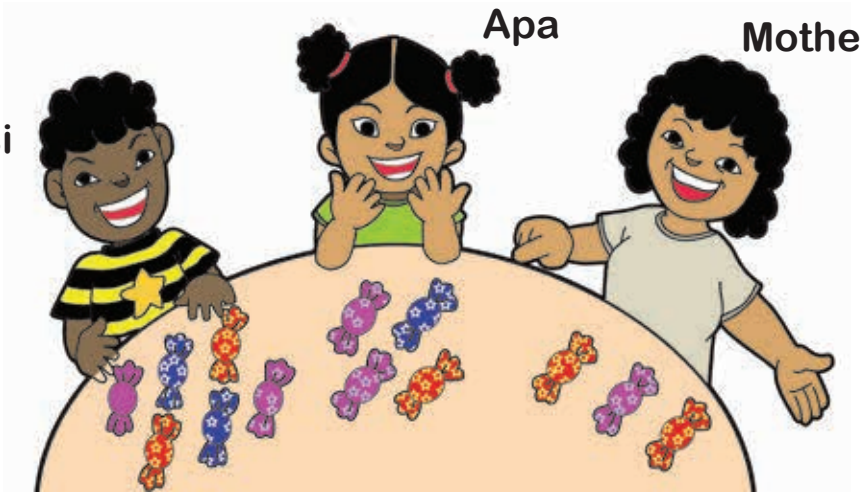
2 Write an expression and answer the question.

① There are 8 guavas and 4 were eaten. How many guavas are left?

② There are 6 girls and 10 boys. Which group has more children? And by how many more?

Problems 2

1 Kasi and Apa have different numbers of lollies. What should they do to make the numbers equal?



① 
I will get lollies from mother.

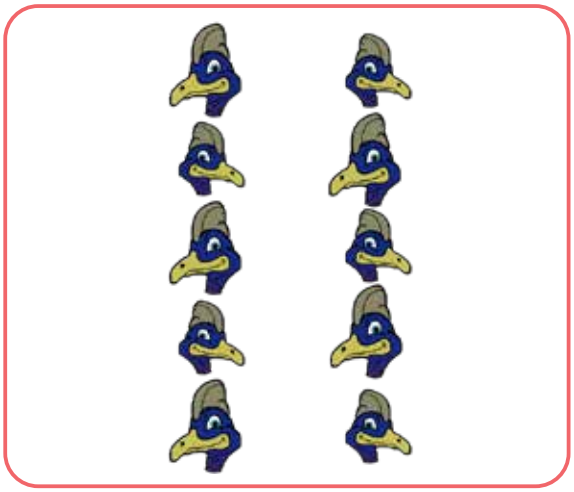
② 
I will give lollies to mother.

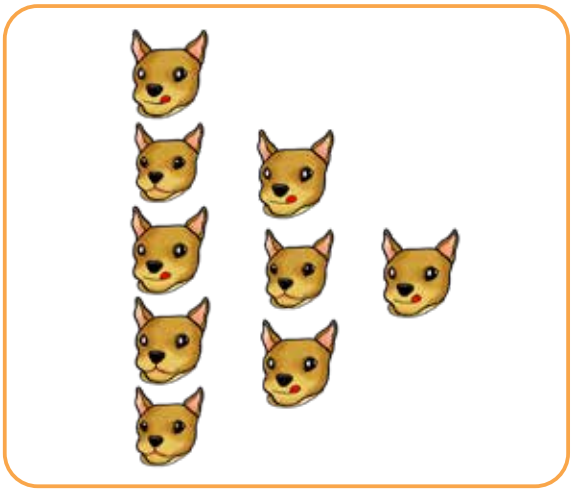
③ 
Kasi can give lollies to Apa.

Let's try to explain their ideas using math sentence and counters.

Review

1 Which is more  or  ?





2 Fill each ☐ with a number.

①

5	
☐	3

②

7	
☐	4

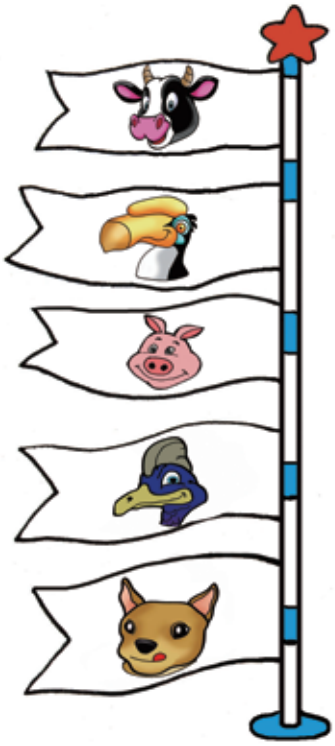
③

10	
☐	2

3 Look at the picture on the right.

① Which animal is on the fourth flag from the bottom?

② What place is the pig's flag from the top?



4 There are 8 red flowers, and 2 yellow flowers.
How many flowers are there altogether?

5 There are 9 books and he read 3 books.
How many books did he not read yet?

6 Let's find the answers.

① 2+6	② 4+3	③ 1+7	④ 5+4
⑤ 9+1	⑥ 6+4	⑦ 3+0	⑧ 0+8
⑨ 5−3	⑩ 4−2	⑪ 7−2	⑫ 8−5
⑬ 10−6	⑭ 10−2	⑮ 6−6	⑯ 7−0

6 Shapes (1)

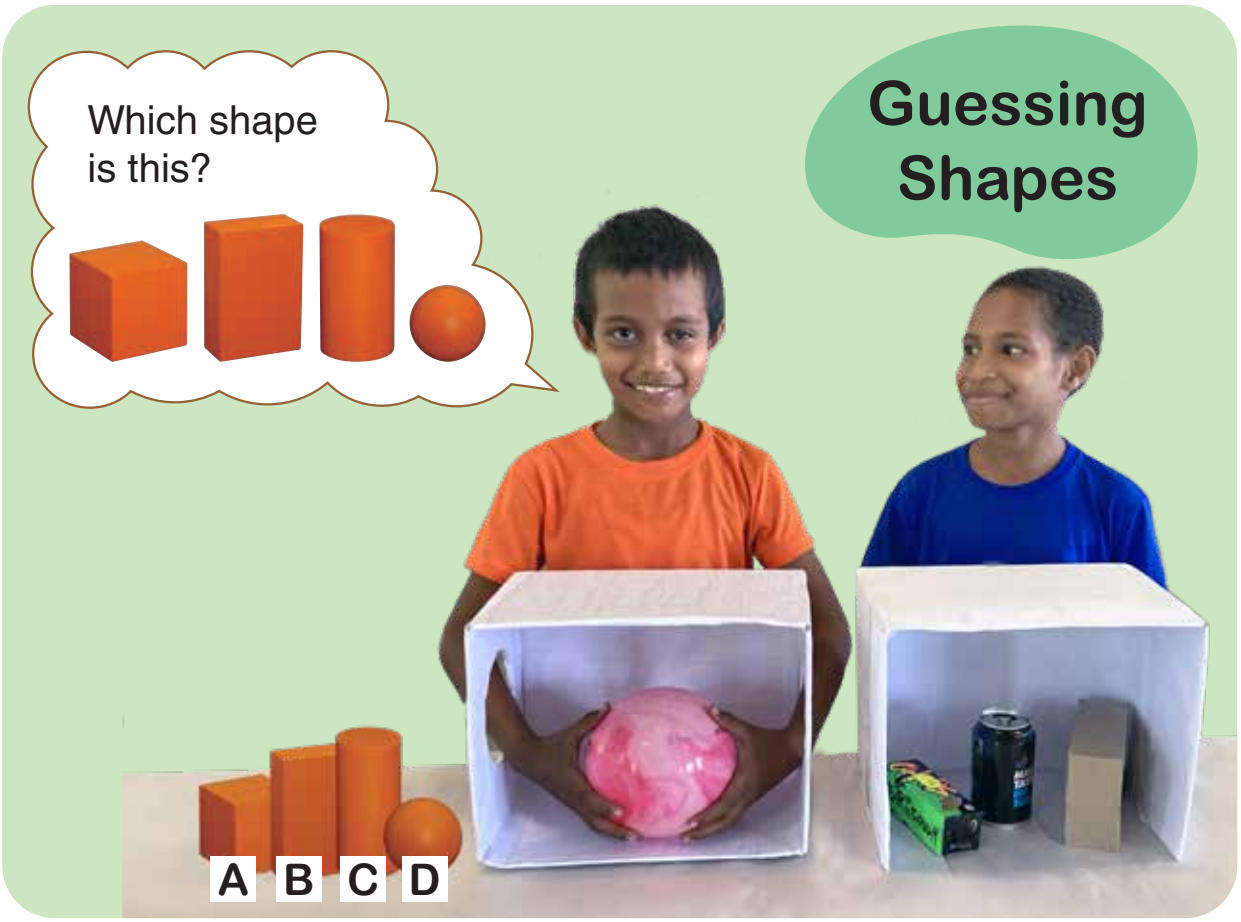
Exploring shapes

Let's play with shapes.

Gathering Same Kinds of Shapes

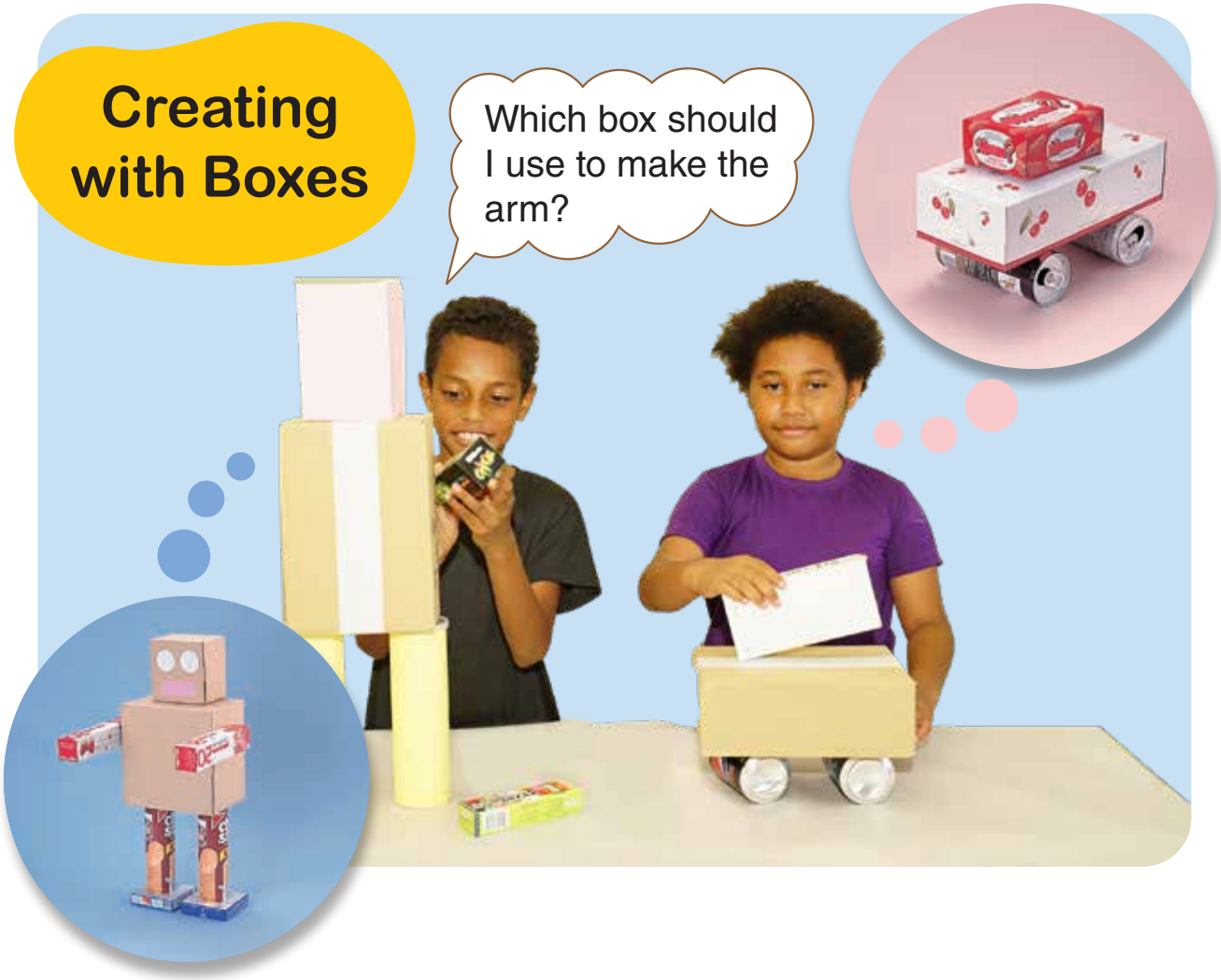
Rolling Shapes

Guessing Shapes



Stacking Boxes

Creating with Boxes

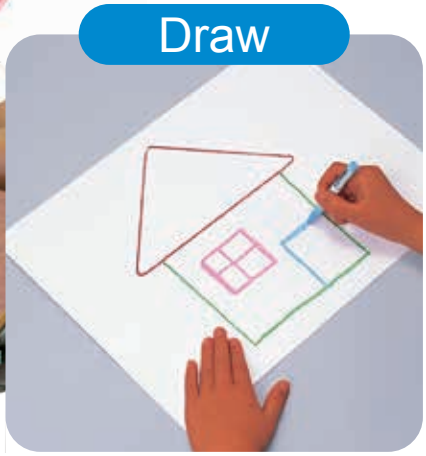


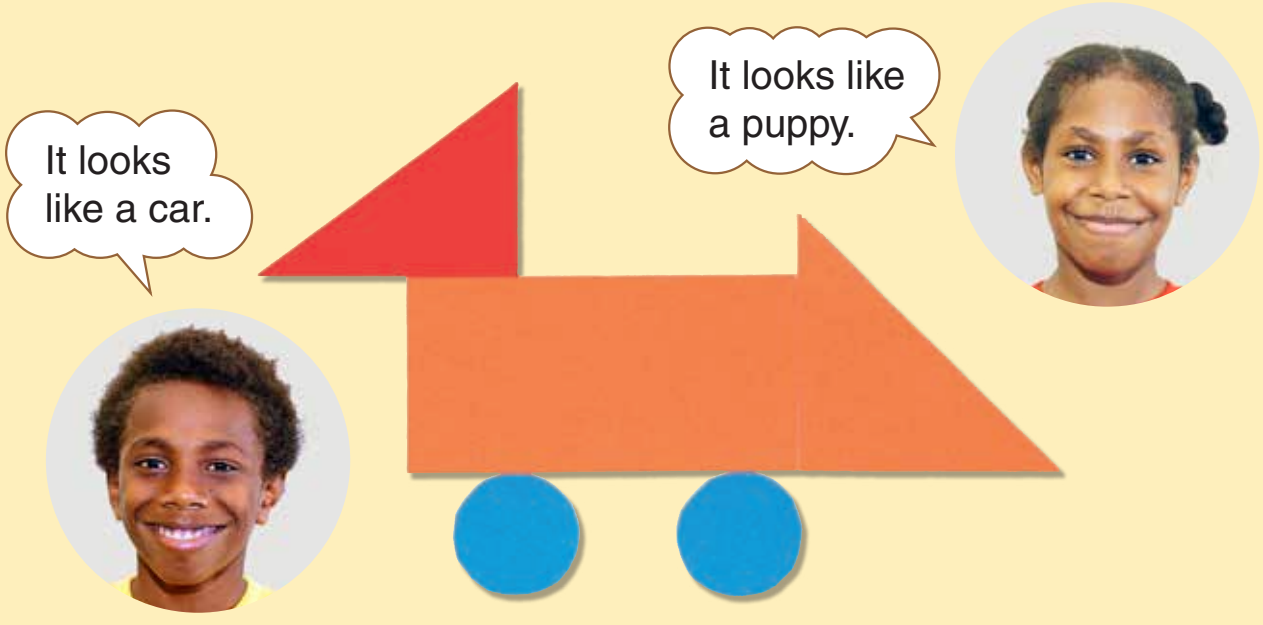
1 Let's trace shapes and draw a picture.

Trace

Cut


Trace

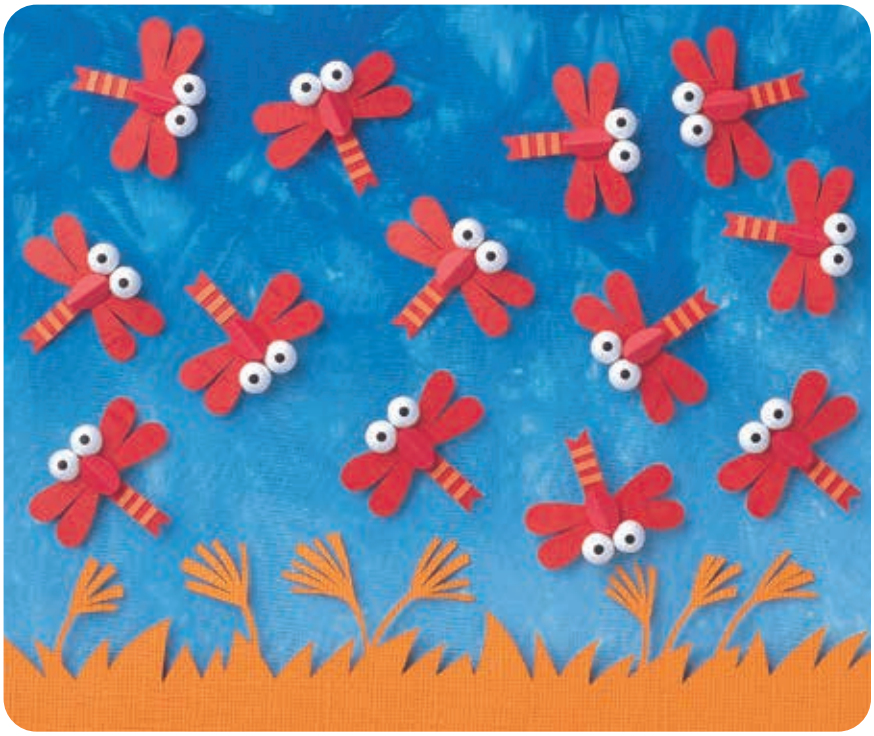

Draw

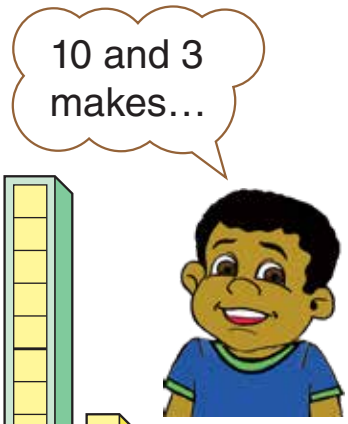

It looks like a car.
It looks like a puppy.

7 Numbers Larger than 10

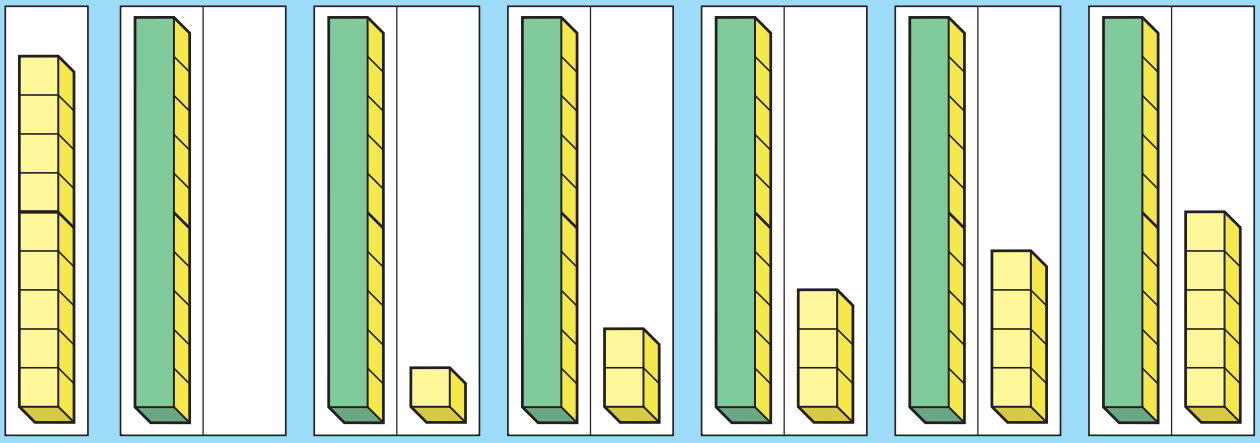
Numbers up to 20

1 How many dragonflies are there?





dragonflies

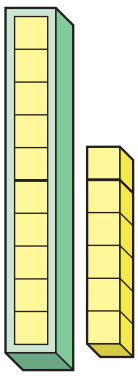


9	10			13		

Thirteen

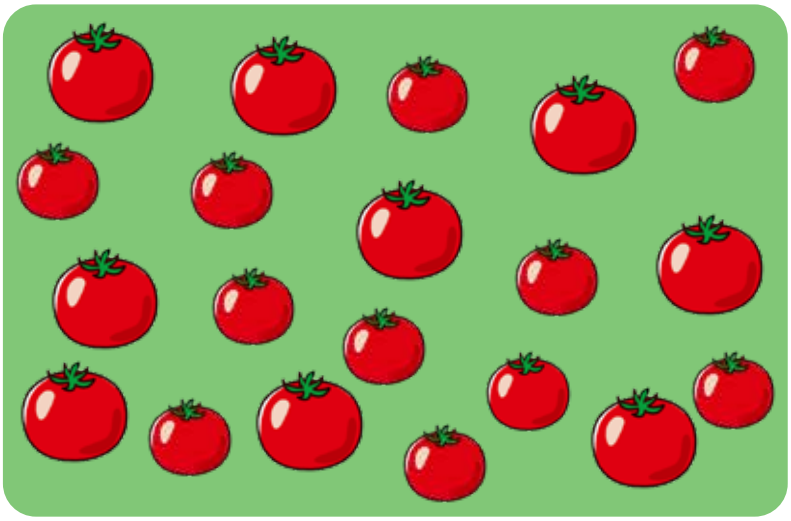
2 How many are there?

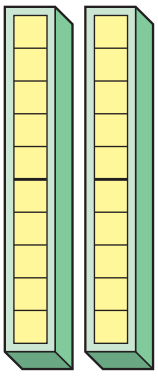
1



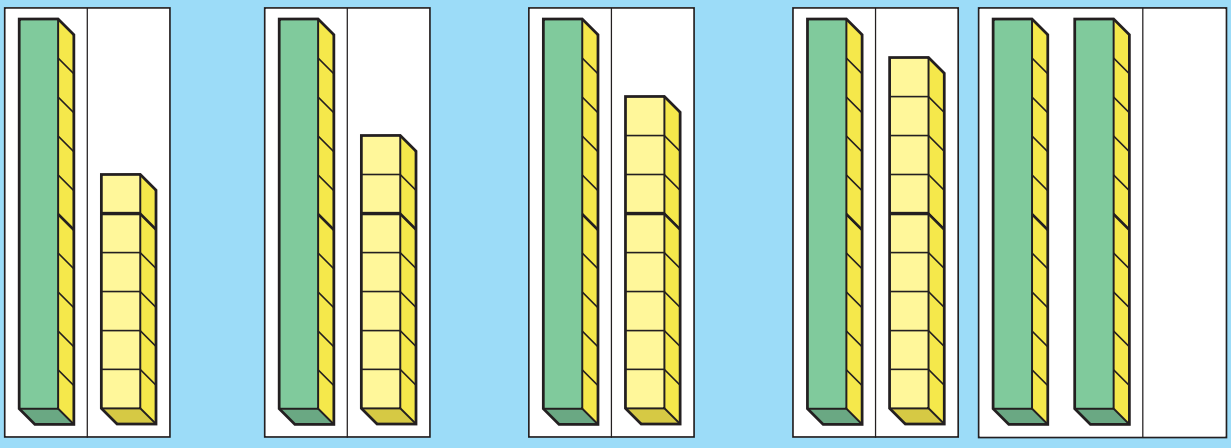
eggs

2





tomatoes

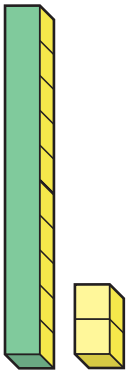


2 0

Twenty

3 Let's fill the ☐ with a number.

1. 10 and 2 makes ☐
2. 10 and 8 makes ☐
3. 10 and ☐ makes 13



4 Let's count.

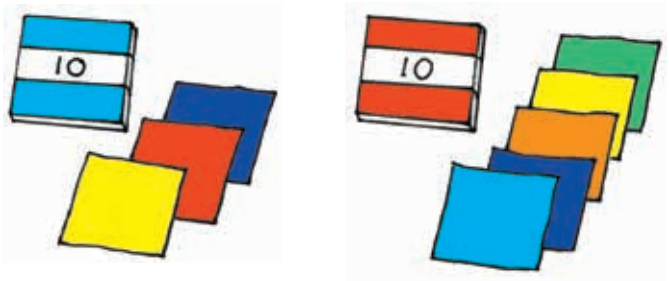
1. 

☐ strawberries

2. 

☐ chocolates

5 Which number is greater?

1. 

13 or 15

2. 20 or 18

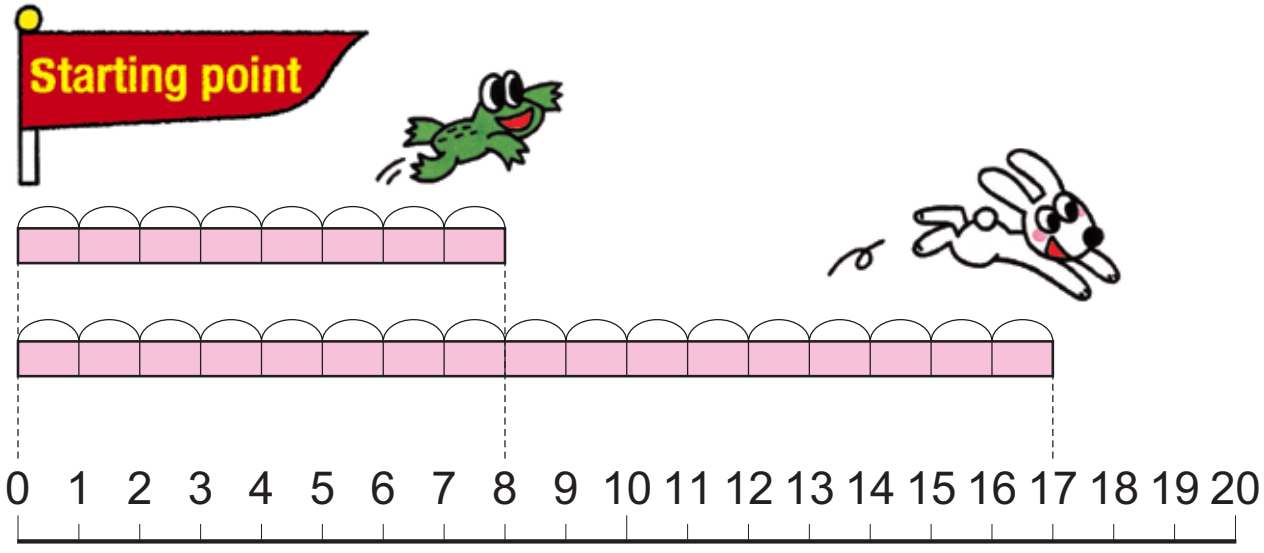
3. 9 or 11

6 Where should you put these cards?

1 15 ☐ 17 18 ☐ 20

2 ☐ 19 18 17 ☐ 15

7 How far did they jump? Find the answer on the line made by the number line.

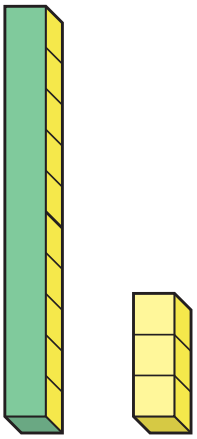


8

13 can be split into 10 and 3.

In reverse, adding 10 and 3 makes 13.

Fill each ☐ with a number.



1. The number when you add 5 to 10.

   $10 + 5 =$ ☐

2. The number when you subtract 8 from 18.

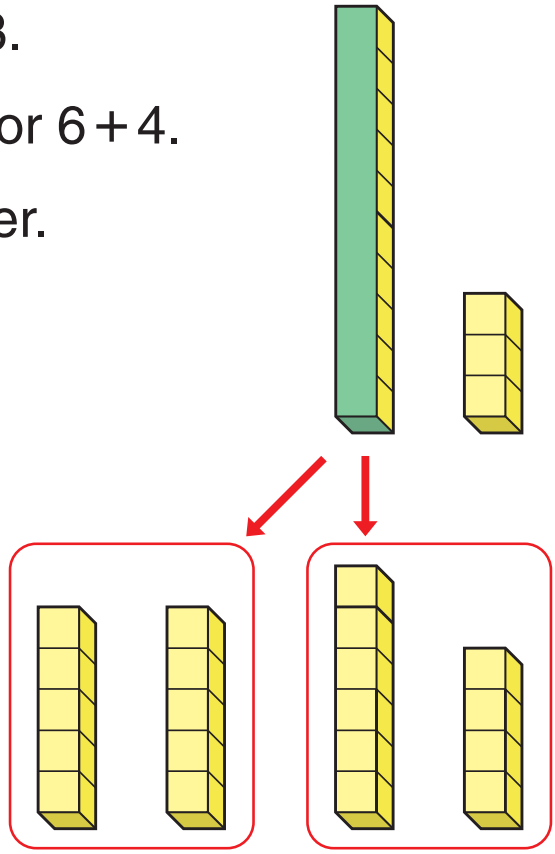
   $18 - 8 =$ ☐

9

13 can be shown as $10 + 3$.

10 can be shown as $5 + 5$ or $6 + 4$.

Fill each ☐ with a number.



1. $4 + 6 + 3 =$ ☐
2. $7 + 3 + 2 =$ ☐

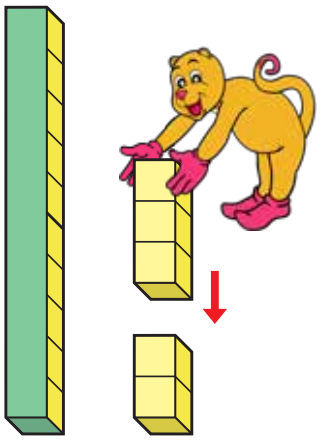
10 How can we calculate the following?

1. There are 12 fruits. If you get 3 more, how many fruits are there altogether?

Math sentence :

$\square + \square = \square$

Answer : $\square$ fruits

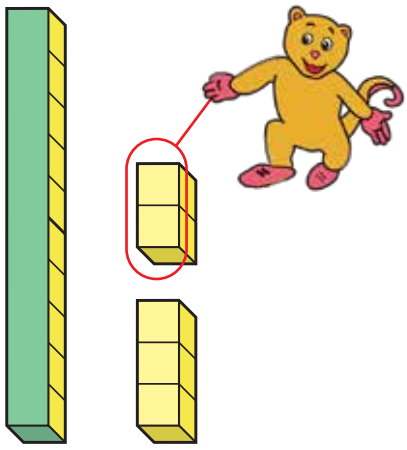


2. There are 15 tomatoes. If you eat 2, how many tomatoes are left?

Math sentence :

$\square - \square = \square$

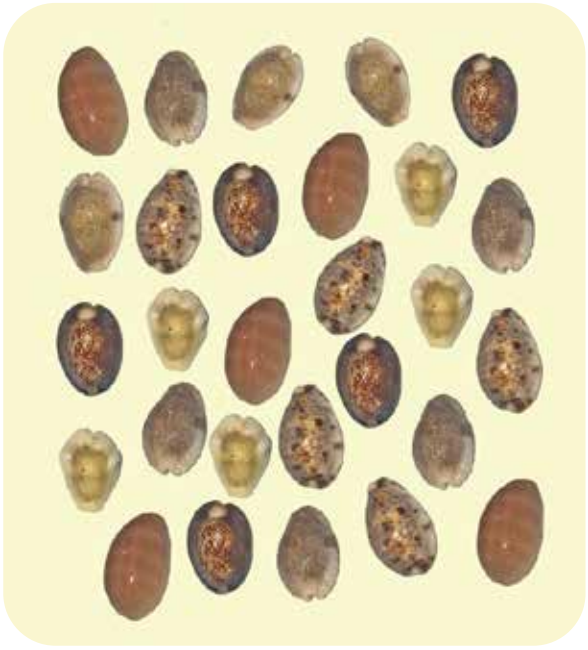
Answer : $\square$ tomatoes

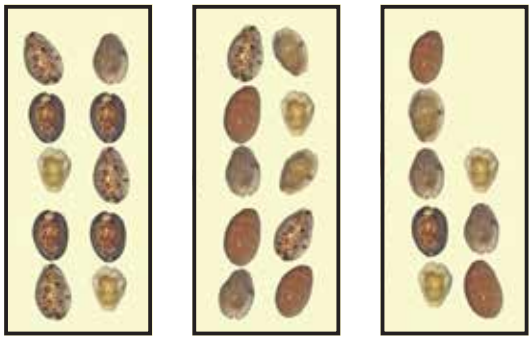


Numbers Larger than 20

1 How many shells did Nati and Gima pick up?

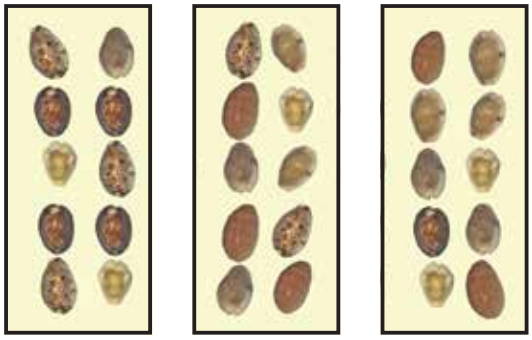
1 The number of shells Nati picked up.





☐ boxes of 10 shells and ☐ shells.

2 The number of shells Gima picked up.



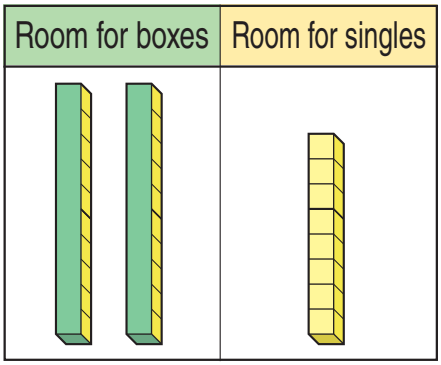
☐ boxes of 10 shells.

How many shells did Nati pick up?

2 boxes of 10 and 8 singles

twenty eight

twenty eight



Tens Place	Ones Place
2	8

2 8

For 28, the number in **tens place** is ☐, and the number in **ones place** is ☐.

How many shells did Gima pick up?

3 boxes of 10 and 0 ones

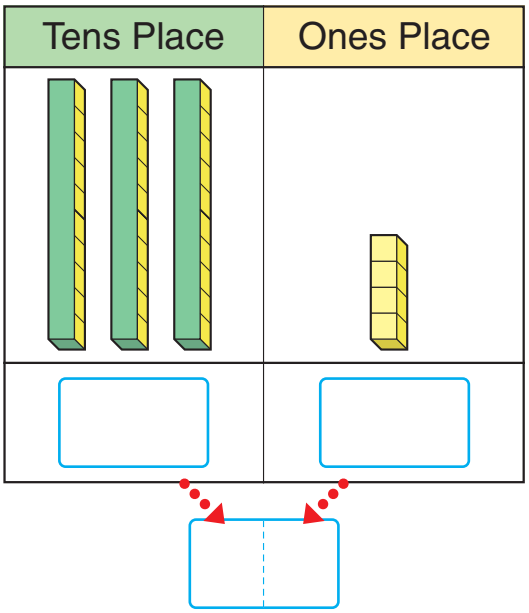
thirty

Tens Place	Ones Place

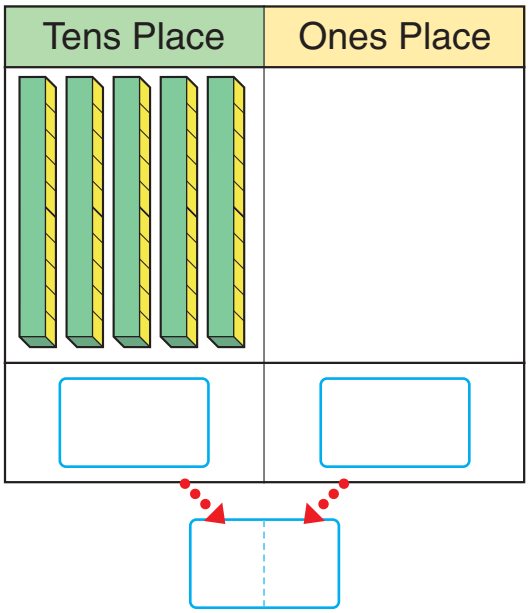
For 30, the number in tens place is ☐, and the number in ones place is ☐.

2 Write the following numbers.

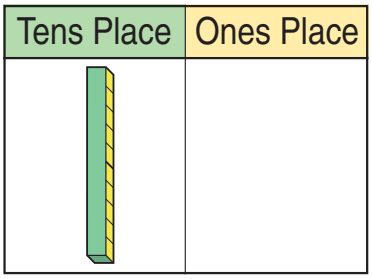
1



2



3 If 1 is in the tens place and 0 is in the ones place, then the number is ☐.



4 5 tens and 8 ones is ☐.

3 How many are there?

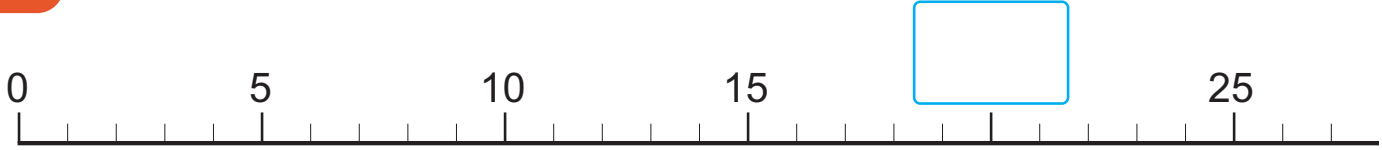
1

☐ leaves

2

☐ apples

4 Let's fill the ☐ with a number.

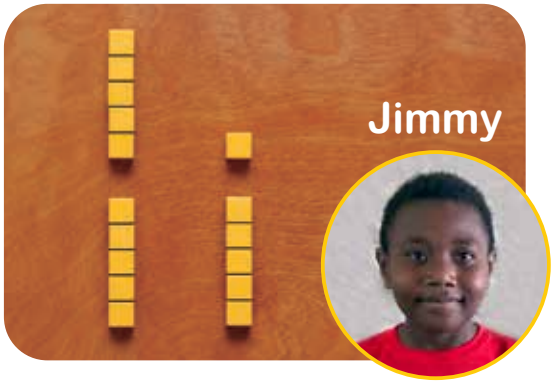


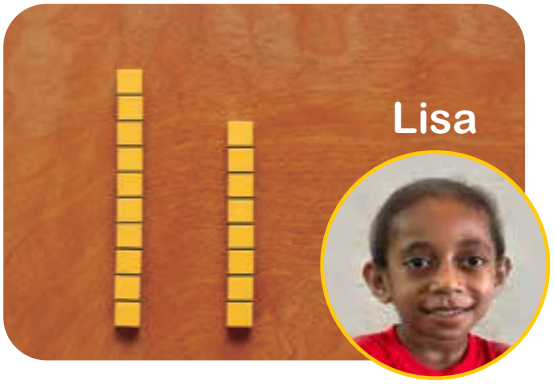
5 Let's fill the ☐ with a number.

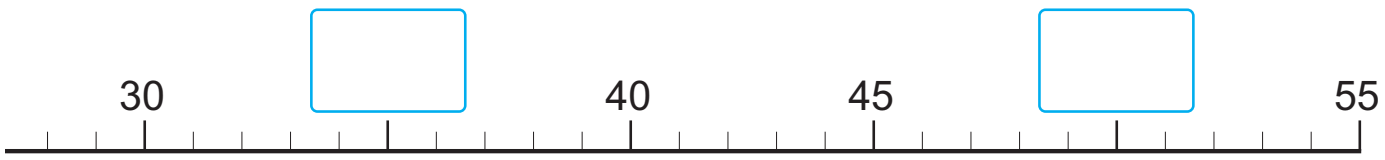
0	1	2	3	4	5	6	7	8	9
10	11	12	13	14		16	17	18	19
20	21		23		25	26		28	
30	31	32		34	35		37	38	39
	41	42		44		46	47		
50	51		53		55		57	58	59

Grabbing of Blocks

How did they count?



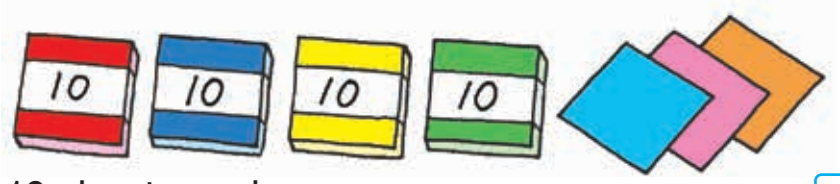




Problems 1

1 How many are there?

①  ☐ eggs

② 

10 sheets each

☐ sheets

2 Fill each ☐ with a number.

① 3 tens and 7 ones makes ☐.

② 25 is ☐ tens and ☐ ones.

③ 4 tens and ☐ ones makes 46.

④ 40 is ☐ tens.

3 Fill each ☐ with a number.

① 

② 

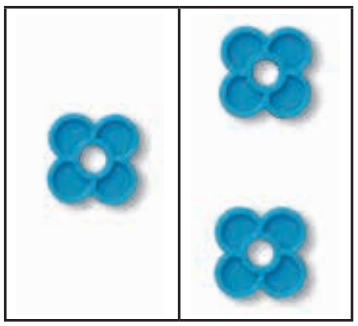
Problems 2

1 There are 5 counters.

Yagi shows the number 12 and represents it using the counters as shown in the picture on the right.

Let's use Yagi's representation with the following numbers.

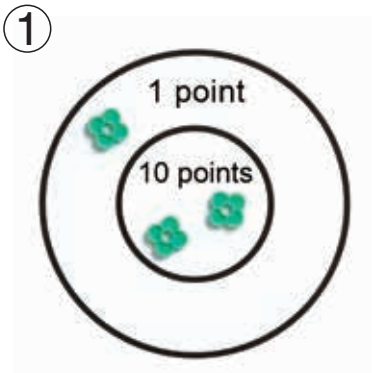
① 13 ② 32



2 Three children played a game using counters.

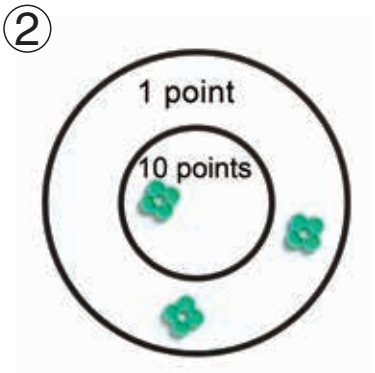
What are their scores?

①



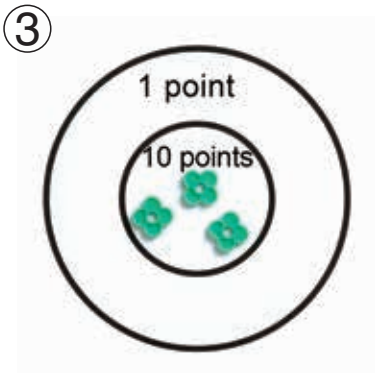
□ points

②



□ points

③



□ points

8 Time

O'clock and Minutes

"8 : 10" is said eight ten, and it means 10 minutes past 8 o'clock.





8 : 00 | 8 : 10 | 10 : 45

1 Let's look at the pictures above and talk about a sports day.

Short hand shows hours, and long hand shows minutes.

2 What do you do in school at this time as shown on the clock below?

At ____ o'clock and ____ minutes, I _____.

"1 : 55" is said one fifty five, and it also means 5 minutes before 2 o'clock.

11 : 33

1 : 55

2 : 30

3 Let's place the long hand on the clock, and read the time.

Use the paper clock provided by your teacher.

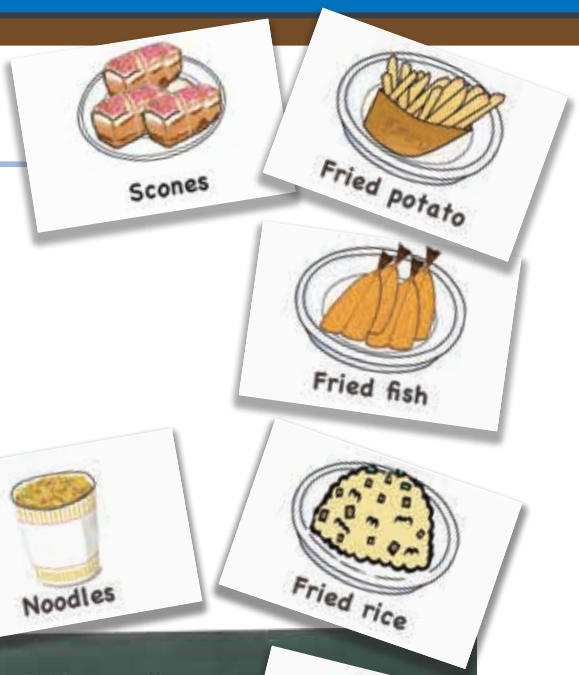
4 Say what time you wake up and go to bed, and draw pictures with a clock.

I sleep at 9 o'clock.

Activity

9 Exploring How Many

Arranging Cards

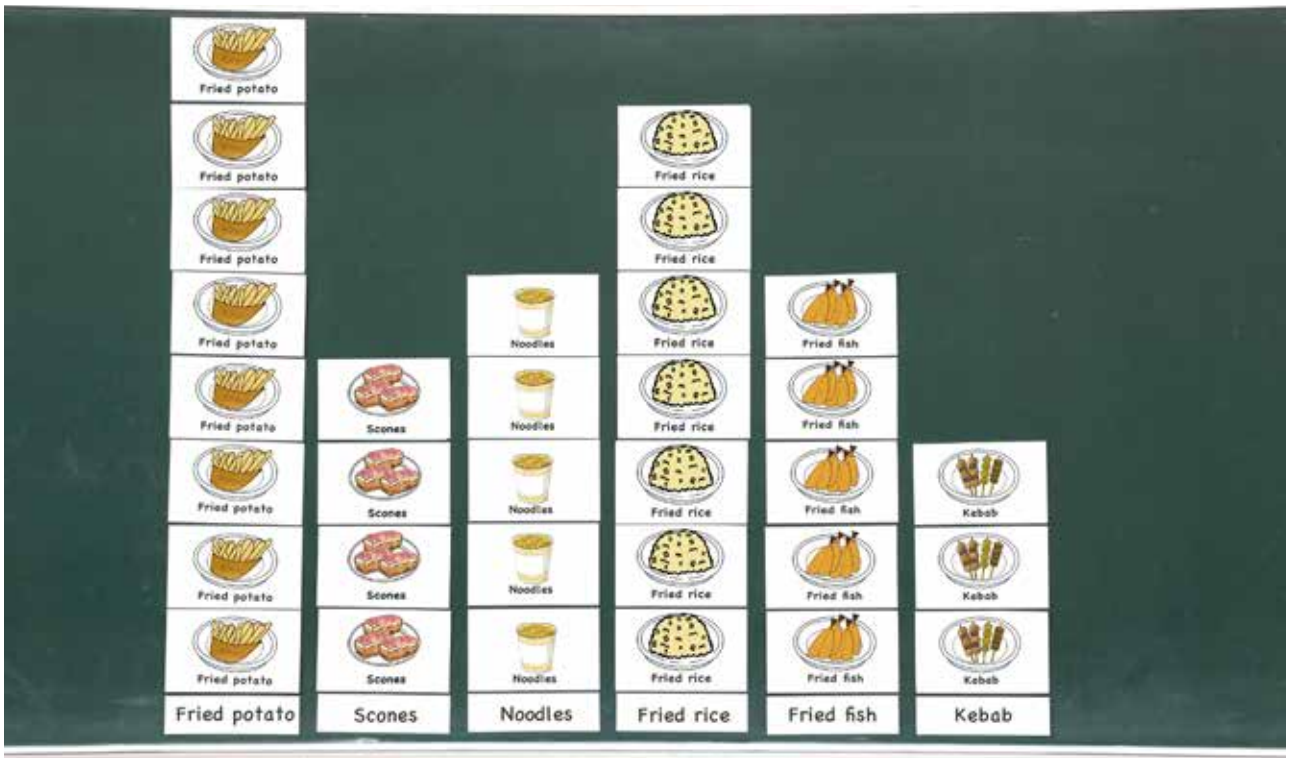


In Raka's class, they surveyed the students about the most popular lunch food.

1 Everyone placed a picture of their favourite lunch food on the board.

1 How do we know how many children liked which lunch food?

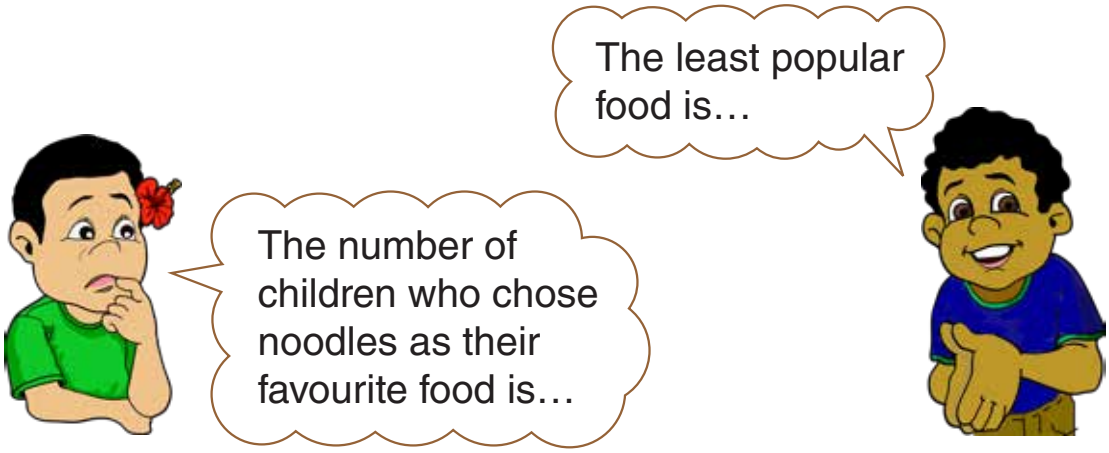
2 They lined up the cards on the blackboard.



a) What is the most popular food?

b) What is the second popular food?

3 Let's talk about something you have observed.



Let's make addition stories.

There are 3 children playing in a sand box and 4 children playing on a slide. How many children are there altogether?

Let's make other examples.

There were 2 birds first, then 4 more birds flew in. How many birds are there altogether?

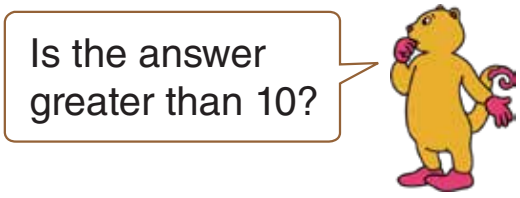
10 Addition (2)

Making 10 to add easily

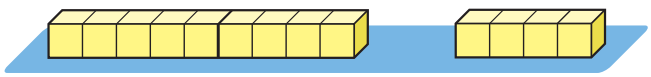
1 There are 9 children playing in a sand box and 4 children are playing on a slide.

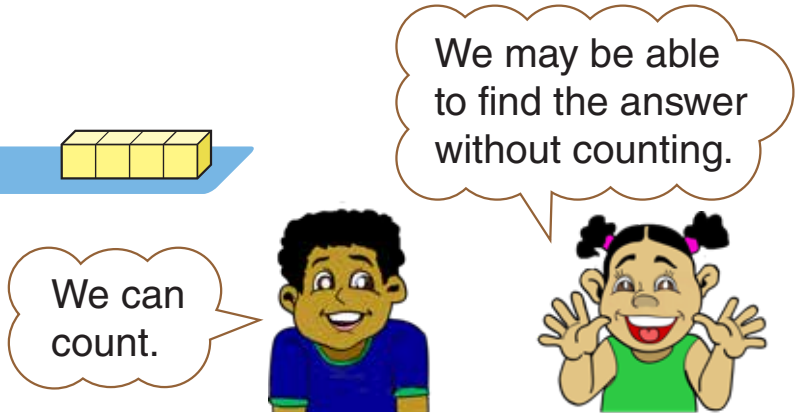
How many children are there altogether?

1 Write an expression.

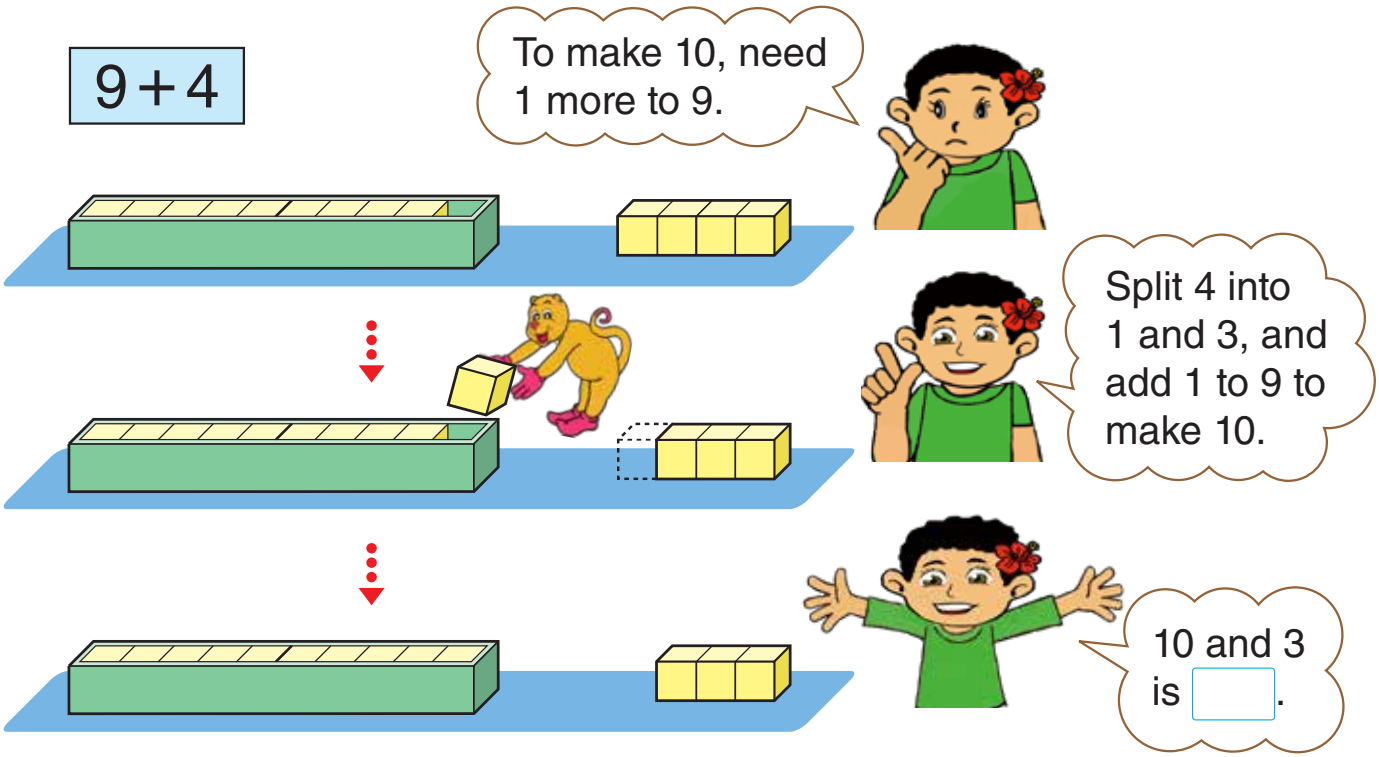


2 Let's think about how to find the answer.





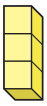
9 + 4



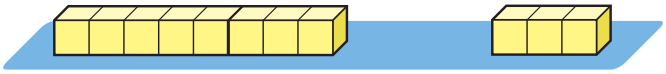
Math Sentence :

9 + 4 = ☐

Answer : ☐ children

Tens Place	Ones Place
	

2 Let's talk about how to calculate 8 + 3.

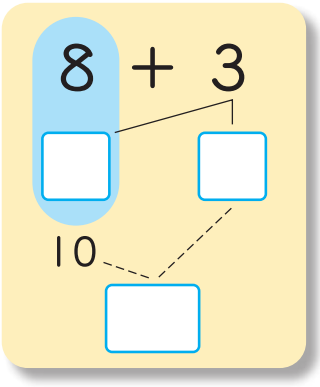


(1) To make 10, need ☐ more to 8.

(2) Split 3 into ☐ and ☐.

(3) Add ☐ to 8 to make 10.

(4) 10 and ☐ is ☐.



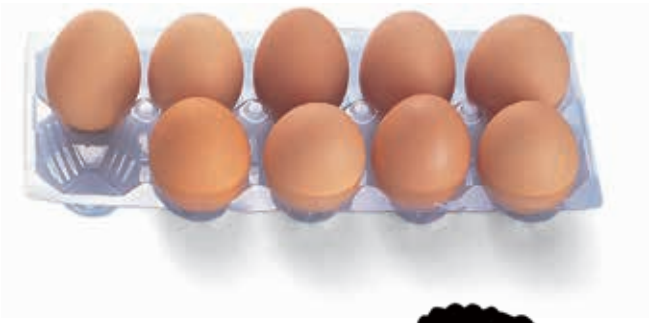
3 Let's find the answers.

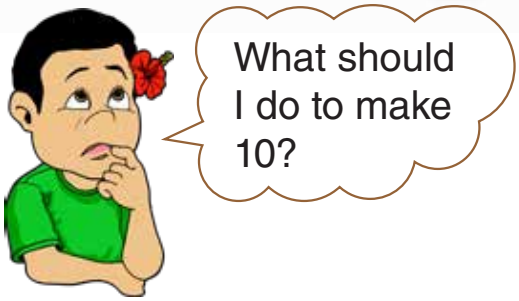
1. 9+3
2. 9+2
3. 9+5
4. 8+4
5. 8+5
6. 7+4
7. 7+5
8. 6+5

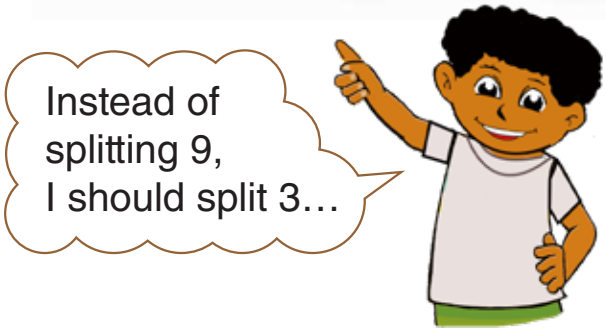
4 How many eggs are there?

Let's think about how to calculate.

3+9



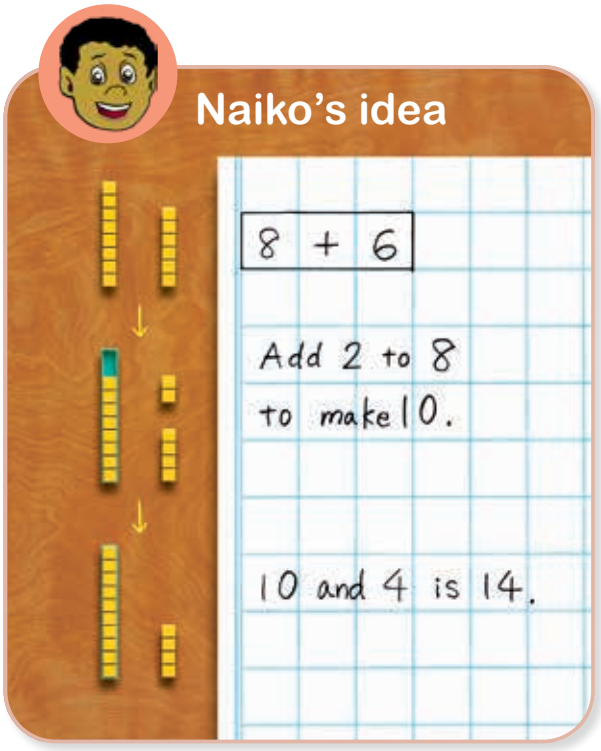


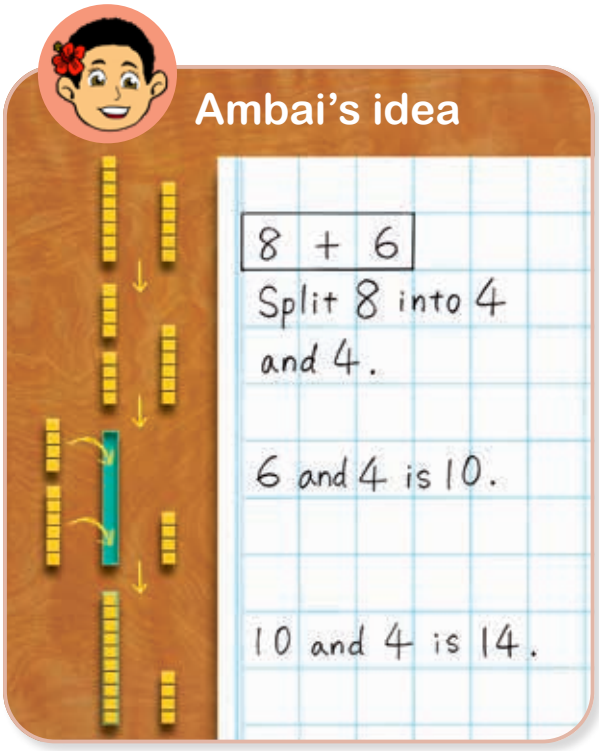


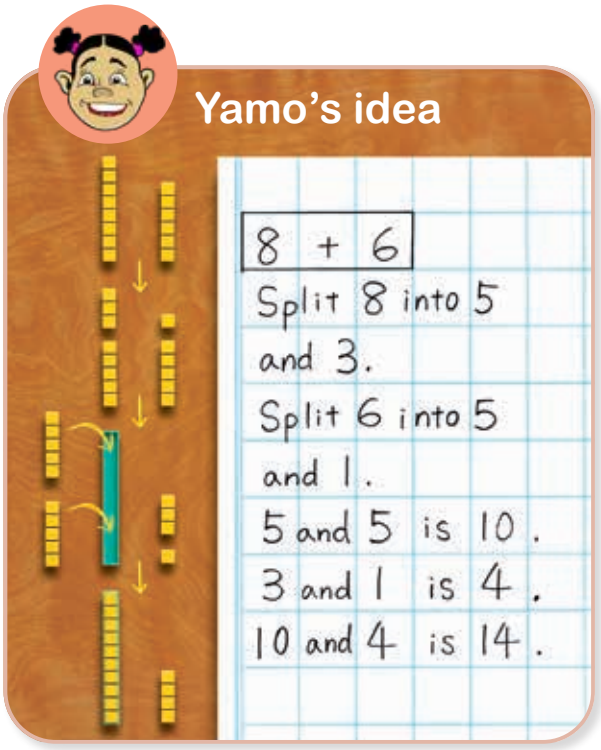
5 Let's find the answers.

1. 2+9
2. 3+8
3. 4+9
4. 4+7
5. 5+8
6. 4+8
7. 5+9
8. 5+7

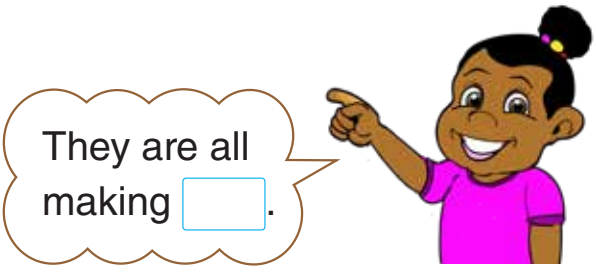
6 Let's think about how to calculate 8+6.







What are the similarities and differences between their ideas?

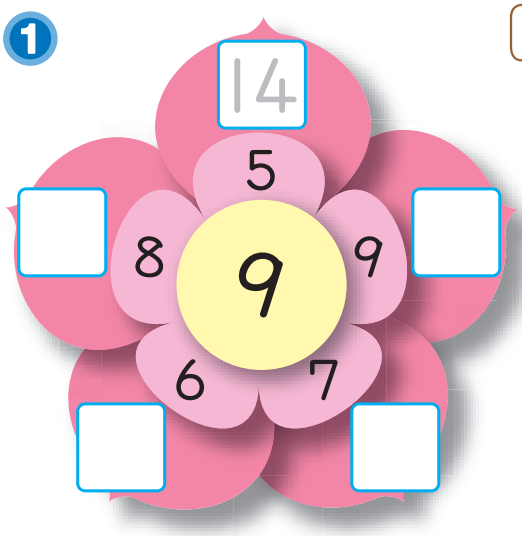


7 Let's find the answers.

1 9+8	2 7+6	3 8+7	4 6+9
5 7+9	6 8+9	7 8+8	8 7+7
9 6+7	10 6+6	11 9+9	12 6+8

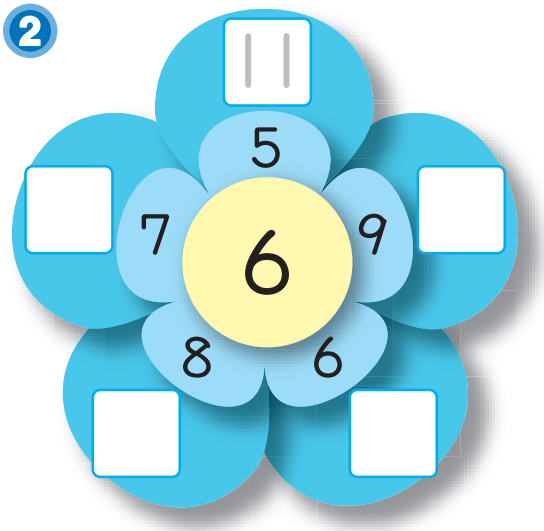
8 Add each number to the number in the centre.

1



9+5

2



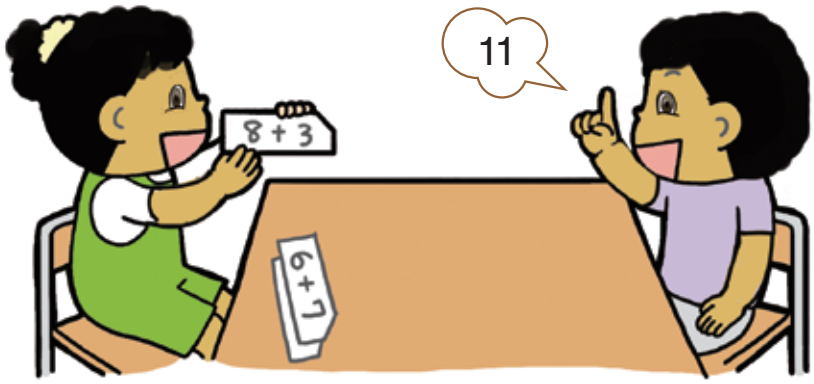
9 There were 5 cats and 6 cats came over.

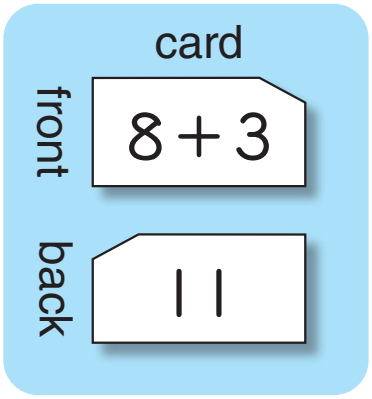
How many cats are there altogether?

10 Let's make a math story for 7 + 8.

11 Let's make addition cards and use them for practice.

1 Say the answer.





12 They lined up addition cards.

9 + 2	8 + 3	7 + 4		5 + 6
9 + 3		7 + 5	6 + 6	5 + 7
9 + 4	8 + 5	7 + 6	6 + 7	5 + 8
9 + 5	8 + 6		6 + 8	5 + 9
	8 + 7	7 + 8	6 + 9	
9 + 7	8 + 8	7 + 9		
9 + 8	8 + 9			
9 + 9				

Let's talk about what you found when lining up the cards.

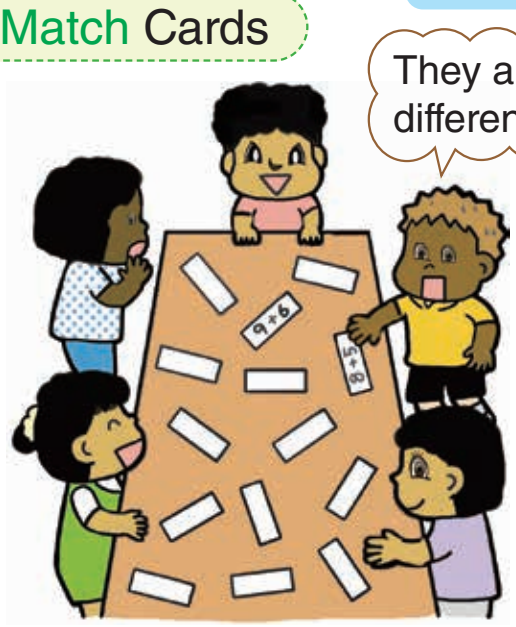
2 Let's play a game.

Let's find cards with the same answer and pick them up.

front 9+6
back

Pick up Cards

Match Cards



Write an expression on the blank card.

4+7	3+8	2+9
4+8		
4+9		

What are the vertical and horizontal patterns do you notice?

When the added number increases by 1, the answer…

There are 8 cards that share the same answer 11. I wonder how many cards will share the answer 12…

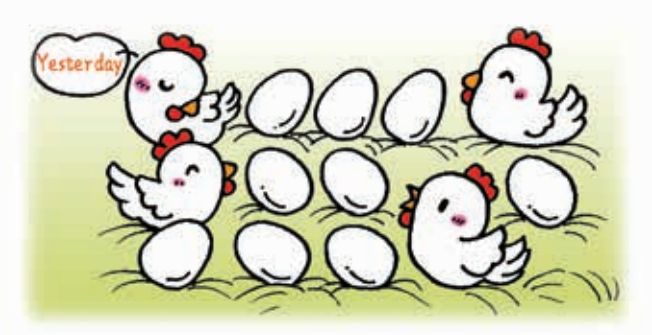
Problems 1

1 Let's find the answers.

① 9+4	② 8+3	③ 7+5	④ 6+5
⑤ 3+9	⑥ 5+6	⑦ 4+7	⑧ 5+8
⑨ 7+6	⑩ 8+9	⑪ 9+6	⑫ 6+8

2 There are 8 pencils in a pencil case and 4 pencils on the desk.
How many pencils are there altogether?

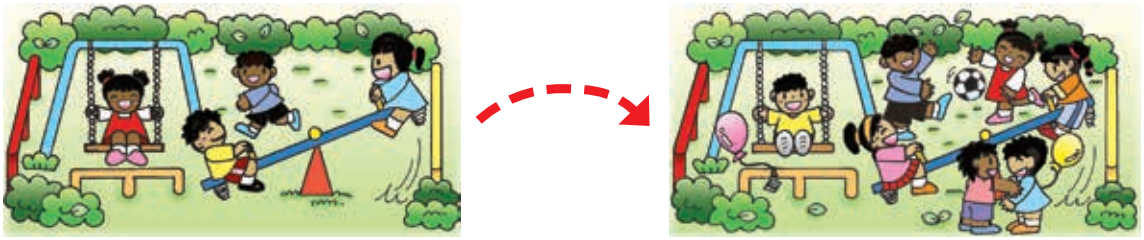
3 Chickens laid 9 eggs yesterday. They laid 7 eggs today. How many eggs are there altogether?



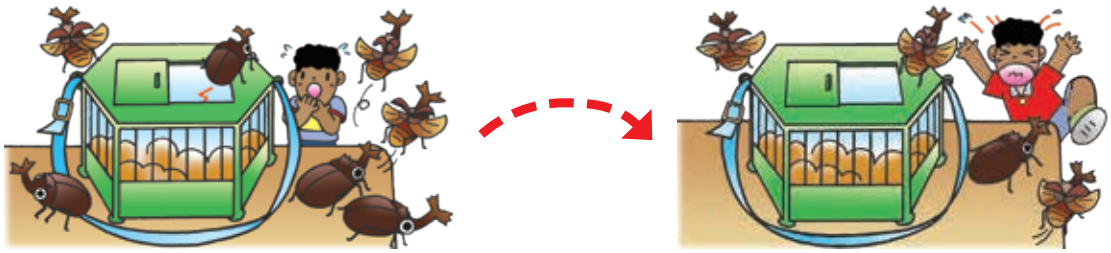
Problems 2

1 Which math story can be represented as 7 + 4?

① 4 children were playing on the school field. Later, it became 7 children playing on the school field. How many more children came to play?



② 7 beetles flew away from the cage on the first day. 4 more beetles flew away the next day. How many beetles in total flew away?



③ You can select and take 10 cats in different ways.

Have you ever seen it? 11

Let's make subtraction stories.

There were 7 children playing on a slide and 3 of them went home. How many children are still playing on the slide?

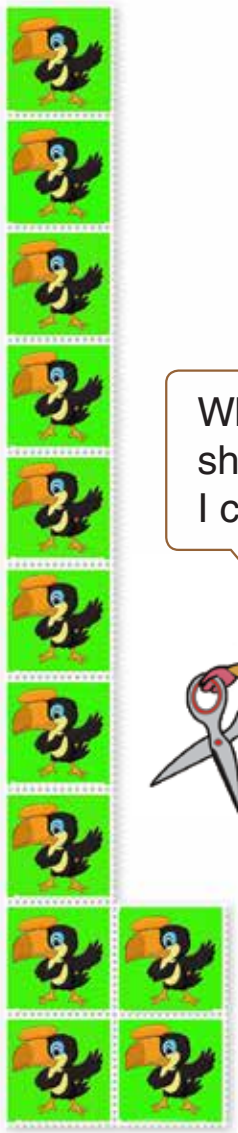
Let's make other examples.

There are 6 cats and 4 dogs. What is the difference between the numbers of cats and dogs?

11 Subtraction (2)

Making 10 to Subtract easily

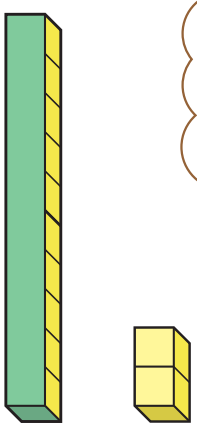
1 Itania has 12 stickers.
If she gave 9 stickers to her younger sister, how many stickers are left?



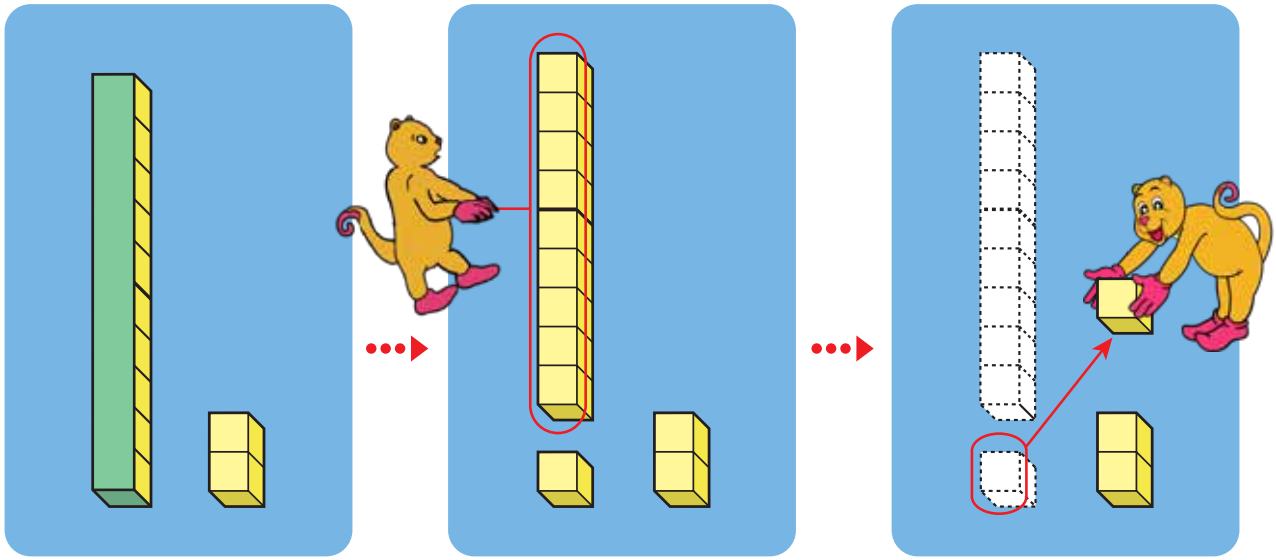
1 Write an expression.

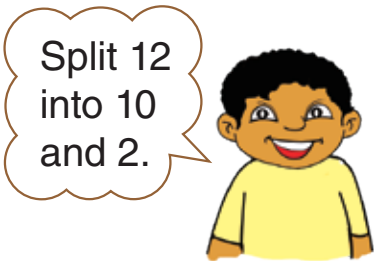
2 Let's think about how to find the answer.

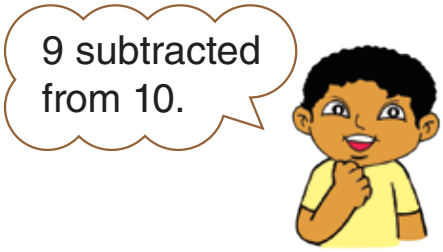
Tens Place	Ones Place
	

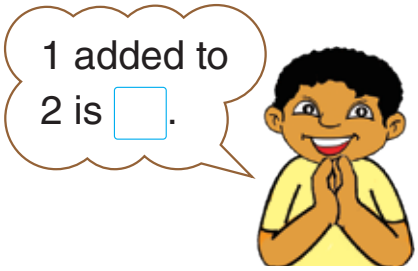


12 − 9



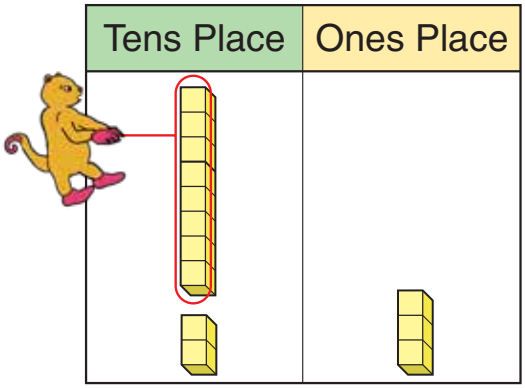






Math Sentence : 12 − 9 = ☐

Answer : ☐ stickers



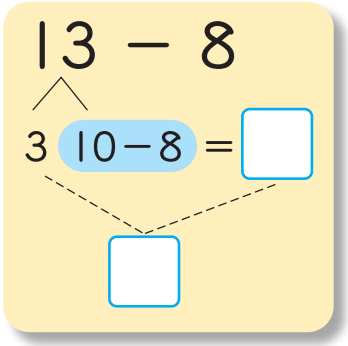
2 Let's talk about how to calculate 13 − 8.

(1) We cannot take 8 from 3.

(2) Split 13 into 10 and 3.

(3) 10 minus 8 is ☐.

(4) ☐ added to ☐ is ☐.



3 Let's find the answers.

① 16 – 9 ② 11 – 9 ③ 14 – 9 ④ 15 – 9

⑤ 14 – 8 ⑥ 15 – 8 ⑦ 11 – 8 ⑧ 13 – 7

4 There are 11 chocolates. If Kila ate 2 chocolates, how many are left? Let's think about how to calculate.

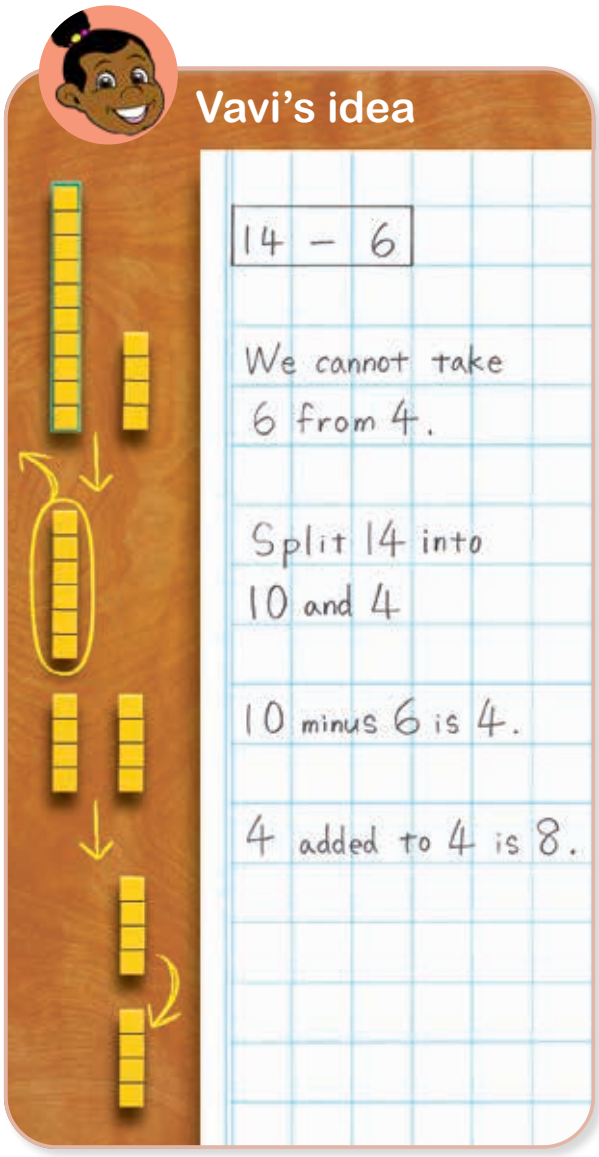
11 – 2

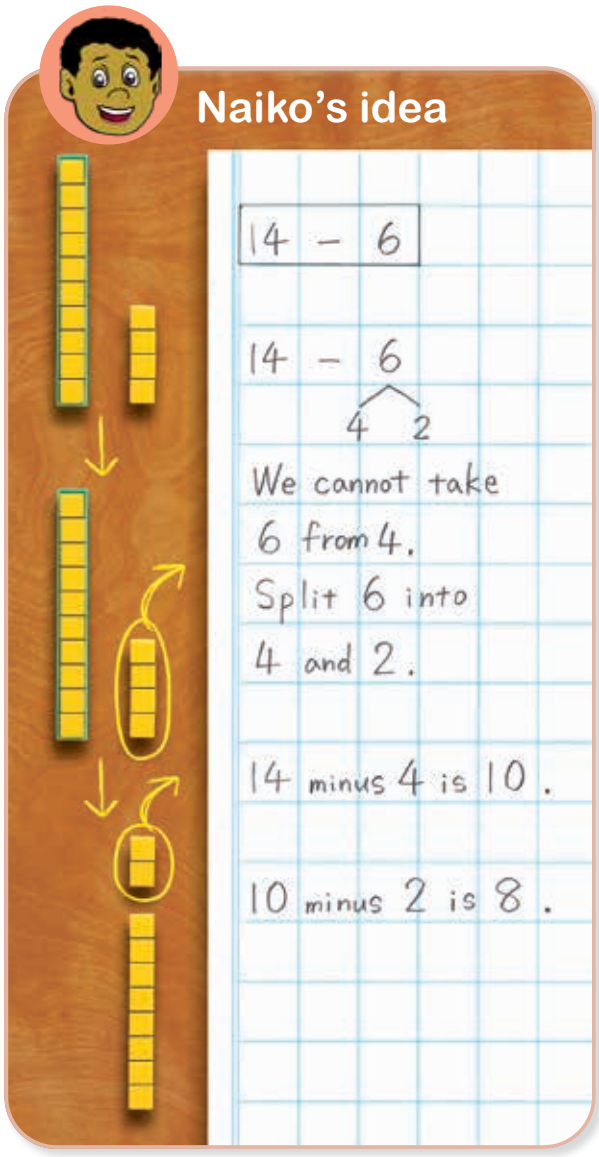
5 Let's find the answers.

① 12 – 3 ② 11 – 3 ③ 16 – 8 ④ 14 – 5

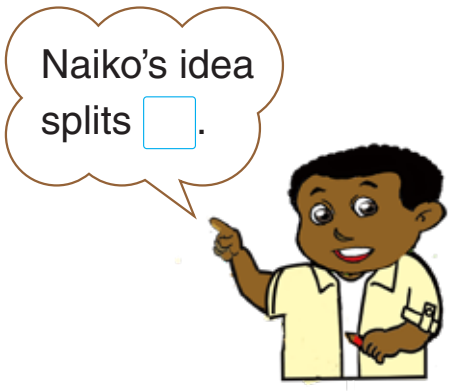
⑤ 17 – 8 ⑥ 16 – 7 ⑦ 13 – 4 ⑧ 15 – 7

6 Let's think about how to calculate 14 – 6.





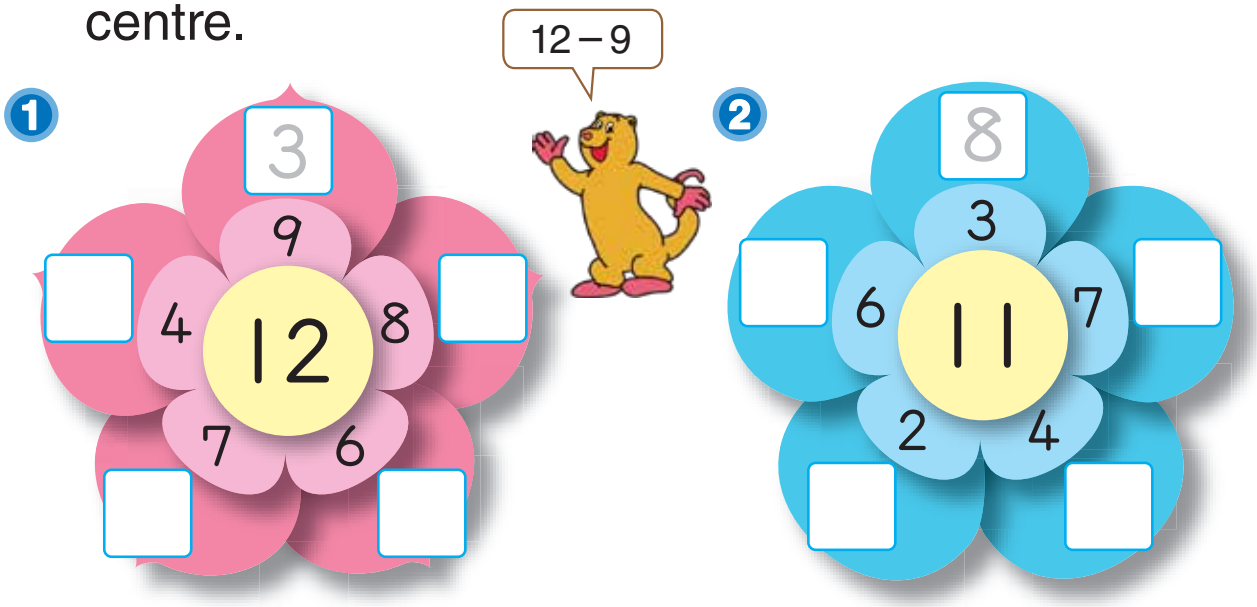
Let's compare Vavi's and Naiko's working out and talk about what you notice.



7 Let's find the answers.

① 11 − 5	② 12 − 6	③ 13 − 5	④ 14 − 7
⑤ 17 − 9	⑥ 18 − 9	⑦ 13 − 6	⑧ 15 − 6
⑨ 11 − 4	⑩ 11 − 6	⑪ 15 − 7	⑫ 13 − 7

8 Subtract each number from the number in the centre.

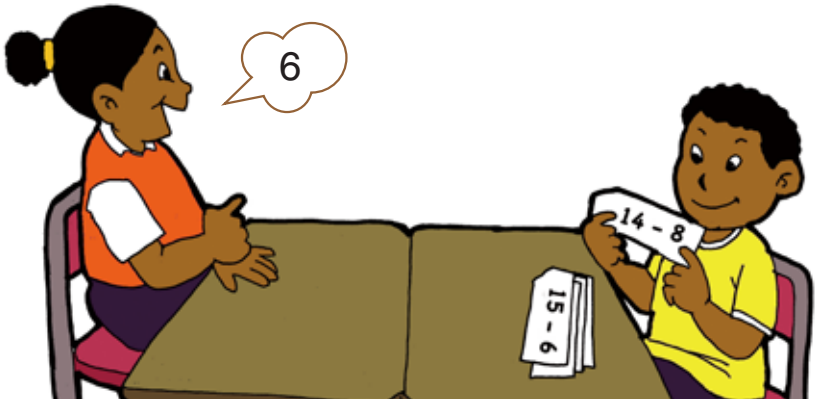


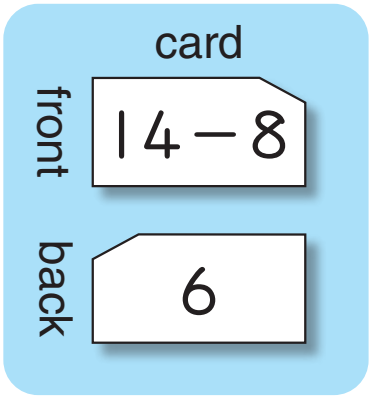
9 Let's collect beautiful leaves. Apeo picked up 9 leaves and Fiona picked up 13 leaves. Who picked up more and by how many more leaves?

10 Let's make a story problem for 12 – 5.

11 Let's make subtraction cards and use them for practice.

1 Say the answer.





12 They lined up subtraction cards.

11 − 2	12 − 3	13 − 4	14 − 5	15 − 6
11 − 3		13 − 5	14 − 6	15 − 7
11 − 4	12 − 5	13 − 6	14 − 7	15 − 8
11 − 5	12 − 6	13 − 7		15 − 9
11 − 6	12 − 7		14 − 9	
	12 − 8	13 − 9		
11 − 8	12 − 9			
11 − 9				

Let's talk about what you found when lining up the cards.

2 Let's play a game.

Let's pick a card from our friends and match cards with the same answer.

front 18−9
back

Pick up Cards

Match Cards

If you have no more cards, you are the winner.

Write an expression on the blank card.

16−7	17−8	
16−8	17−9	
16−9		

What are the vertical and horizontal patterns do you notice?

When the subtracted number increases by 1, the answer changes…

There are 8 cards that share the same answer 9. I wonder how many cards will share the answer 8…

Problems 1

1 Let's find the answers.

① 17 – 9	② 15 – 7	③ 11 – 4	④ 13 – 6
⑤ 12 – 7	⑥ 11 – 5	⑦ 11 – 8	⑧ 12 – 8
⑨ 13 – 9	⑩ 17 – 8	⑪ 12 – 4	⑫ 16 – 8

2 A mango tree has 14 mangoes. Danny picked 7 mangoes.

How many mangoes are left?

3 Which group has more? By how many?

4 Carol has 12 eggs. If she gave 5 eggs to her brother, how many eggs are left?

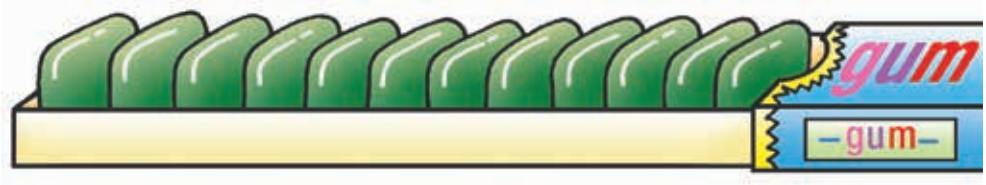
Problems 2

1 Which math story can be represented as 12 − 6?

① Jayden used 6 sheets of papers to make paper birds. Her older sister used 12 sheets.

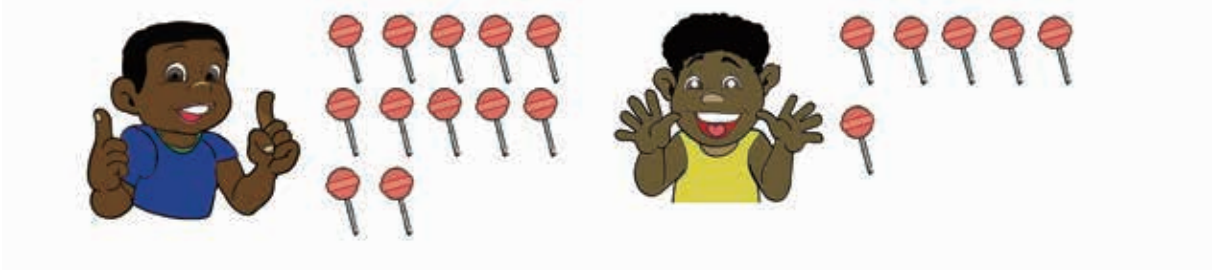
How many sheets did they use altogether?

② There are 12 pieces of chewing gum. If 6 children ate 9 pieces, how many are left?



③ Chris has 12 lollies and his younger brother has 6 lollies. Who has more lollies?

By how many?



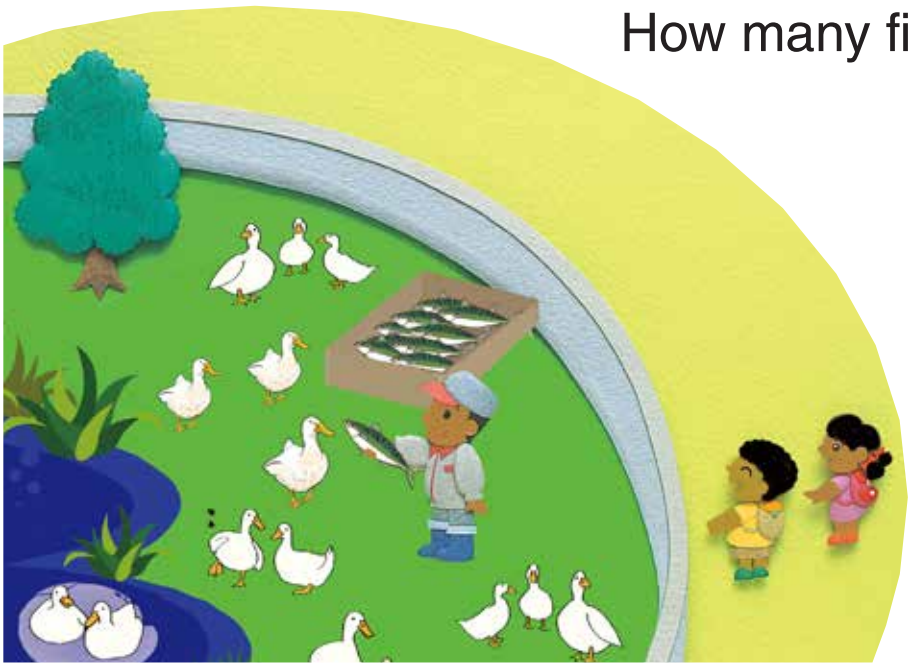
12 Addition or Subtraction?

Adding and Subtracting Situation

1 How many deers are there altogether?

2 There are 16 fish and the ducks ate 7.

How many fish are left?



3 Which group of animals is more than the other, crocodiles or cassowaries? By how many?

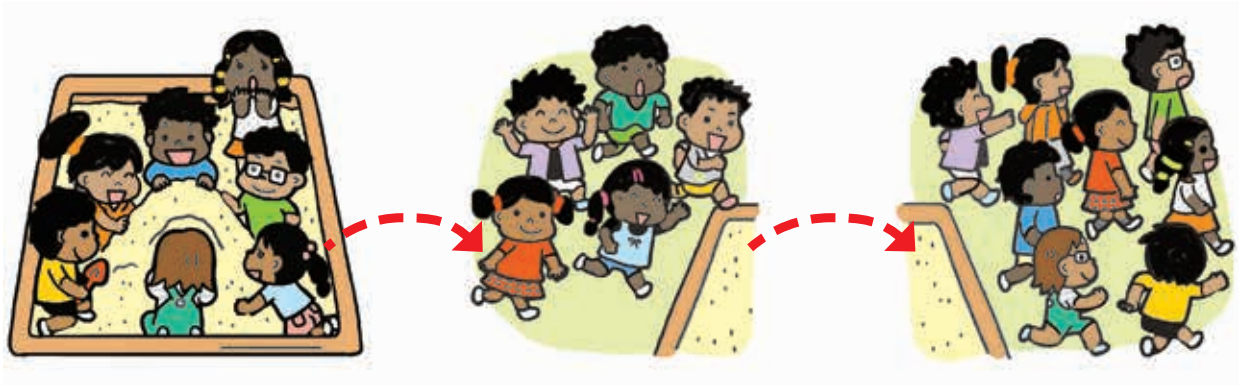
4 There were 6 children on the bus.
3 more came on board, then 4 more came.
How many children are there?

6 6+3 6+3+4

Math sentence : 6+3+4= ☐

Answer : ☐ children

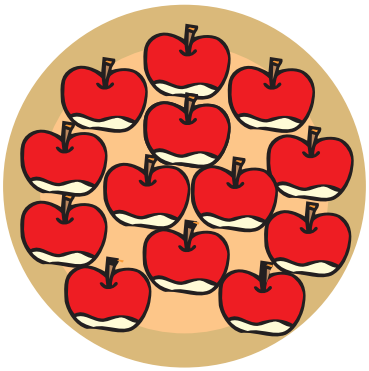
5 7 children were playing in a sand box. 5 more children joined in to play. Then, 8 children went home. How many children are still playing in the sand box?



Expression : ☐

Answer : ☐ children

6 There were 13 apples. Hosea ate 4 apples on Monday, and 2 more apples the next day. How many apples are left?

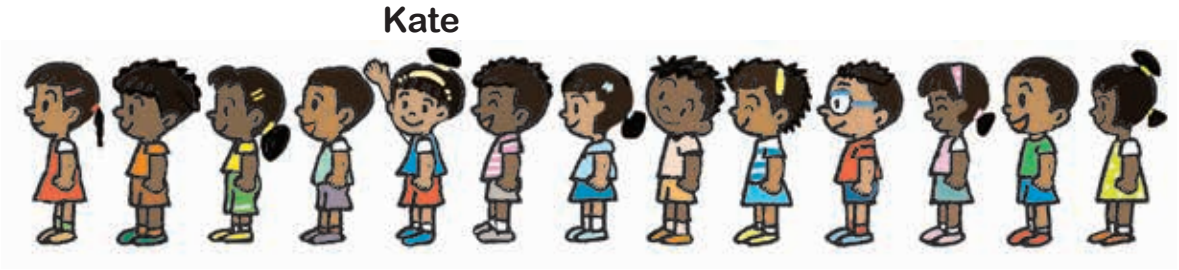


Expression : ☐

Answer : ☐ apples

7 Let's draw a picture for 11 − 3 + 4, and make a math story.

8 Children are lining up. Kate is in the 5th place from the front.



1. Ted is the 5th child behind Kate.
   Where is Ted? Circle Ted.
2. In which place is Ted lining up from the front?
   Write an expression and find the answer.

Expression : ☐

Answer : ☐ th place

9 Mono is in the 7th place from the front. There are 8 children behind him.
How many children are there altogether?

1. Let's draw pictures and think about the problem.
2. Write an expression and find the answer.

Expression : ☐

Answer : ☐ children

10 There are 15 children in Tapo's line.

Tapo is in the 6th place from the front.

How many children are behind him?

Write an expression to find the number of children behind Tapo.

Expression : ☐

Answer : ☐ children

11 Tal is in the 17th place from the front.

Lina is the 9th child ahead of her. In which place is Lina lining up from the front?

1. Let's draw pictures and think about the problem.
2. Write an expression and find the answer.

Expression : ☐

Answer : ☐ th place

Let's Share Equally

12 Let's share the strawberries equally, so two children can have the same number.

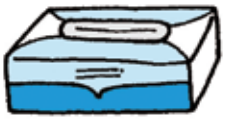
13 Let's share the candies equally amongst three children, so they can have the same number.

Review

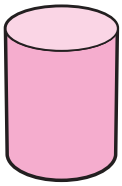
1 Match the similar shapes.

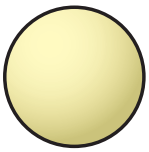
① 

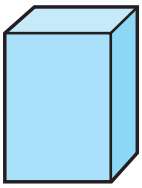
② 

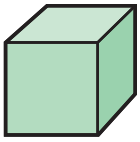
③ 

④ 

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

2 How many cupcakes are there?

☐ cupcakes

3 Let's fill the missing numbers.

① 23 ☐ 25 26 ☐ 28

② 37 ☐ 39 ☐ 41 42

③ 58 57 ☐ 55 54 ☐

4 What time is it?

① 

② 

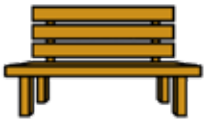
5 Let's find the answers.

① 7+4	② 6+7	③ 8+5	④ 2+9
⑤ 10+7	⑥ 4+10	⑦ 13+6	⑧ 5+12
⑨ 12−3	⑩ 15−7	⑪ 17−9	⑫ 14−7
⑬ 16−6	⑭ 10−10	⑮ 18−3	⑯ 19−7

6 7 children were flying kites. Then 9 more children joined in. How many children are there altogether?

7 There were 15 oranges. You ate 6 of them. How many are left?

8 There were 9 children in the bus. 5 children got on the bus at the bus stop in front of the school. Then 7 got off at the next bus stop.
How many children are in the bus now?



9 Children are in line.

① Nobin is the 5th child from the back.
There are 8 children in front of him.
How many children are lined up?

② Jamal is the 11th and Lisa is the 3rd child from the front in the same line.
What is the order of Jamal if we count from Lisa?

③ There were 11 people in a boat. 5 people got off and 2 people came on board on an island.
How many people are in the boat now?

13 Comparing Sizes

Comparing Length

1 Which is longer? Let's talk about how to compare.

How do we compare?

1 Skipping rope

2 Postcard

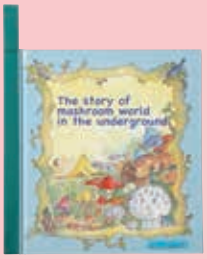
3 Book

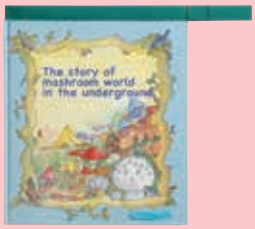
Let's compare length and width.

1

2

3

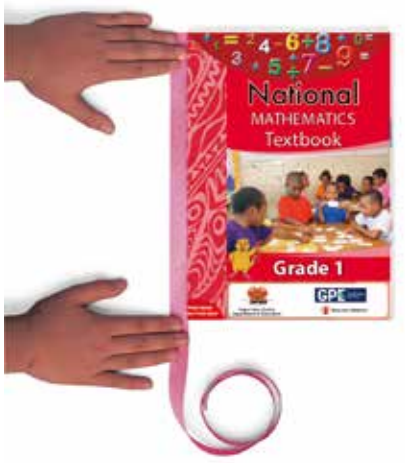




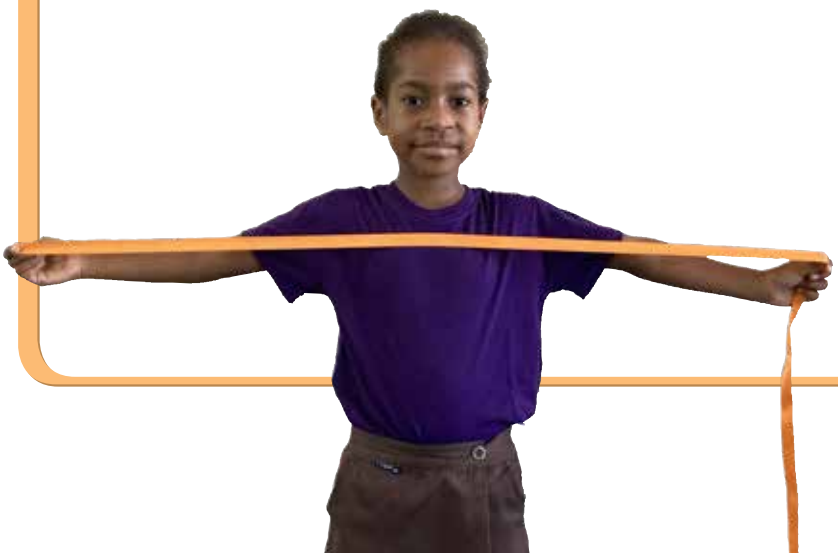
Comparing lengths on page 119.

Activity

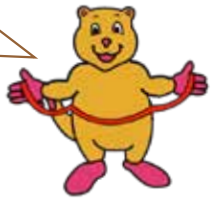
2 Let's compare different lengths using a tape.



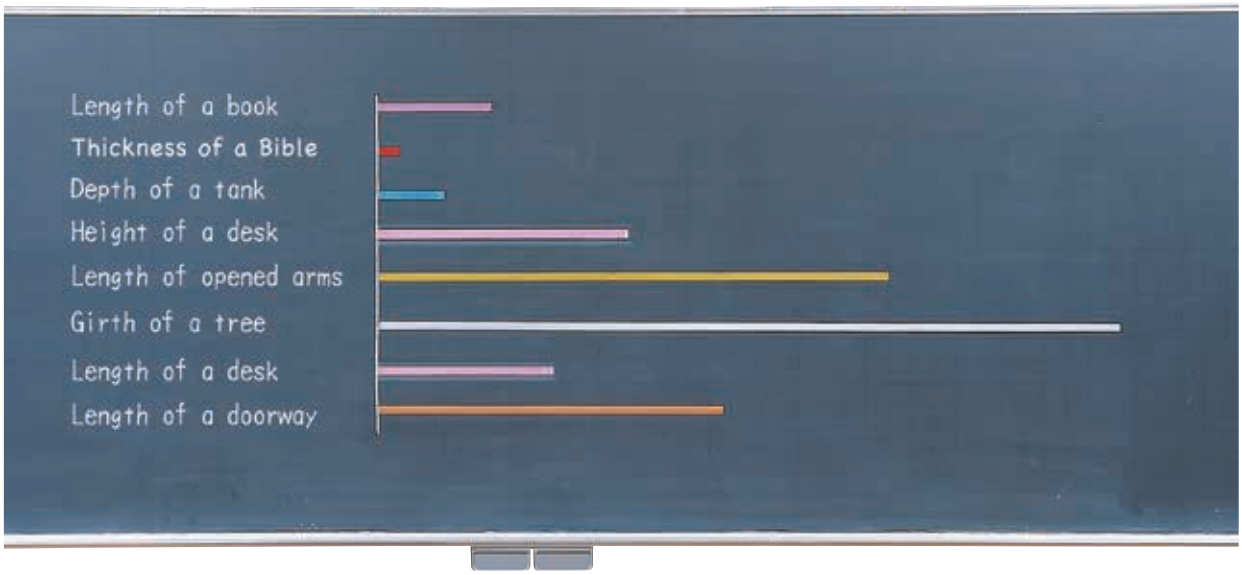
Let's Compare



My waist is…



Can this desk go through the doorway?



Activity

Measure the lengths of opened arms and compare.

Ensco

Tintin

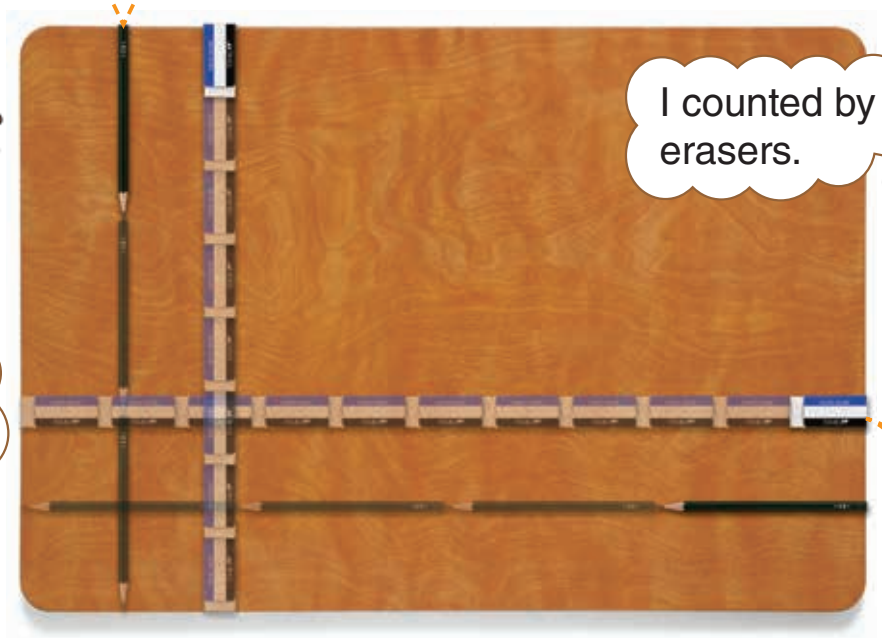
3 Which is longer? By how many?

1 Length and width of the desk.

Length ····· 4 pencils

Width ····· 3 pencils

I counted by pencils.

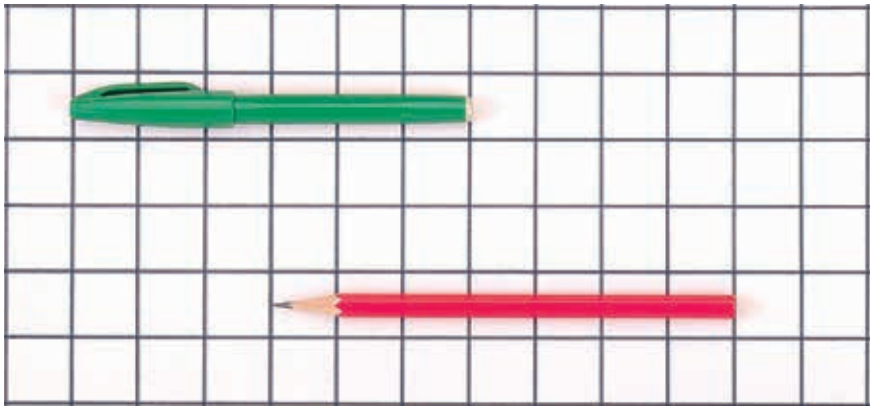


I counted by erasers.

Length ····· ☐ erasers

Width ····· ☐ erasers

2 Pen and pencil



Can I compare by counting the number of ☐?

Let's Compare Amount of Water

Which container can hold more juice?

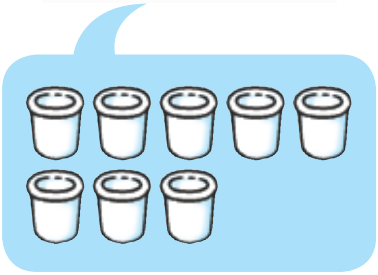
1 Let's think about how to compare the amount of juice.

Changing containers doesn't make the amount of juice to change.

How much more?

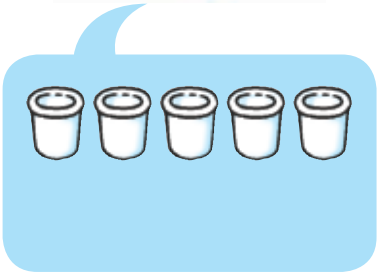
2 Which container holds more water, Ⓐ, Ⓑ or Ⓒ?

Ⓐ



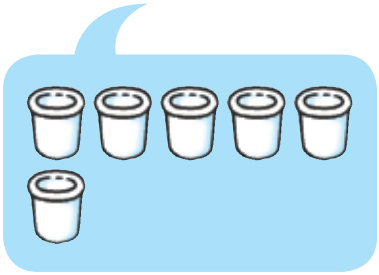
☐ cups

Ⓑ



☐ cups

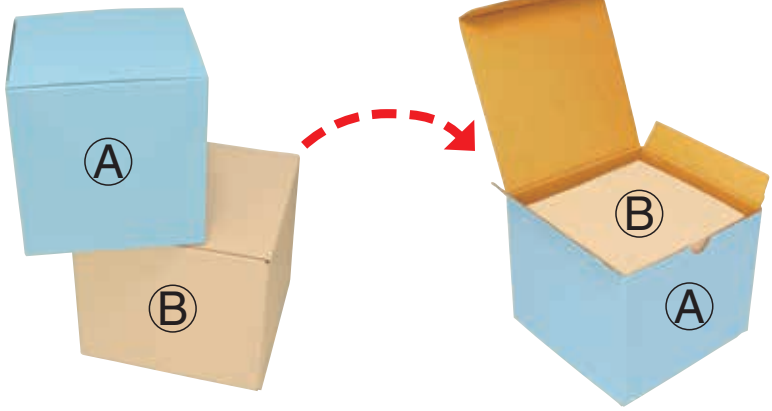
Ⓒ



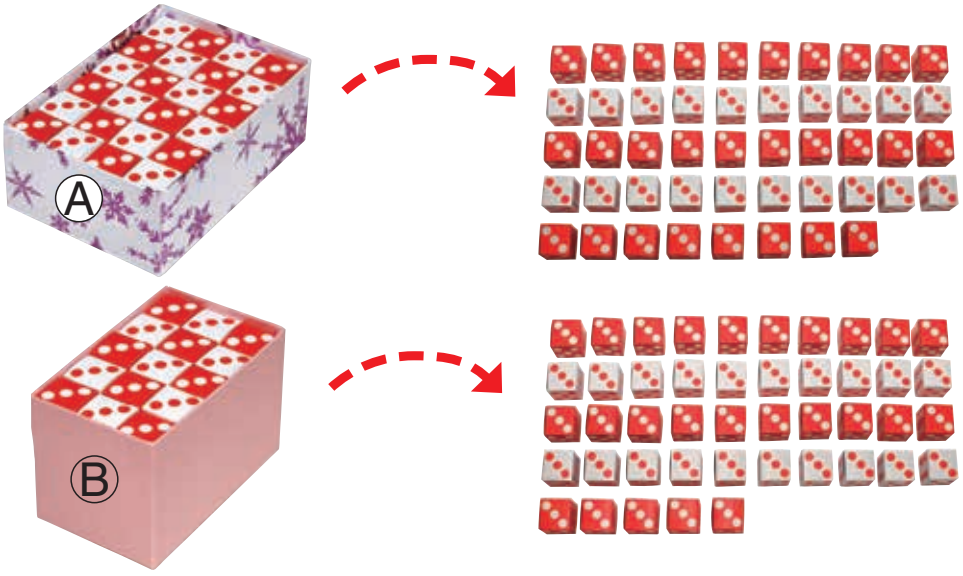
☐ cups

3 Which box can hold more?

1



2

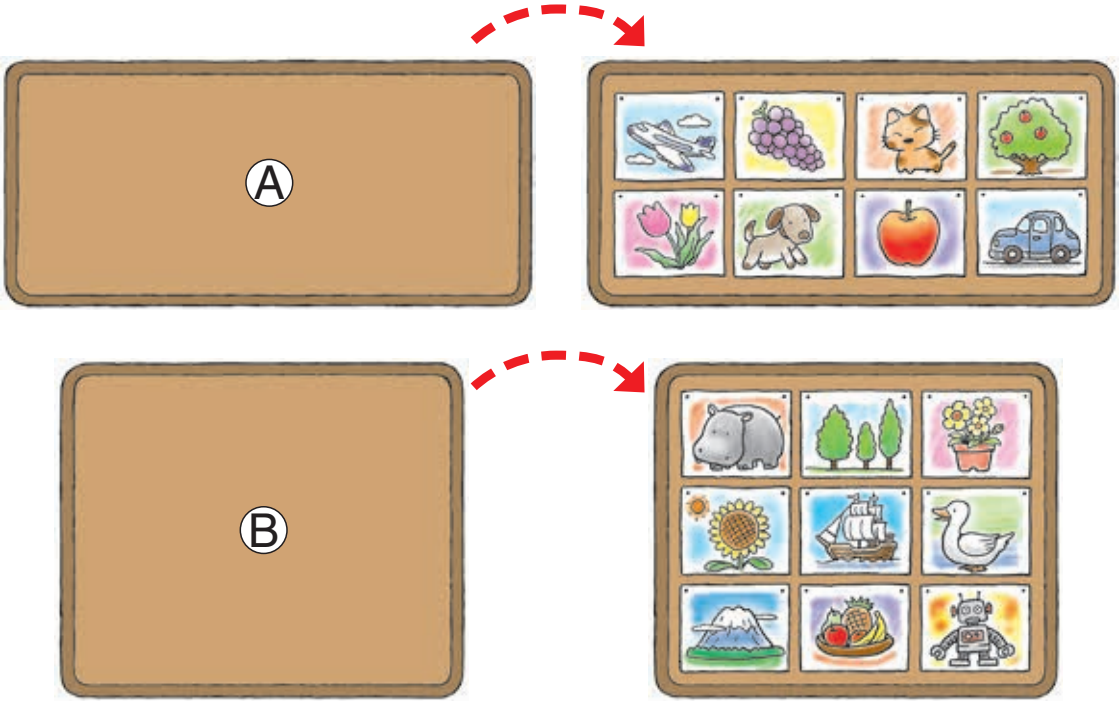


Comparing Area

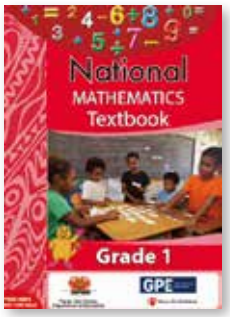
1 Which is larger, Ⓐ or Ⓑ?

1

2



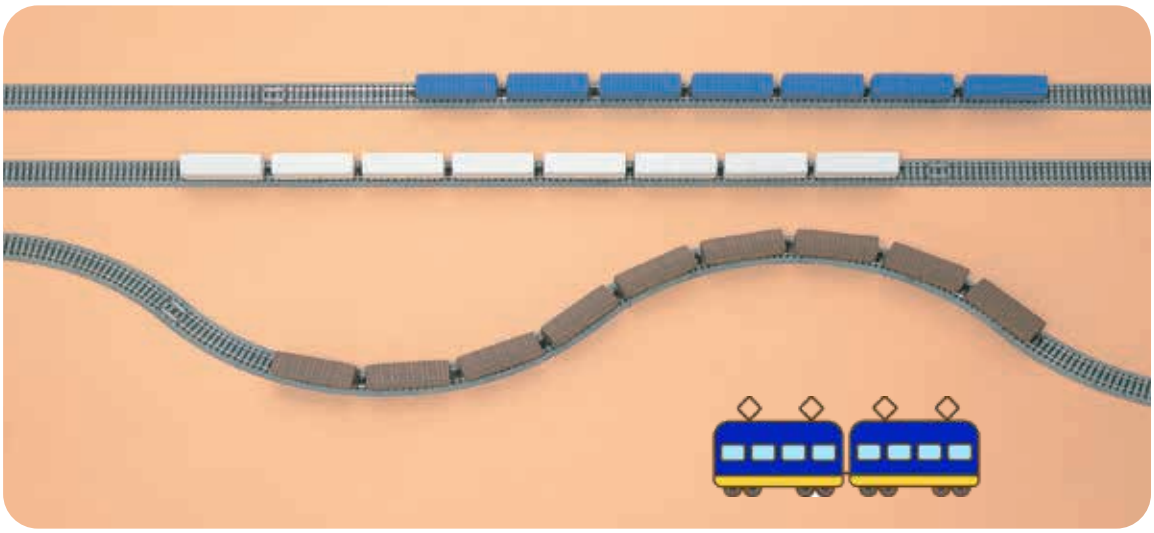
2 Compare different areas.



Problems

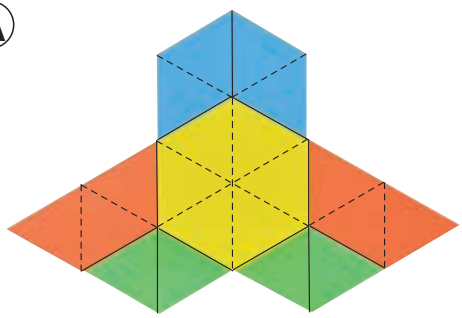
1 Which train is the longest?

Ⓐ
Ⓑ
Ⓒ

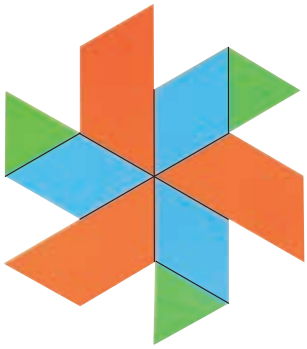


2 Which is larger, Ⓐ or Ⓑ?

Ⓐ



Ⓑ



3 Which is more, Ⓐ or Ⓑ? Let's talk about how to compare.

Ⓐ

Ⓑ

14 Let's Share with Two People

How to share with two or four children.

Half

1 How to share with two children equally.

1 Let's share a cup of juice with two children.

2 Let's share a sheet with two children.

Half is the amount of size which divided equally from whole things or product. Each of the half should be the same amount or size.

Exercise

Let's fill in the ☐ and draw the picture.

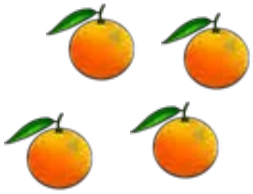
Let's share ☐ with two children.

Twice

1 There are two oranges on each plate. Answer the following questions with drawing.

1. Draw the oranges for two plates.

2. Draw the plates for four oranges.



3. Draw the plates for six oranges.
4. Draw the plates for eight oranges.

2 In **1**, how do you confirm that each plate is equally shared by two children?

Twice is two times of the amount on the plate or the cup and so on, which has the same amount. Twice amount of the half of whole is the same as the whole amount.

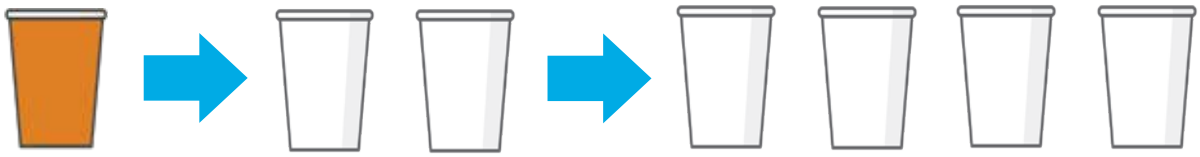
Exercise

For questions 1~4 in 1, which questions explains using 'twice'.

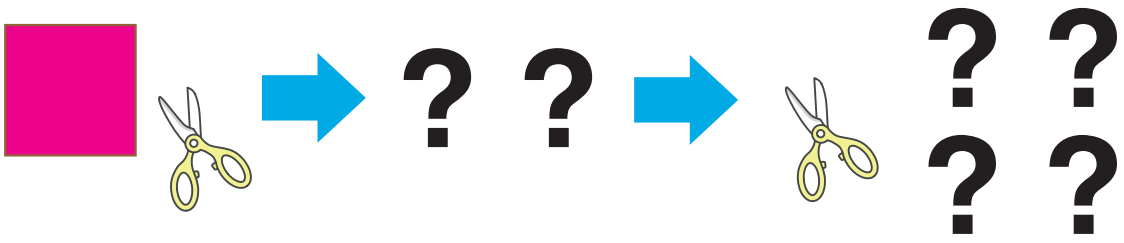
Quarter

1 Let's share juice with four children equally.

1 Let's share a cup of juice with four children.



2 Let's share a sheet with four children.



Quarter is half of the half size or amount. It is dividing the whole size or amount for four children. Each quarter size or amount should be the same.

Exercise

Which of the following Ⓐ~Ⓓ is easier to share watermelons with two children. And which one is easier to share with four children?

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

Even number and Odd number

1 Let's find the number of Guava on Ⓐ and Ⓑ by counting by two.

Ⓐ 

Ⓑ 

Numbers which are used to count by two are called even numbers such as 2, 4, 6, 8, …. as shown on the plates Ⓑ and Ⓒ. There is a pair of watermelons placed. The numbers which do not appear to count by two are called odd numbers such as 1, 3, 5, 7, …. as shown on the plates Ⓐ and Ⓓ. There is one watermelon placed on the plate.

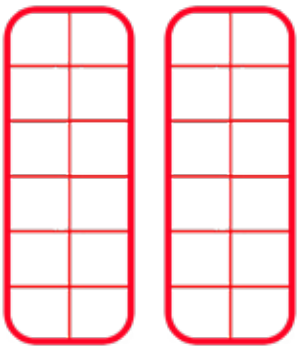
Exercise

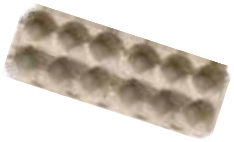
Let's mark the even numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

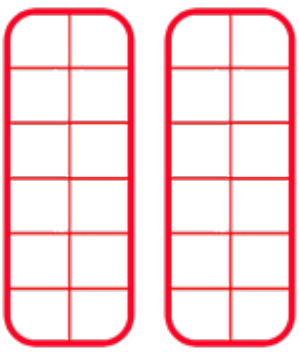
2 Let's look at photos Ⓐ and Ⓑ. Let's use the package for 12 eggs and shade the number of eggs to find even numbers or odd numbers.

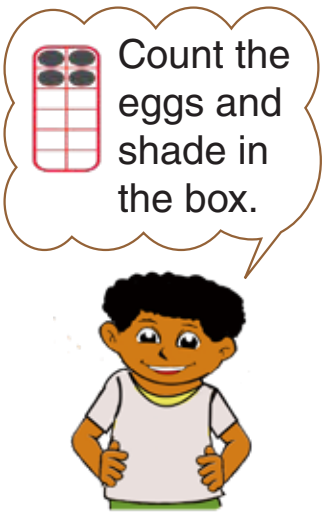
Ⓐ





Ⓑ





1. Let's shade the number of eggs to show twice using the egg packs.
2. Let's shade the number of eggs to show half using the egg pack.

3. Let's find even numbers and odd numbers in school and at home.

Vavi's idea

I jump one, two, one, two, one. It's odd number and even number.

Naiko's idea

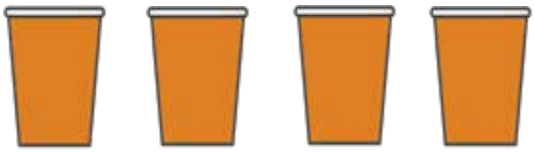
I am a member of the blue house. The word 'BLUE' has 4 letters and it is an even number. The word 'RED' has 3 letters. It is an odd number.

Ambai's idea

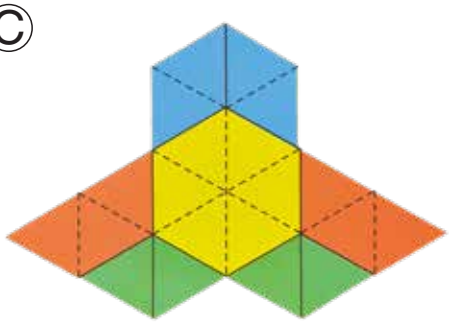
Aunty has four kids, it is an even number. Big sister has three kids, it is an odd number.

Problems

1 How do you divide Ⓐ~Ⓓ into half?

Ⓐ 

Ⓑ 

Ⓒ 

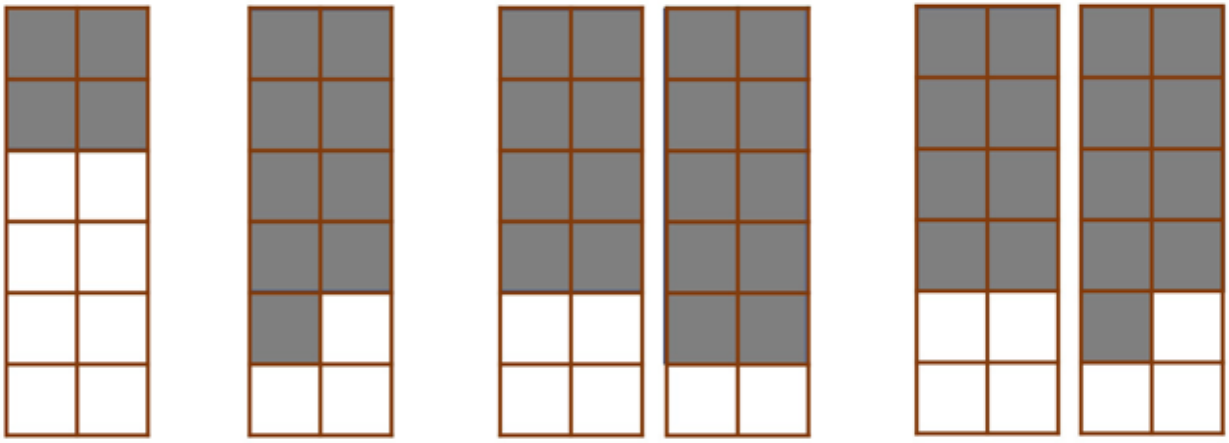
Ⓓ 

2 Find the pair of numbers which has the relationship, twice of others and half of others.

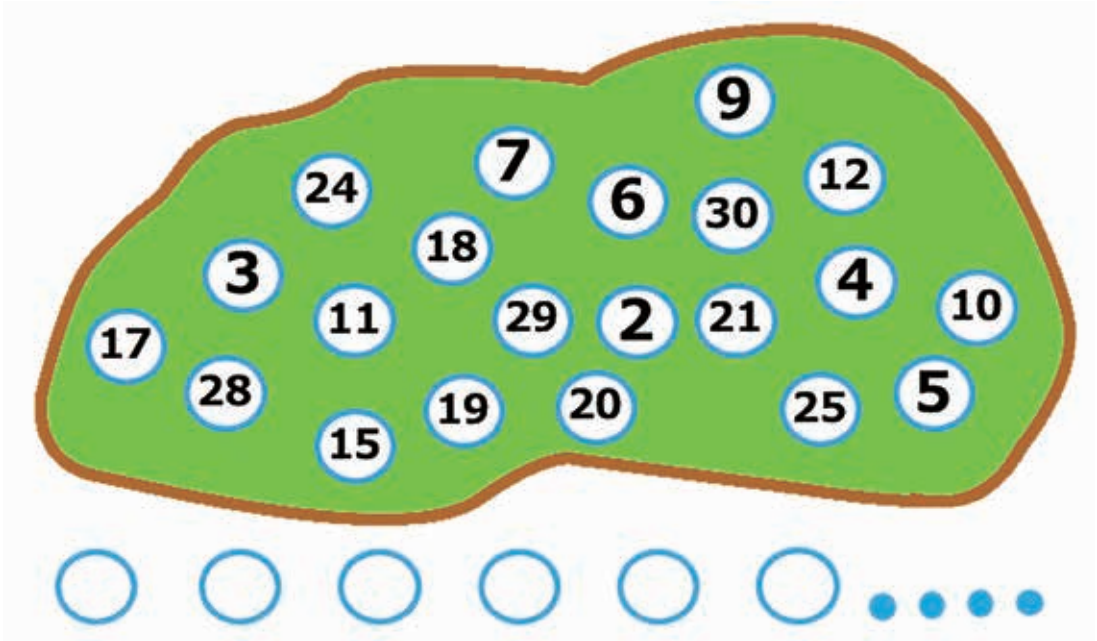
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

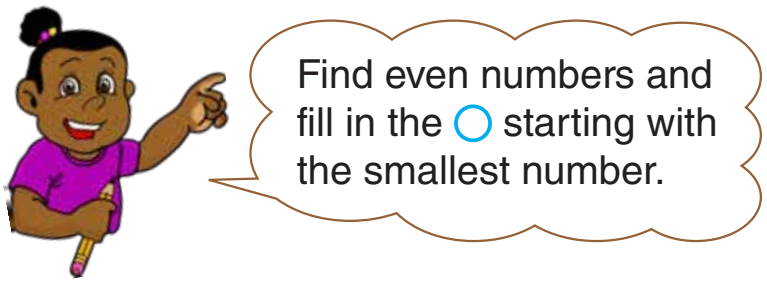
3 In the diagrams Ⓐ~Ⓓ, which diagram represents odd numbers?

Ⓐ Ⓑ Ⓒ Ⓓ



4 Let's pick even numbers in the picture and line them up starting from the smallest number.

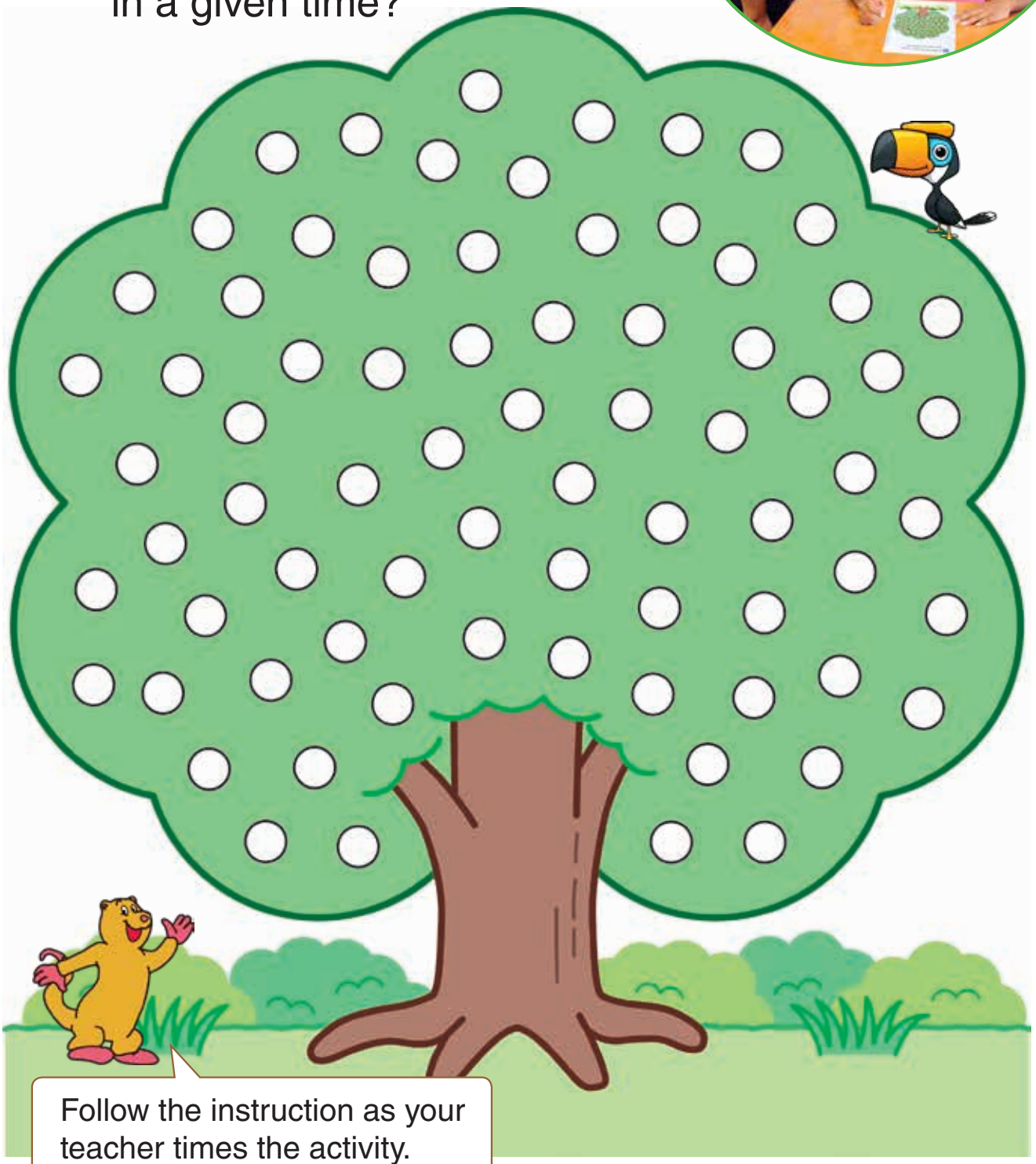




15 Large Numbers

Numbers up to 100

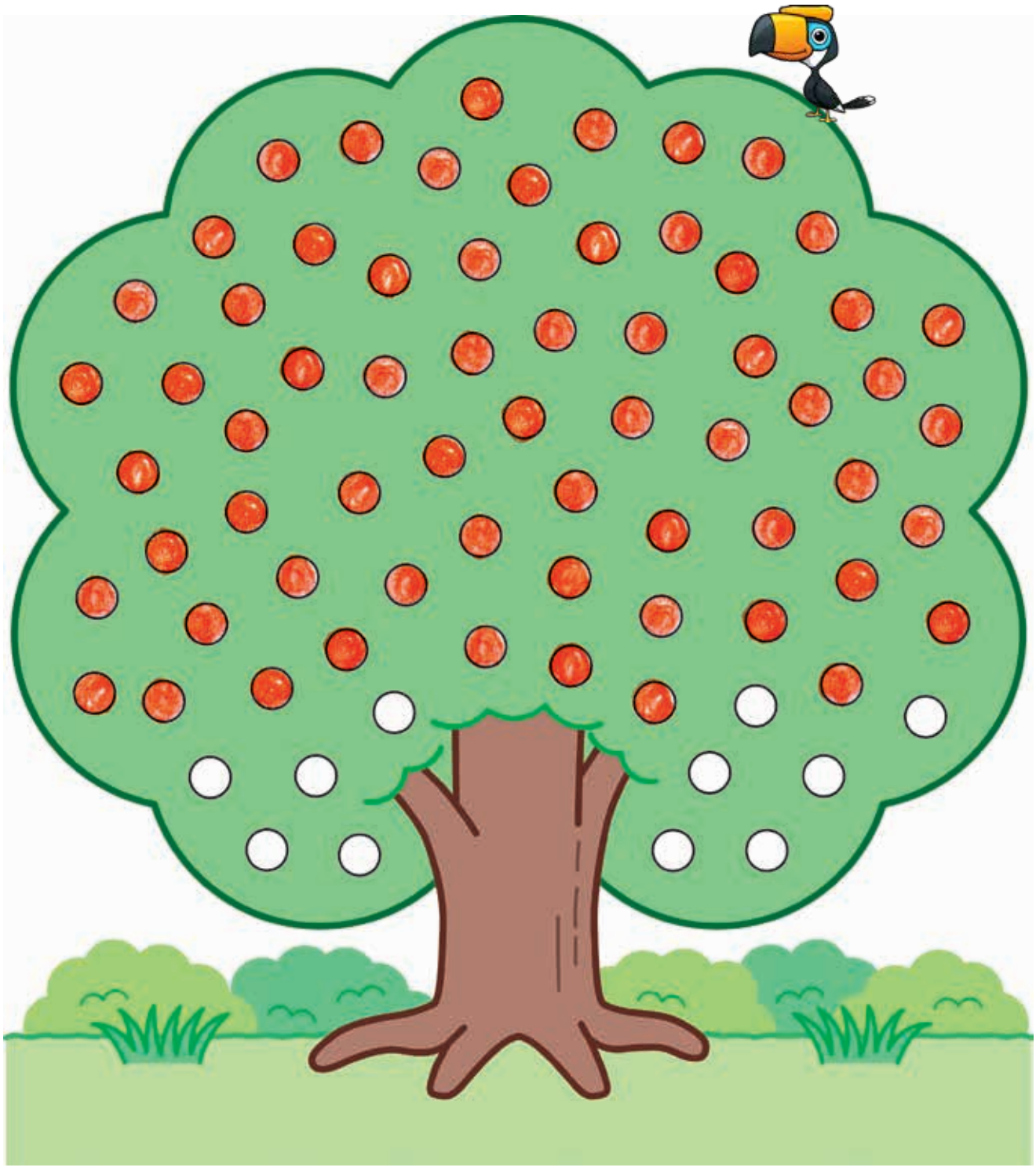
How many dots can you fill in a given time?



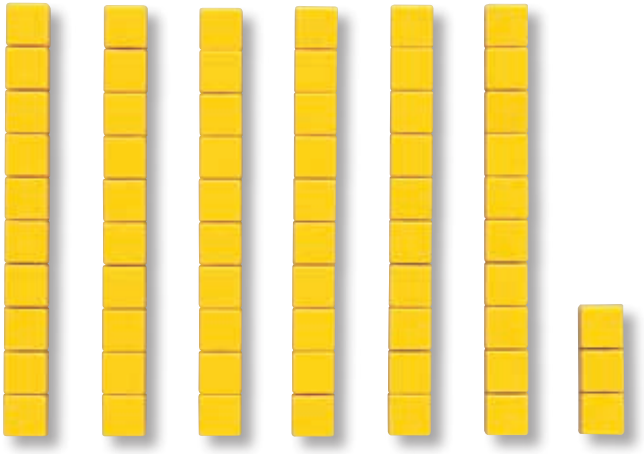
Follow the instruction as your teacher times the activity.

1 Natania filled the dots as shown below.

How many dots did she fill?







Tens Place	Ones Place

☐ in the tens place, ☐ circles

☐ in the ones place, therefore it is ☐.

2 Let's represent numbers.

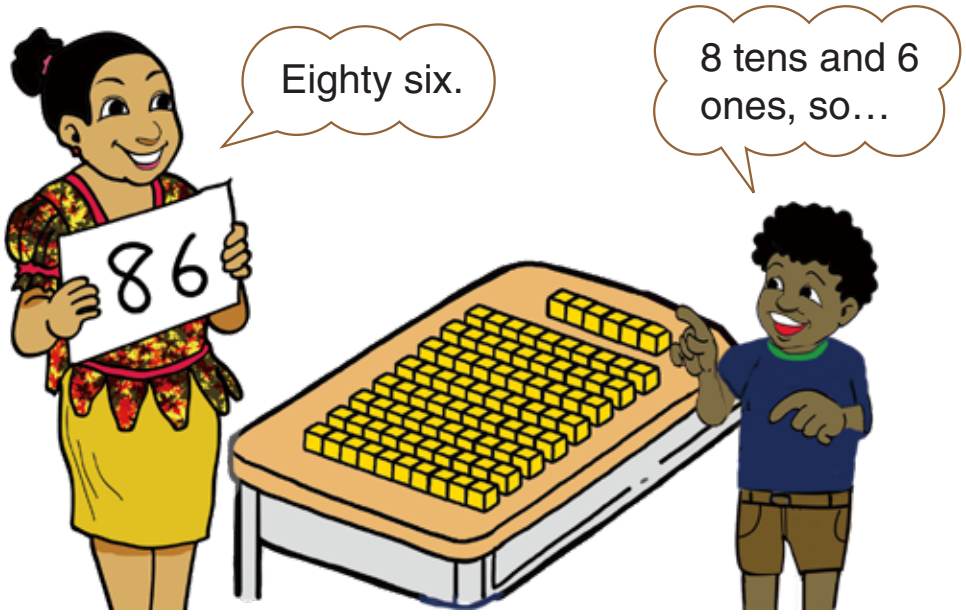
1

Tens Place	Ones Place

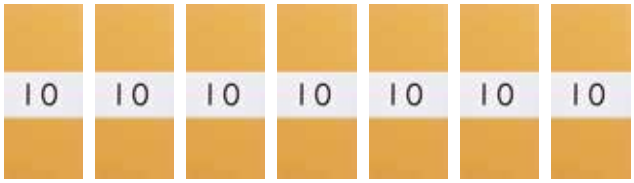
2

Tens Place	Ones Place

3 Let's line up the .



4 Write the number in the ☐.

1. 

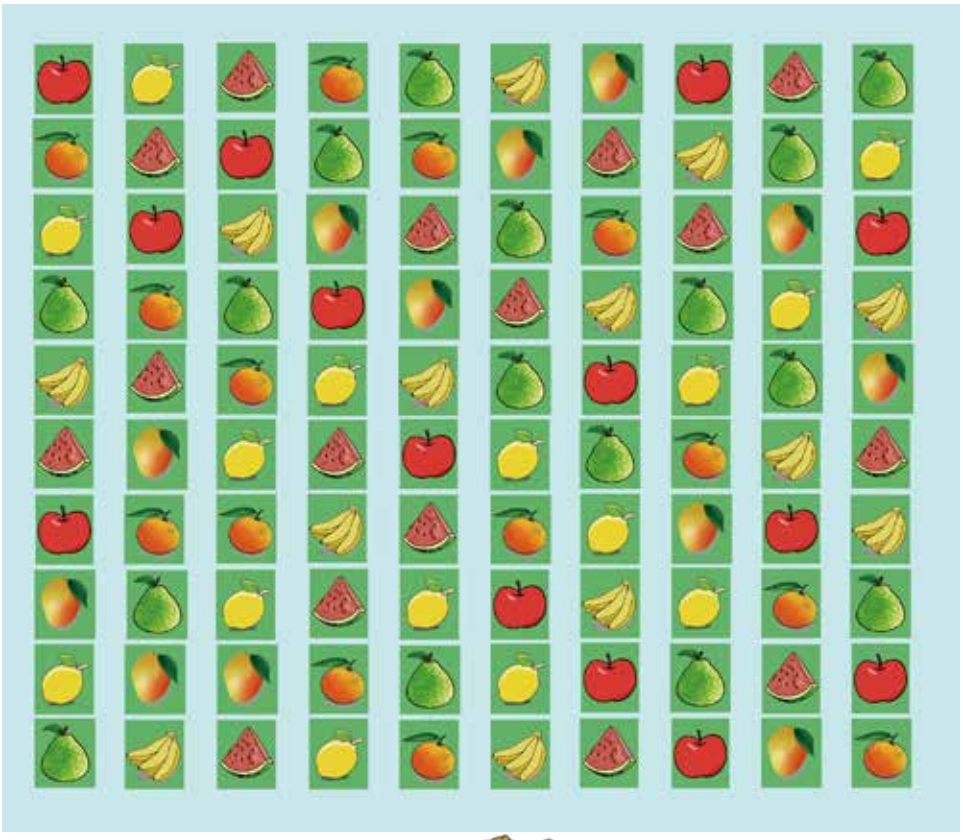
and  equals ☐ envelops

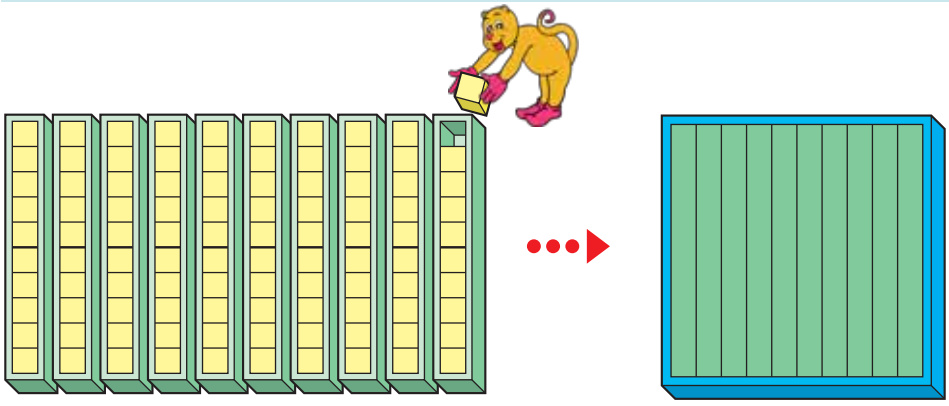
2. 8 boxes of  and 4  equals ☐ pies

5 Fill in each ☐ with a number.

1. 8 tens and 2 ones equals ☐.
2. 9 tens equals ☐.
3. 9 in tens place and 5 in ones place equals ☐.

6 How many cards are there?





10 sets of 10 is a **hundred** ➜ 100

Exercise

Fill in each ☐ with a number.

① 10 bundles of 

is ☐ envelopes.

② 10 of 

is ☐ kina.

7 Let's make number cards from 0 to 100 and line them up.

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40									
50									59
	61				65				
70									
	81								89
90						96		98	
100									

8 Which number is larger?

1. 67 63
2. 78 80
3. 100 97

9 Fill each ☐ with a number.

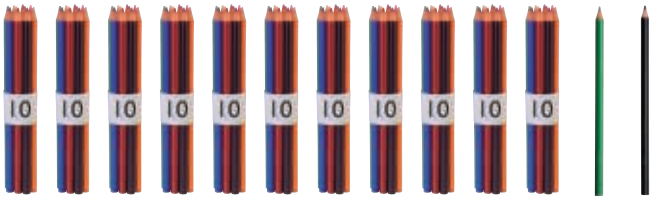
1. 3 greater than 97 is ☐.
2. 10 less than 100 is ☐.

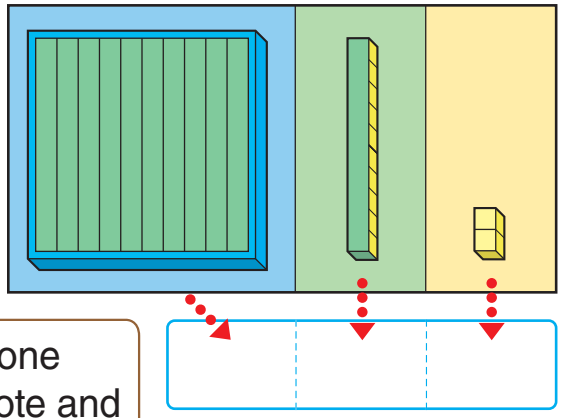
Numbers Larger than 100

1 How many pencils are there?

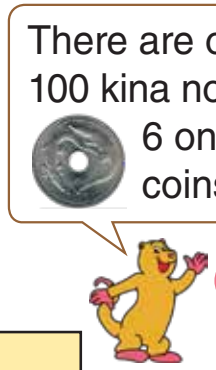
100 and 12 is 112.

112 is read as a hundred and twelve.

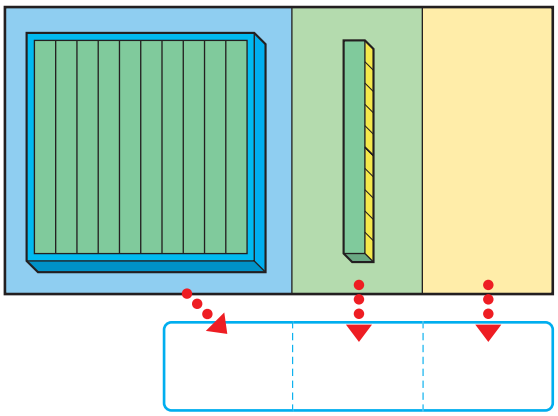




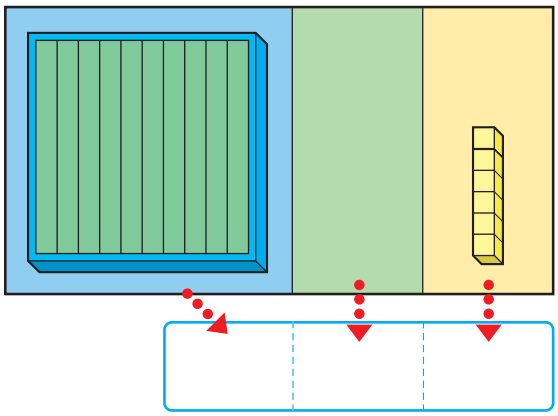
2 How much is it?



1 

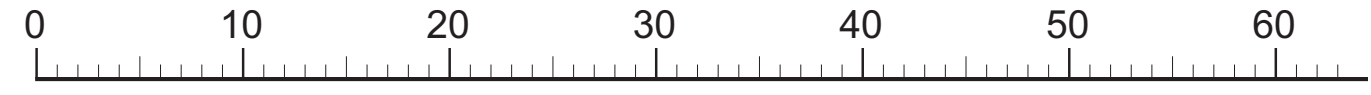


2 



3 Read these following numbers and mark on the number line.

100	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	119
120									



Addition

1 Iso made 20 star shapes and Odie made 30.

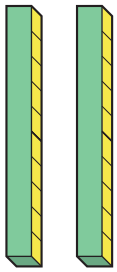
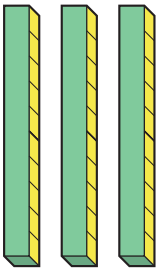
How many are there altogether?

1 Write an expression.

Add the numbers in the tens place.

2 Let's think about how to find the answer.

If you count them as sets of 10, it is 2 + 3.

Tens Place	Ones Place
	
	

Answer : ☐ stars

Exercise

Let's find the answers.

① 40 + 30　② 10 + 80

③ 20 + 10　④ 30 + 70

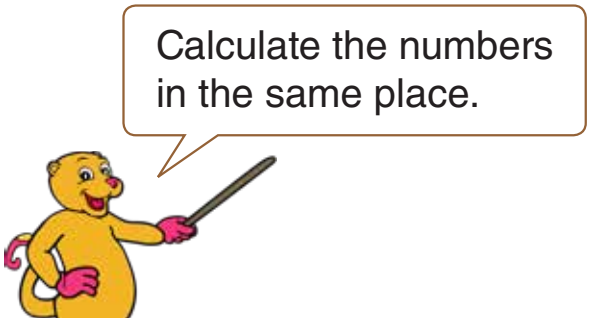
70　80　90　100　110　120

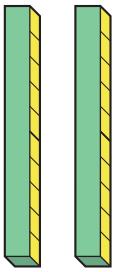
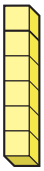
2 Ensco has 23 crayons.

She got 6 more from her older sister. How many crayons does she have?

1 Write an expression.

2 Let's think about how to find the answer.



Tens Place	Ones Place
	
	

Answer : ☐ crayons

Exercise

Let's find the answers.

① 42 + 1 ② 25 + 4 ③ 36 + 2 ④ 70 + 5

⑤ 4 + 52 ⑥ 6 + 33 ⑦ 3 + 21 ⑧ 9 + 60

Subtraction

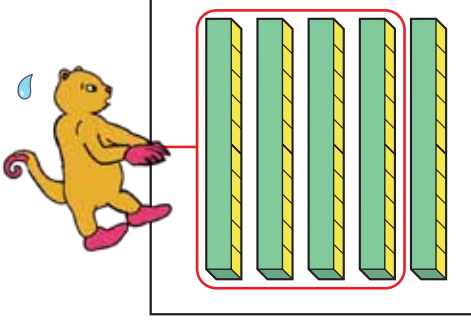
1 There were 50 chickens on sale.

40 chickens were sold.

How many chickens are left?

❶ Write an expression.

❷ Let's think about how to find the answer.

Tens Place	Ones Place
	

You can find the answer in the same way you did with single digit addition.

Answer : chickens

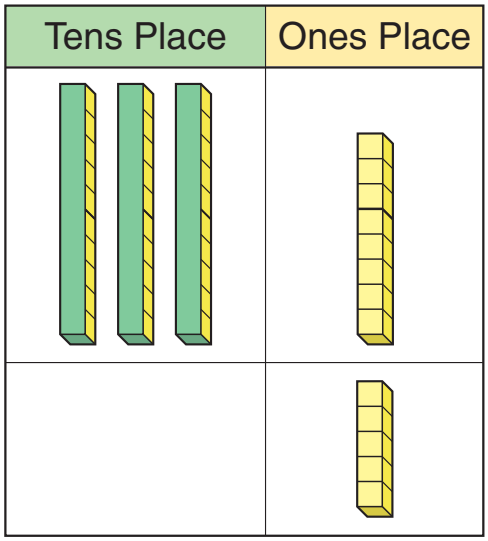
Exercise

Let's find the answers.

① 40 − 20　② 90 − 30　③ 60 − 10　④ 100 − 40

2 There are 38 red balloons and 5 blue balloons.
What is the difference?

1 Write an expression.



2 Let' think about how to find the answer.

Answer : ☐ balloons

Exercise

Let's find the answers.

① 48 – 3 ② 67 – 5 ③ 98 – 7 ④ 26 – 2

3 There were 24 cakes and Sheri ate 4 cakes.
How many are left?

Expression : ☐

Answer : ☐ cakes

Exercise

Let's find the answers.

① 37 – 7 ② 55 – 5 ③ 89 – 9 ④ 76 – 6

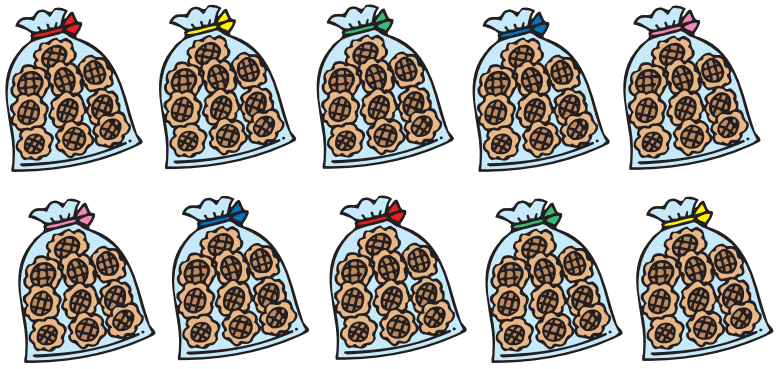
Problems 1

1 How many are there?

① Pencils

☐ pencils

② Cookies



☐ cookies

2 Fill in each ☐ with a number.

① 9 tens and 8 ones is ☐.

② ☐ tens and ☐ ones is 67.

3 Write a number.

① How many more does 96 need to become 100?

② 2 less than 70

③ 10 less than 120

Problems 2

1 Michie is recording the numbers of pages she is reading every day.

Title : Adventure of Pit	
Day	Read Pages
Day 1	20
Day 2	10
Day 3	10

① How many pages did she read?

② This book has 100 pages. How many more pages are left?

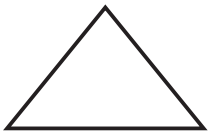
③ On what day would she finish reading the book? Let's think about it and explain why you think so.

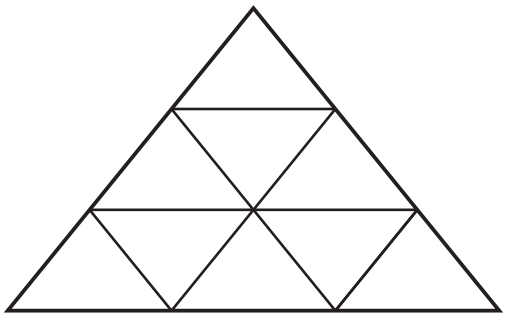
16 Let's Find and Use Pattern

Finding Patterns

1 How to find the patterns in order.

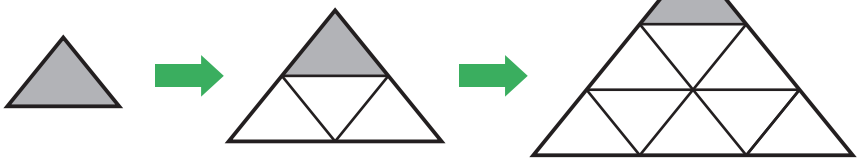
1 How do you develop the following picture by using the unit shape?





Let's explain how it is done. Is there only one way?

I make it from the top.



Naiko's idea

I make it from the left side.

? → ? → ?

Vavi's idea

2 Let's explain your original way to the others.

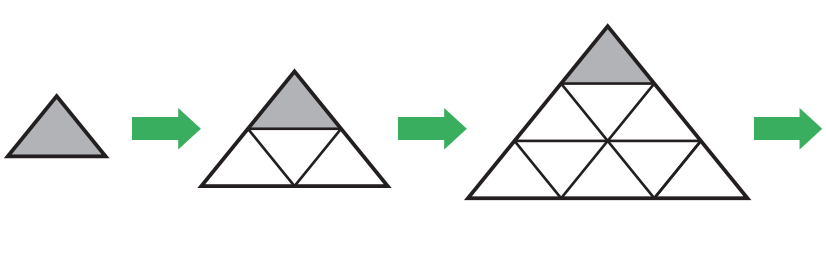
3 Which way is most simple to explain the way to others.

4 Let's colour the unit shape to show the way clearly.

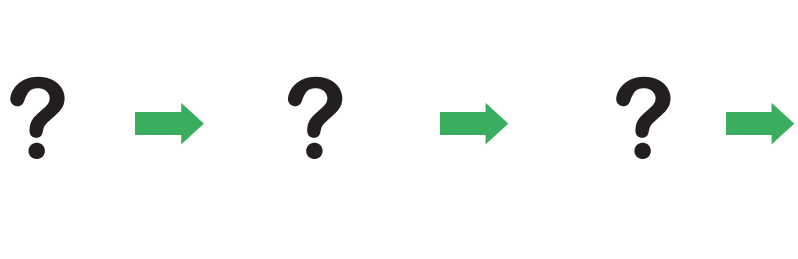
5 Let's put the number in the unit shape to show the way.

2 In 1, Naiko's answer is the following.

1 The following developed from the top.
What shape comes fourth?

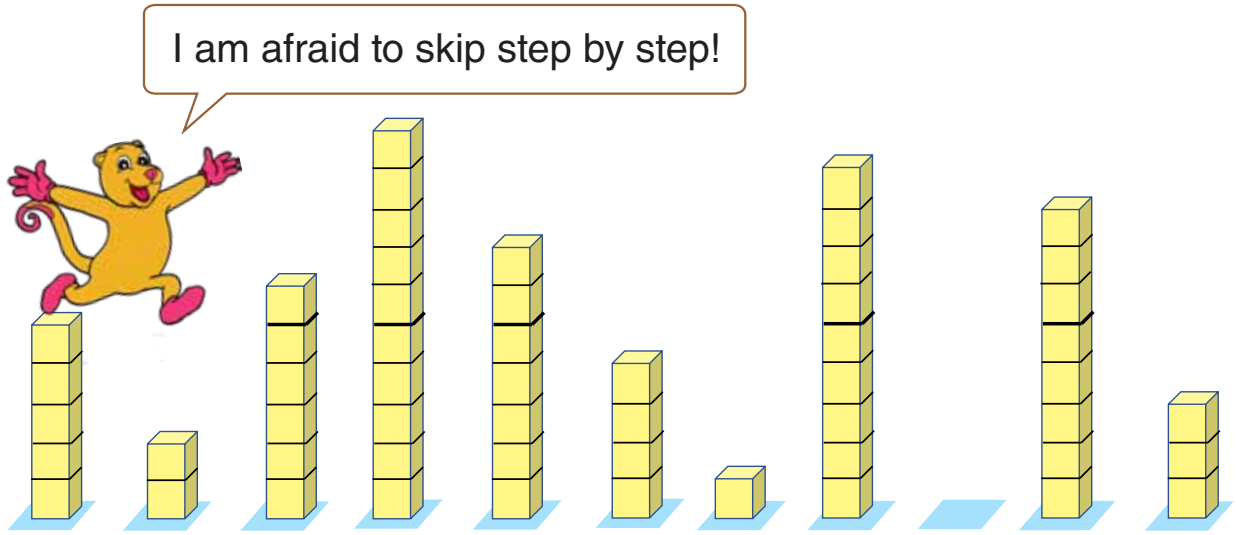


2 When developing from the left side, what shape comes fourth?

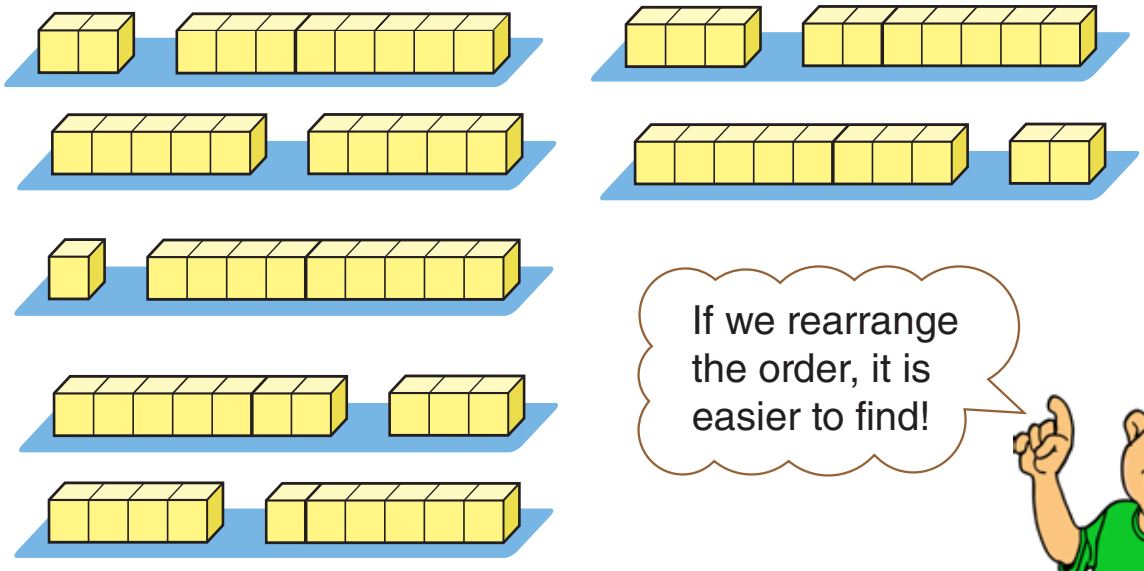


Beautifulness of Natural order

1 Let's rearrange the order of blocks to skip step by step?



2 The following blocks are pairs of ten blocks. What are the missing pairs for 10.



3 Look at pictures ❶, ❷ and ❸ below. To make the place look beautiful and in order what do you suggest to do for each picture.

❶

❷

❸

Various Combination on How to Use Coins

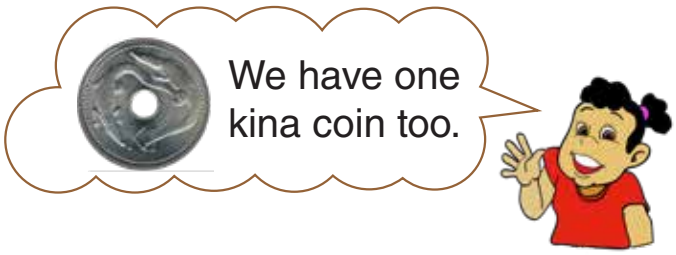
1 Let's find the easier ways to count.

❶ 2 coins of 5 toea is ☐ toea.

❷ 4 coins of 10 toea is ☐ toea.

❸ 20 coins of 5 toea is ☐ kina.

4 10 coins of 10 toea is ☐ kina



2 James has thirty toea in his pocket.

How many coins does he have?

Fill the ☐ with numbers.

Gawi's idea

Count by five.

5, 10,

15, 20,

25. 30 toea

☐ coins of 5 toeas.

Ambai's idea

☐ coins of 10 toea.

10

20

30 toea

Vavi's idea

If I have 20 toea and 10 toea coins.

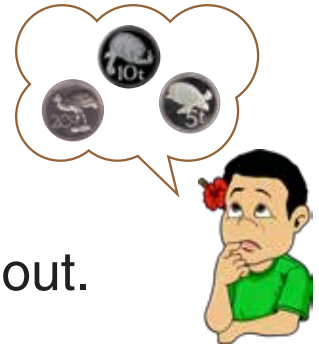
☐ coin of 20 toea and ☐ coin of 10 toea.

Yamo's idea

I have 2 coins of 5 toea and ☐ coins of 10 toea.

+ ☐

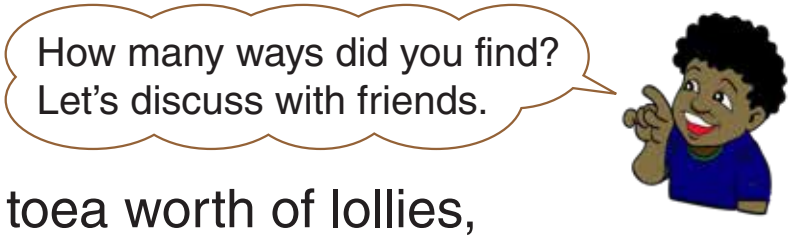
3 Mary has 40 toea in her purse.



1 How many coins does she have?

Let's use the table below and find out.

5 toea	8 coins	6 coins	0 coin	?	?	?	?	?	?
10 toea	0 coin	1 coin	2 coins	?	?	?	?	?	?
20 toea	0 coin	0 coin	1 coin	2 coins	?	?	?	?	?
Total	40 toea	40 toea	40 toea	40 toea	40 toea	40 toea	40 toea	40 toea	40 toea



2 In **1**, to buy 40 toea worth of lollies,

which case is the most simple way for payment?

Which case is difficult way for payment?

Papua New Guinea Coins

5t 10t 20t 50t K1

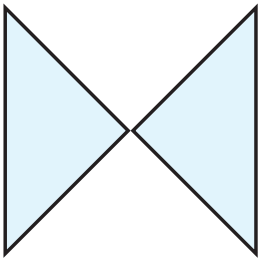
There are 5 types of coins in Papua New Guinea. Discuss what kind of characteristics each coin has.
Example: 1 kina coin has a hole.
The size is getting bigger while the value increases.

17 Shapes (2)

Making different figures

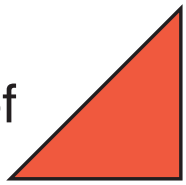
1 Let's arrange coloured pieces and create different figures.

Share with everyone the figures you created.

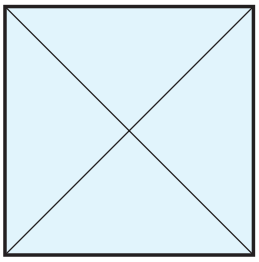


Use the coloured pieces provided by your teacher.

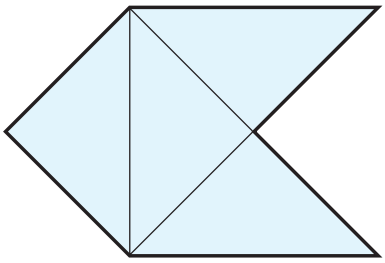
It is a butterfly.

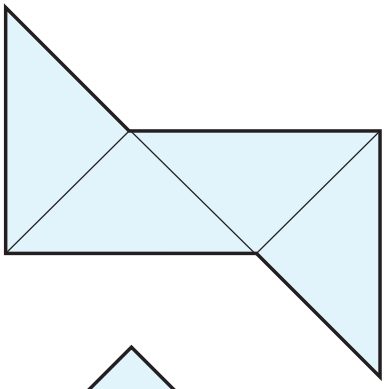
2 Arrange 4 pieces of  to create figures.

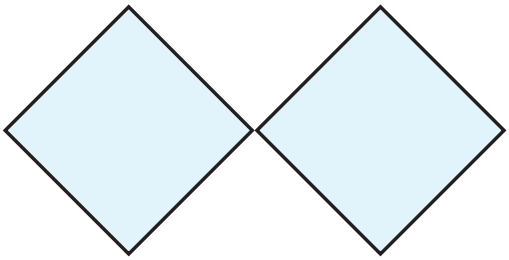
1 Create figure Ⓐ.

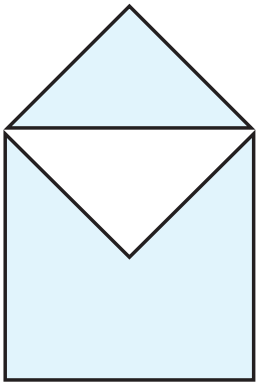
Ⓐ 

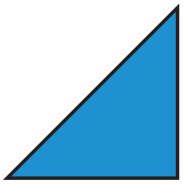
2 From figure Ⓐ, create figures : Ⓑ, Ⓒ, Ⓓ, and Ⓔ.

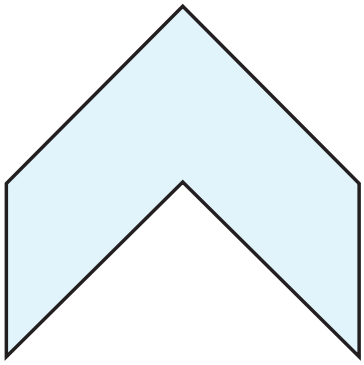
Ⓑ 

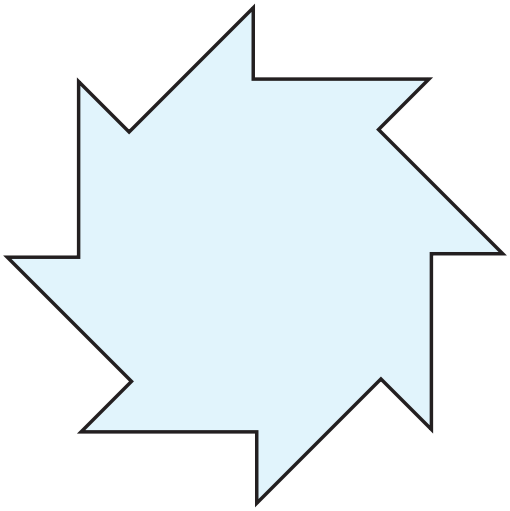
Ⓒ 

Ⓓ 

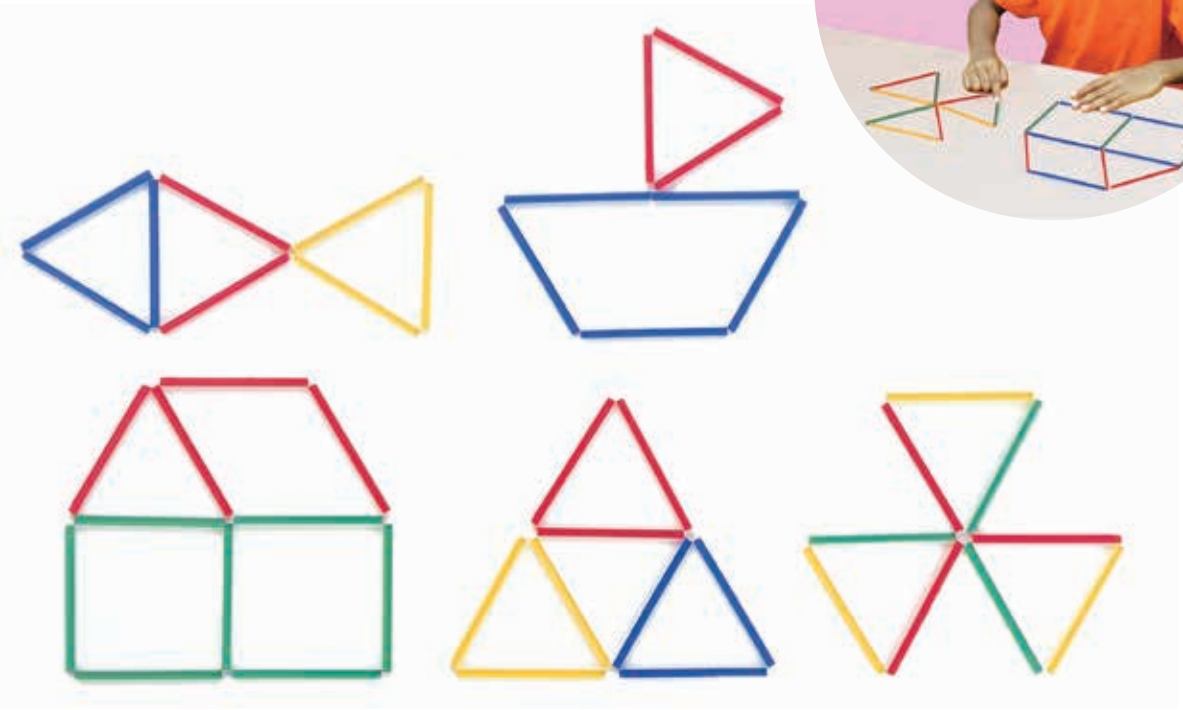
Ⓔ 

3 Arrange  coloured pieces to create the following figures.

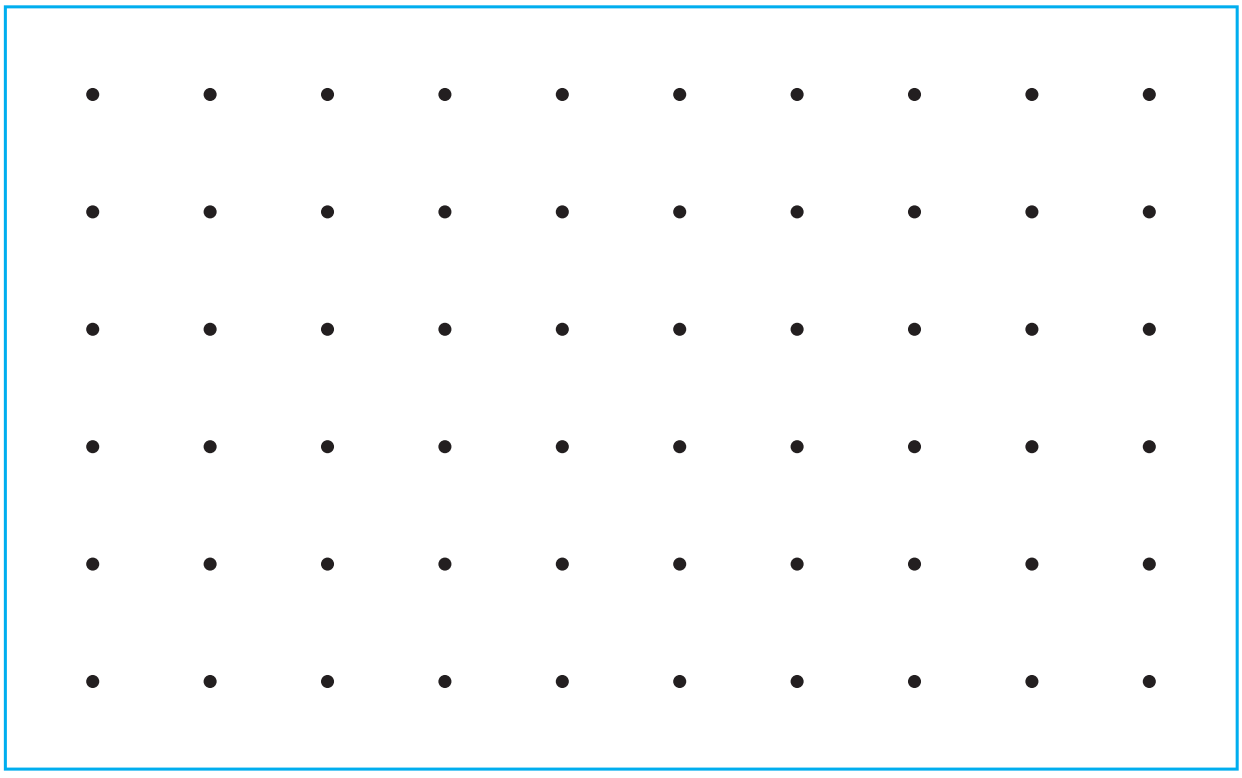
1 

2 

4 Use sticks to create different figures.

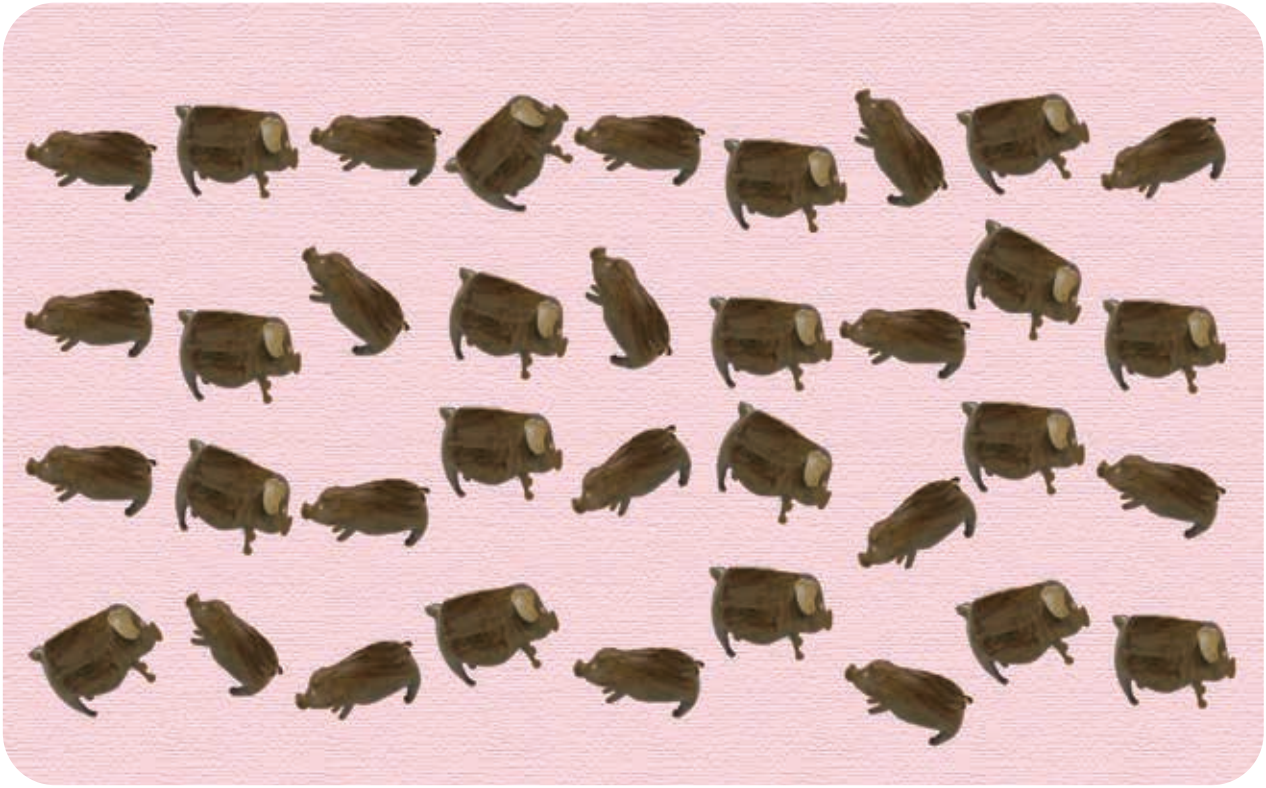


5 Connect dots to create different figures.



18 Summary of Grade 1

1 How many pigs are there?



2 Fill each ☐ with a number.

1. 17 tens and 6 ones is ☐.
2. 59 is ☐ tens and ☐ ones.
3. 70 is ☐ tens.
4. 9 in the tens place and 6 in the ones place is ☐.

5 1 less than 100 is ☐.

6 1 greater than 119 is ☐.

3 Circle the larger number.

1 94 78

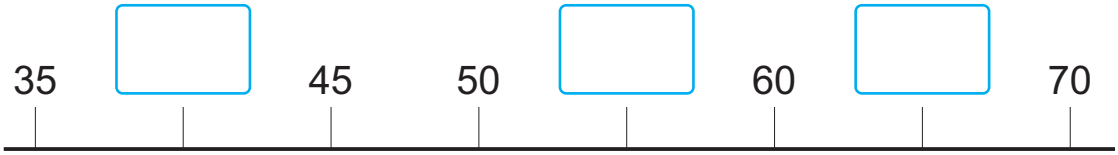
2 62 56

3 100 99

4 Fill each ☐ with a number.

1

2

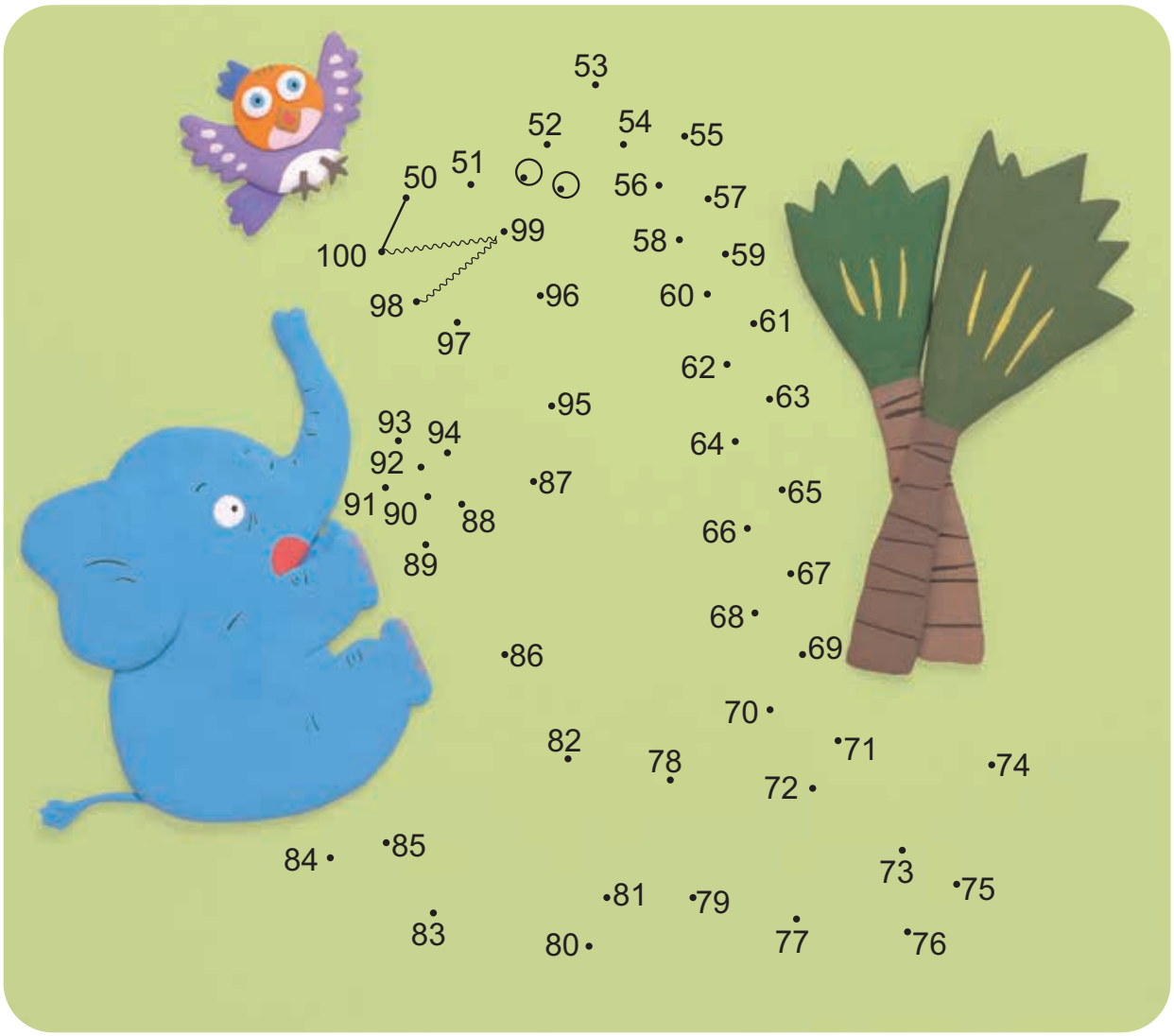


5 There are 83 stickers. Pisah puts 10 stickers on each page.

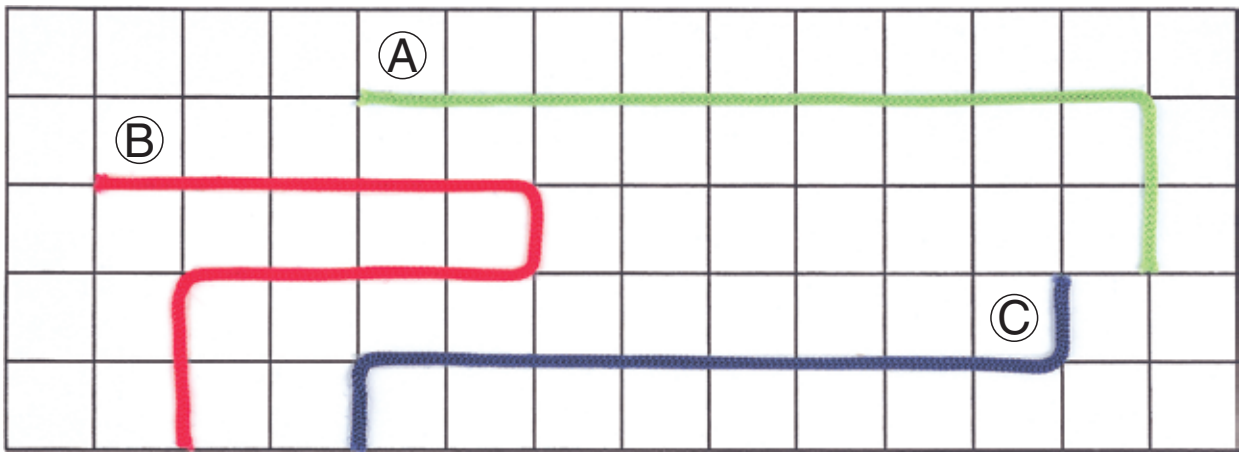
1 How many pages was she able to put 10 stickers on?

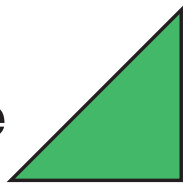
2 How many stickers are left?

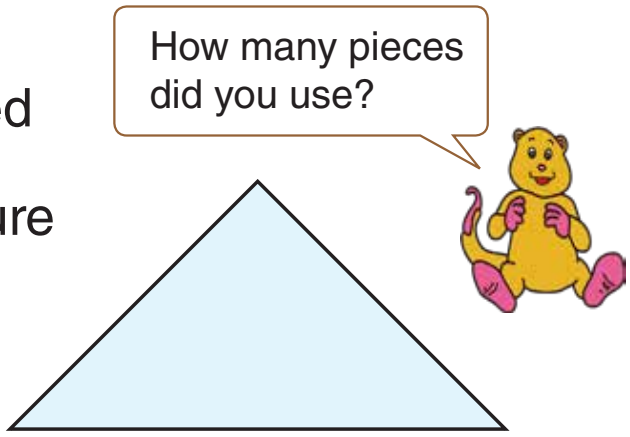
6 Connect dots from number 50 to 100.



7 Put these 3 strings in order of their lengths.



8 Arrange  coloured pieces to create the figure on the right.



9 What time is it?

1

2

10 Let's find the answers.

1 ① 1+6 ② 2+2 ③ 5+0 ④ 0+8
⑤ 3+7 ⑥ 7+4 ⑦ 8+9 ⑧ 4+9
⑨ 8+5 ⑩ 9+5 ⑪ 4+8 ⑫ 6+5

2 ① 8−1 ② 9−7 ③ 6−6 ④ 5−0
⑤ 10−8 ⑥ 11−3 ⑦ 12−4 ⑧ 14−9
⑨ 13−8 ⑩ 16−9 ⑪ 14−5 ⑫ 17−8

3 ① 20+70 ② 17+2 ③ 6+32 ④ 3+40
⑤ 70−30 ⑥ 65−2 ⑦ 47−7 ⑧ 90−90

11 Make a math story for each expression in ❶ and ❷.

❶ $8+4$ ❷ $12-7$

12 Shama ate 7 cookies and her younger sister ate 6 cookies.

How many cookies did they eat altogether?

13 There were 12 people on the bus.

6 people got off and 3 people came on board at the bus stop.

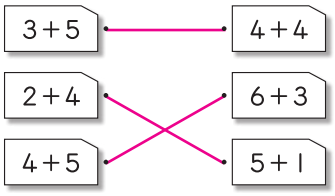
How many people are on the bus now?

Answers

Chapter 4 Problems 1: Page 49

1 ① 5 ② 3 ③ 4 ④ 7
⑤ 6 ⑥ 9 ⑦ 8 ⑧ 8
⑨ 9 ⑩ 7 ⑪ 6 ⑫ 6
⑬ 10 ⑭ 10 ⑮ 10

2



3 8 colour pencils

Chapter 4 Problems 2: Page 50

1 ① Scissors and Rock
② Rock and Paper: 2 times
Scissors, Scissors, and Paper: 3 times
Rock, Rock, and Scissors: 3 times
Scissors, Scissors, Scissors, Scissors, and Scissors: 5 times

Chapter 5 Problems 1: Page 65

1 ① 3 ② 5 ③ 0
④ 3 ⑤ 2 ⑥ 0
⑦ 6 ⑧ 7 ⑨ 2

2 ① 8−4, 4 guavas
② 10−6, There are 4 more boys than girls.

Chapter 5 Problems 2: Page 66

① 6−4=2, 4+2=6
② 6−2=4
③ 6−1=5

Chapter 5 Review: Page 67, 68

1 ① Cassowary

2 ① 2 ② 3 ③ 8

3 ① Kokomo (Hornbill)
② 3rd place

4 10 flowers

5 6 books

6 ① 8 ② 7 ③ 8 ④ 9
⑤ 10 ⑥ 10 ⑦ 3 ⑧ 8
⑨ 2 ⑩ 2 ⑪ 5 ⑫ 3
⑬ 4 ⑭ 8 ⑮ 0 ⑯ 7

Chapter 7 Problems 1: Page 84

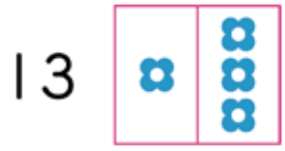
1 ① 14 eggs
② 43 sheets

2 ① 37 ② 2, 5 ③ 6 ④ 4

3
① 34 33 32 31 30
② 50 52 54 56 58

Chapter 7 Problems 2: Page 85

1 ①



②

2 ① 21 points
② 12 points
③ 30 points

Chapter 10 Problems 1: Page 98

1 ① 13 ② 11 ③ 12 ④ 11
⑤ 12 ⑥ 11 ⑦ 11 ⑧ 13
⑨ 13 ⑩ 17 ⑪ 15 ⑫ 14

2 12 pencils

3 16 eggs

Chapter 10 Problems 2: Page 99

1 ① 7−4=3 3 children
② 7+4=11 11 beetles
③ There is no math problem.

Chapter 11 Problems 1: Page 108

1 ① 8 ② 8 ③ 7 ④ 7
⑤ 5 ⑥ 6 ⑦ 3 ⑧ 4
⑨ 4 ⑩ 9 ⑪ 8 ⑫ 8

2 7 mangoes

3 There are 9 more chicks.

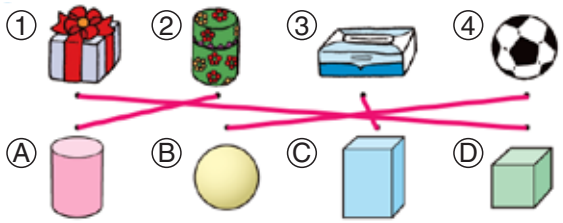
4 7 eggs

Chapter 11 Problems 2: Page 109

1 ① 18 sheets
② 3 gums
③ Chris has 6 more lollies.

Chapter 12 Review: Page 116-118

1



2 35 cupcakes

3
① 23 24 25 26 27 28
② 37 38 39 40 41 42
③ 58 57 56 55 54 53

4 ① 3 o'clock
② 8 o'clock and 20 minutes / 20 minutes past 8

5 ① 11 ② 13 ③ 13 ④ 11
⑤ 17 ⑥ 14 ⑦ 19 ⑧ 17
⑨ 9 ⑩ 8 ⑪ 8 ⑫ 7
⑬ 10 ⑭ 0 ⑮ 15 ⑯ 12

6 16 children

7 9 oranges

8 7 children

9 ① 13 children
② 8th place
③ 8 people

Chapter 13 Problems: Page 127

1 Ⓒ

2 Ⓐ is larger.

3 Ⓑ is more.

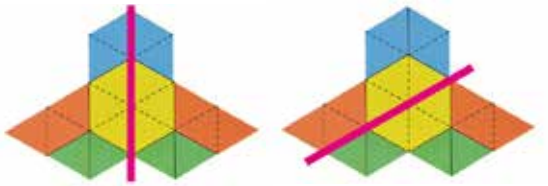
Chapter 14 Problems 1: Page 134

1

Ⓐ 

Ⓑ 

Ⓒ Examples;



Ⓓ 

2 1 and 2, 2 and 4, 3 and 6, 4 and 8, 5 and 10,
6 and 12, 7 and 14, 8 and 16, 9 and 18,
10 and 20, 11 and 22, 12 and 24, 13 and 26,
14 and 28, 15 and 30

3 Ⓑ and Ⓓ

4 ② ④ ⑥ ⑩ ⑫ ⑱ ⑳ ㉔ ㉘ ㉚

Chapter 15 Problems 1: Page 147

1 ① 62 pencils
② 100 cockles

2 ① 98
② 6, 7

3 ① 4
② 68
③ 110

Chapter 15 Problems 2: Page 148

1 ① 40 pages
② 60 pages
③ Day 9

Glossary

Addition is a process of calculating two or more numbers together. 39

Breaking Down Numbers is separating a bigger number into smaller numbers. 27

Equals is the same as in number or amount. 38

Even numbers are used to count by two such as 2, 4, 6, 8,…. 131

Figure are shapes which demonstrate the shape of the object we see in everyday life. 155

Half is the amount of size divided equally from a whole. Each of the two size when divided should be the same amount or size. 128

Length is the longest distance from one end to the other end. 122

Making up Numbers means taking two lesser numbers and combining them together to make 10 (ten). 30

Math sentence is a number sentence such as 3+2=5. 38

Minus is to subtract or take away. 54

Number line is a straight line that that represents numbers visually. 77

Odd numbers are the numbers which do not appear to count by two. . . 131

Ones place is the position of a number in a place value. In Two-Digit Numbers as in 28 the second digit (8) occupies the Ones Place. 81

Order is the arranging numbers or things from lowest to highest or highest to lowest number. 33

Plus is adding numbers or putting numbers together. 38

Position is a place where something is located. 33

Quarter is half of the half size or amount. It is dividing the whole size or amount into four parts. 130

Share equally is to divide a collection of objects into same amount. 115

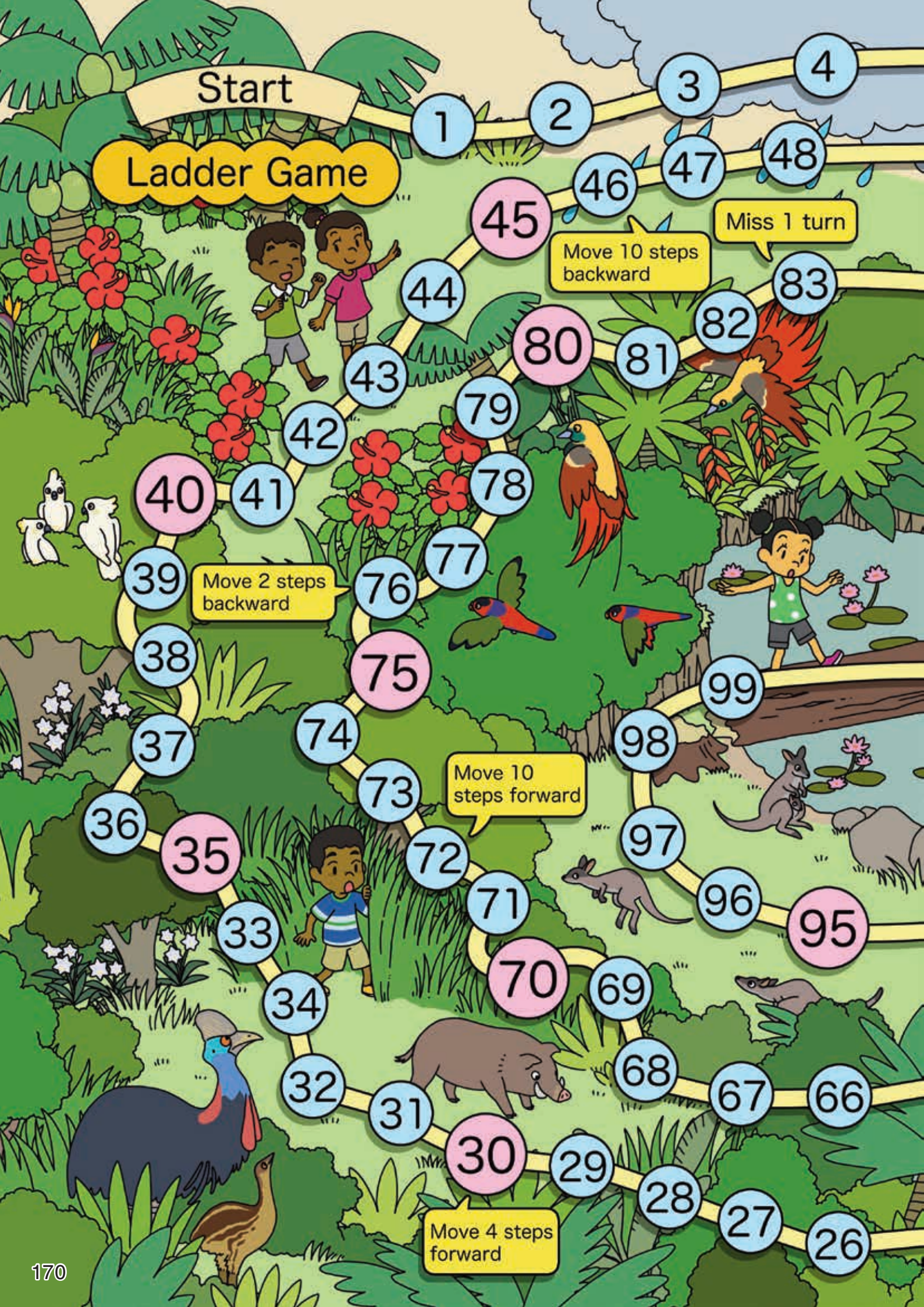
Tens place is the position of a number in a place value. In Two-Digit Numbers as on 28 the first digit (2) occupies the tens place. 81

Twice is two times of the amount. 129

Width is the shortest distance from one side of an object to another. . . . 122


Compare pages 168 and 169
and spot the differences.


How many differences did you find?


Start
Ladder Game
1
2
3
4
45
46
47
48
Move 10 steps backward
Miss 1 turn
44
83
82
80
81
43
79
42
78
40
41
39
Move 2 steps backward
76
77
38
75
99
37
74
98
Move 10 steps forward
73
36
97
35
72
71
96
95
33
70
69
34
68
32
67
66
31
30
29
28
27
26
Move 4 steps forward


5
6
7
8
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Goal
Move 6 steps forward
Move 2 steps forward
Move 5 steps forward
Move 20 steps forward
Move 3 steps backward
Miss 1 turn
Move 2 steps backward
Move 5 steps backward

Addition and Subtraction Game

Game 1

(1) Place counters on  and  .

(2) Throw 2 dice with faces which shows the following numbers 4, 5, 6, 7, 8, and 9.

(3) Throw a die with faces three + signs and three − signs.

(4) If you rolled + sign, add numbers and move forward.

(5) If you rolled − sign, subtract small number from big number and move forward.

(6) Whoever jumps onto the other counter is a winner.

Start

Start

Jumping onto the other counter is a winner.

Game ❷

(1) Place counters on  and  .

(2) Throw a die with the number 6, 6, 7, 7, 8, and 9, and a die with the number 10, 11, 12, 13, 14, and 15.

(3) Subtract small number from big number and move forward.

(4) Whoever jumped on the other counter is a winner.

National Mathematics Grade 1 Textbook Development Committee

The National Mathematics Textbook was produced under the Department of Education and Gakkotosho Joint Project for the development of Mathematics teaching materials. The textbook was developed by Curriculum Development Division (CDD) under Department of Education in partnership with Global Partnership for Education (GPE) - Save the Children as Grant Agent through the Program for Boosting Education Standards Together in PNG (BEST PNG Program). The following stakeholders have contributed to develop, manage, write, validate and make quality assurance for development and quality of the Textbook and Teacher's Manual for the students and teachers of Papua New Guinea.

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