

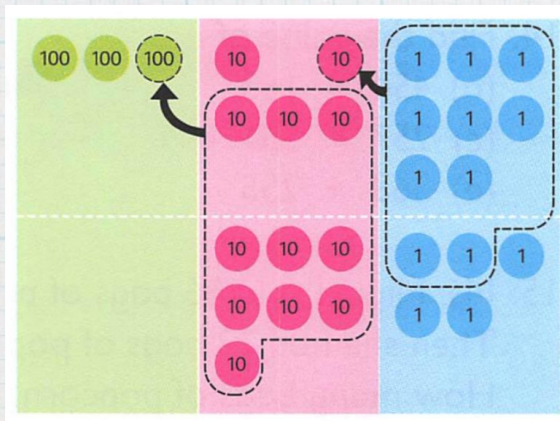
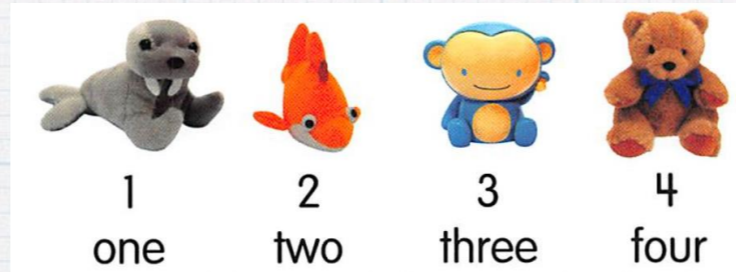
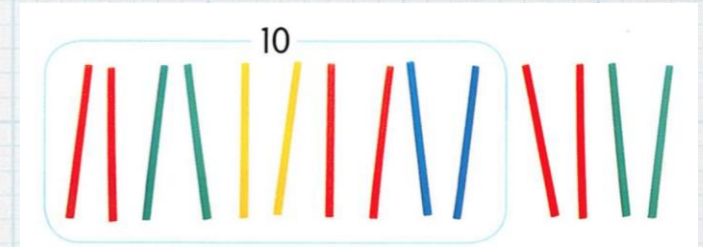
Singapore Math



Edgemont School District

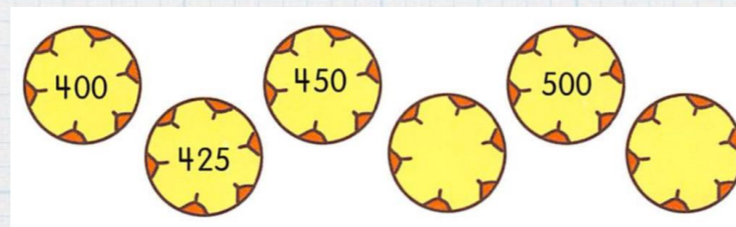
Kindergarten through Second Grade

5 is **greater than** 3.

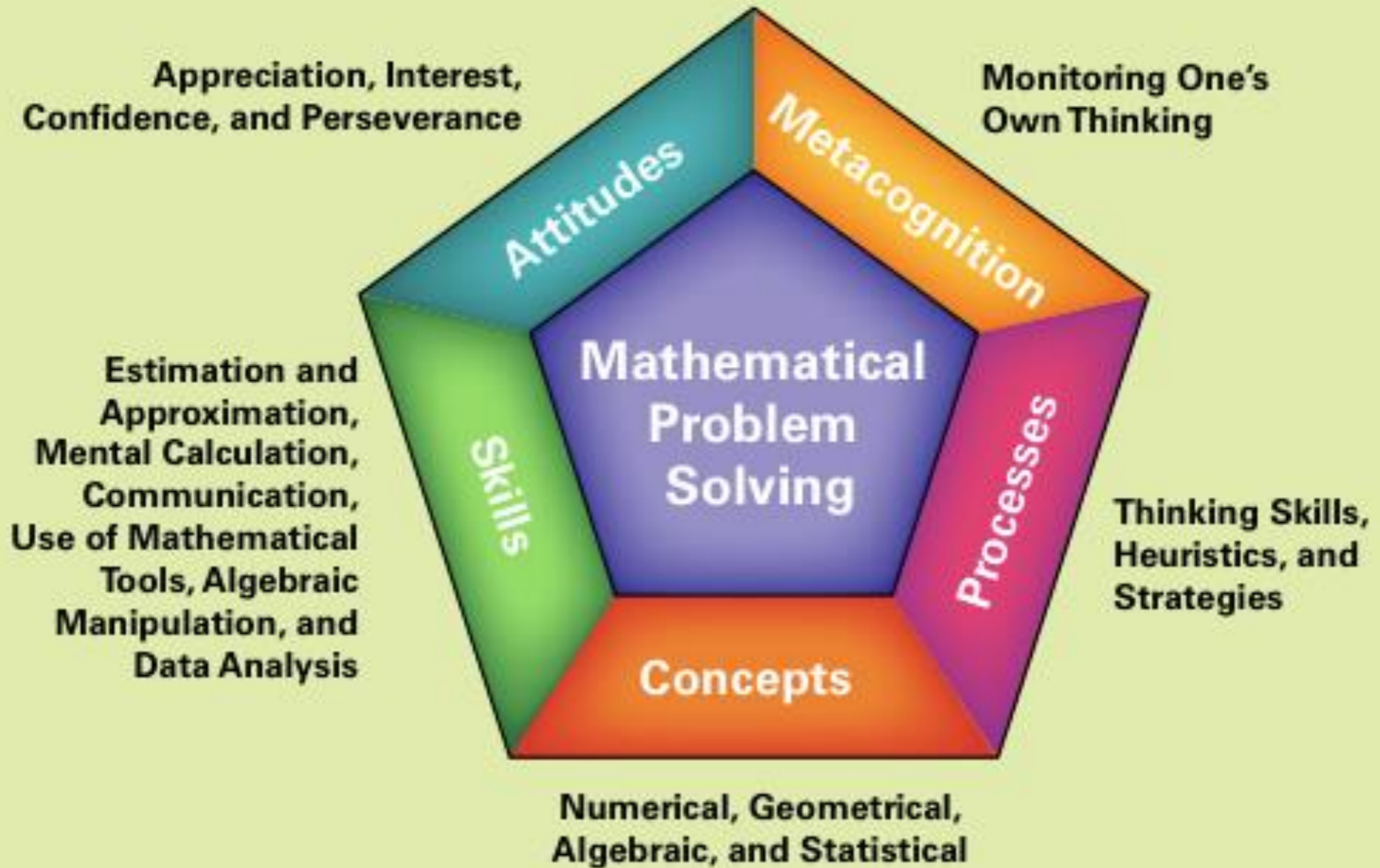
3 is **less than** 5.



Tens	Ones
1	6
	



Singapore's Mathematics Framework



Pedagogical Approach and Methodology

Concrete ► Pictorial ► Abstract Approach

1. Students first encounter the mathematical concepts through the use of **manipulatives**.
2. Students then move on to the pictorial stage in which **pictures** are used to model problems.
3. When students are familiar with the ideas taught, they progress to a more advanced or abstract stage in which only **numbers, notations and symbols** are used.

Number Sense

Counting

Comparing and Ordering Numbers

Recognizing Number Patterns

Skip Counting

Place Value

Rounding

Estimating

Numbers to 10

A vibrant illustration of a park scene. In the center, a boy is riding a white horse. To his right, another boy is running. In the background, a girl is climbing a tree, and a boy is sleeping in a hammock. There are several white rabbits, pink butterflies, and yellow bees scattered throughout the grassy area. A pond in the foreground has two yellow ducks, one of which is holding a green frog. There are also three green frogs on a small island in the pond. The scene is surrounded by green trees and red flowers.

Vertical column of icons on the left:

- Mushroom
- Flower
- Rabbit
- Bee
- Running child

Row of icons below the illustration:

- Duck
- Frog
- Butterfly

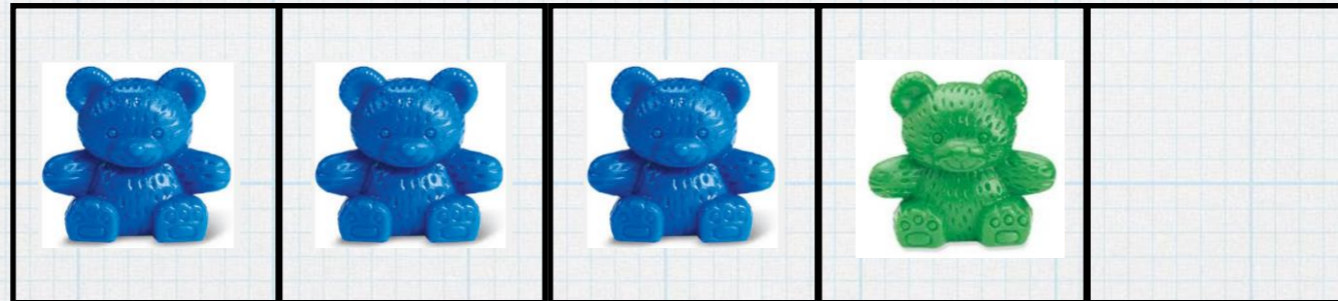
5 Frame

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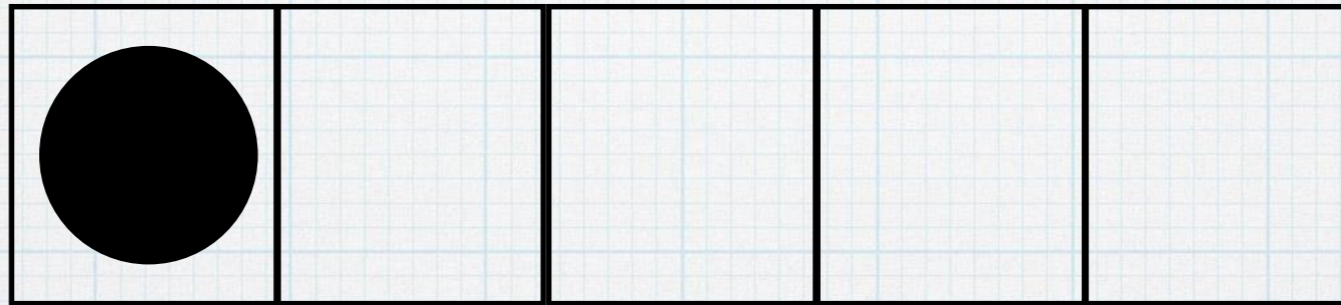
Place 3 blue bears on the five frame.

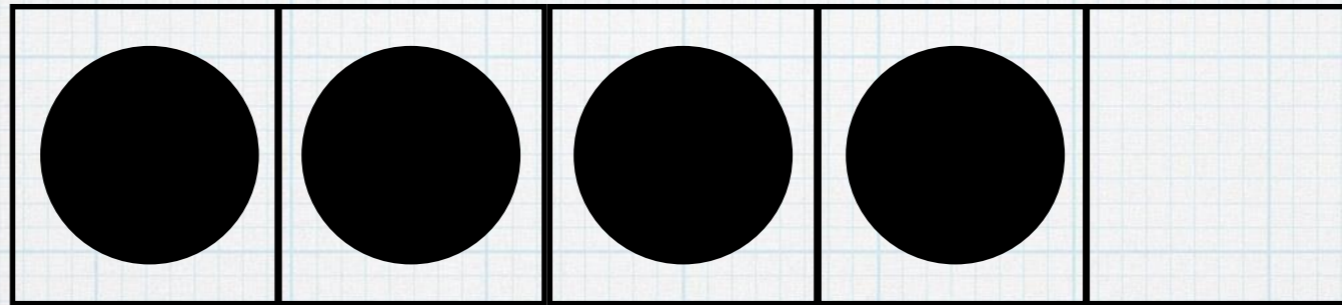
Place 1 green bear next to the blue bears.

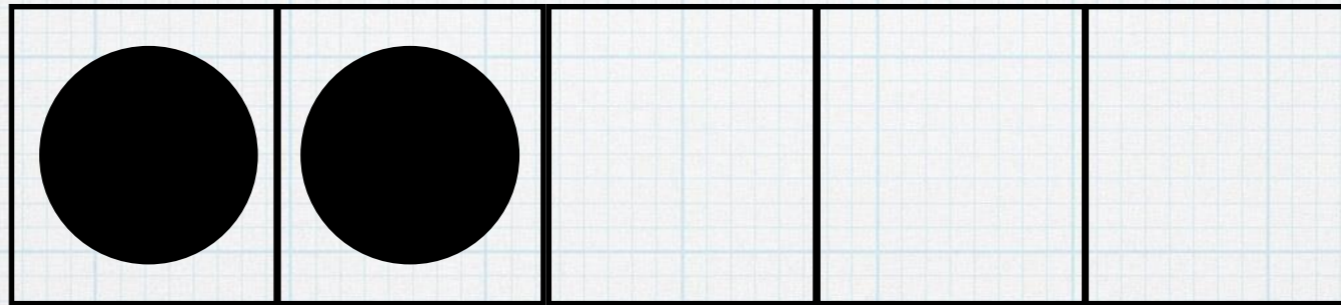
Which number is 1 more than 3?

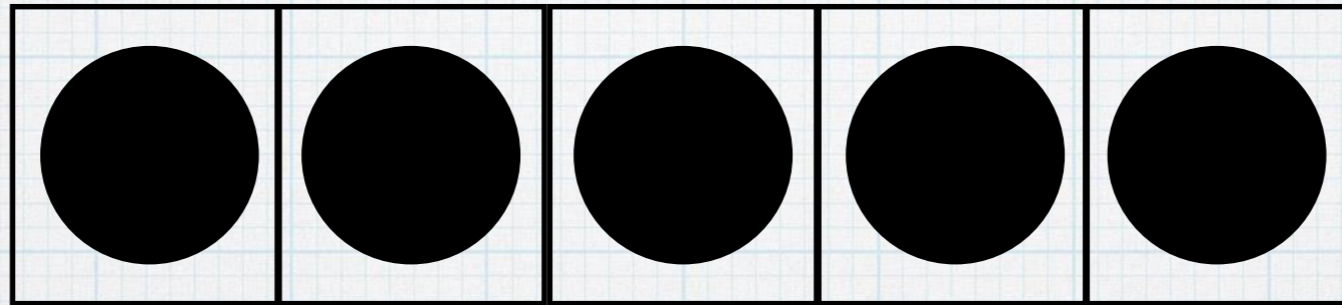


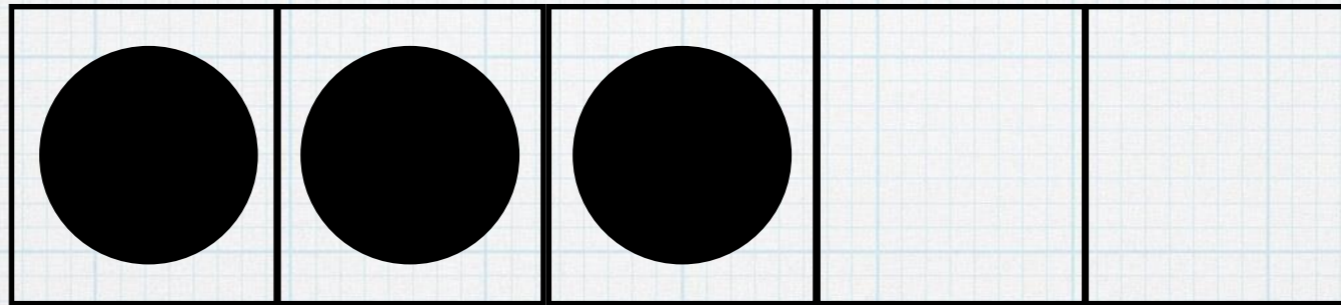
4 is one more than 3.





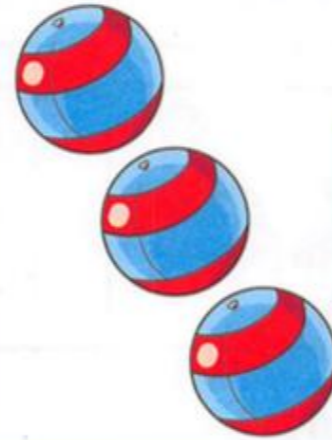
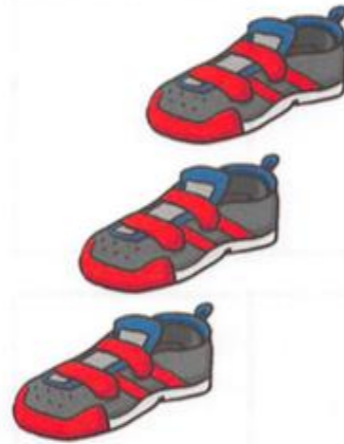






1	2	3	4	5
----------	----------	----------	----------	----------

Count and write.





3



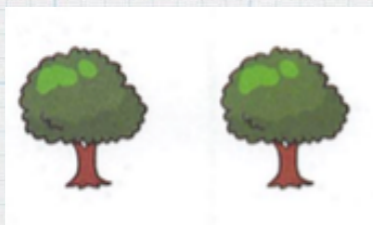
4



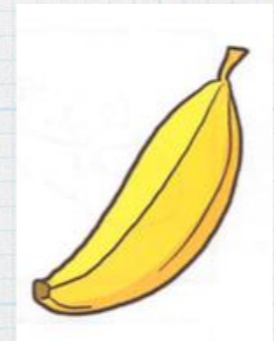
5



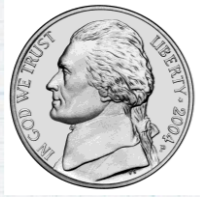
3



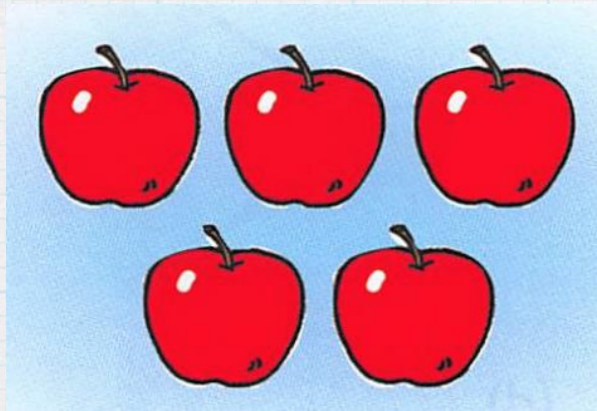
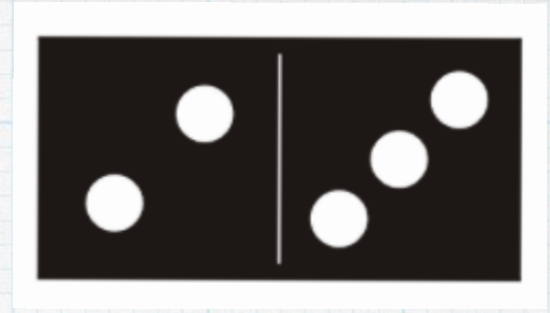
2



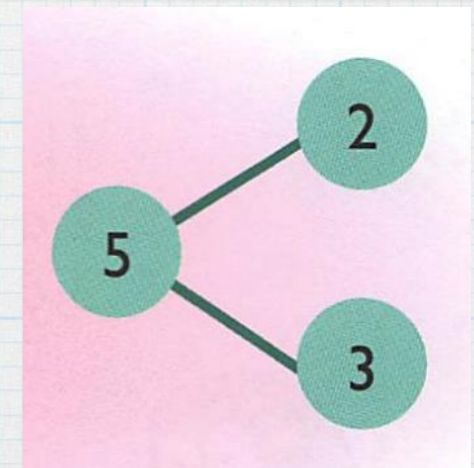
1



five



5

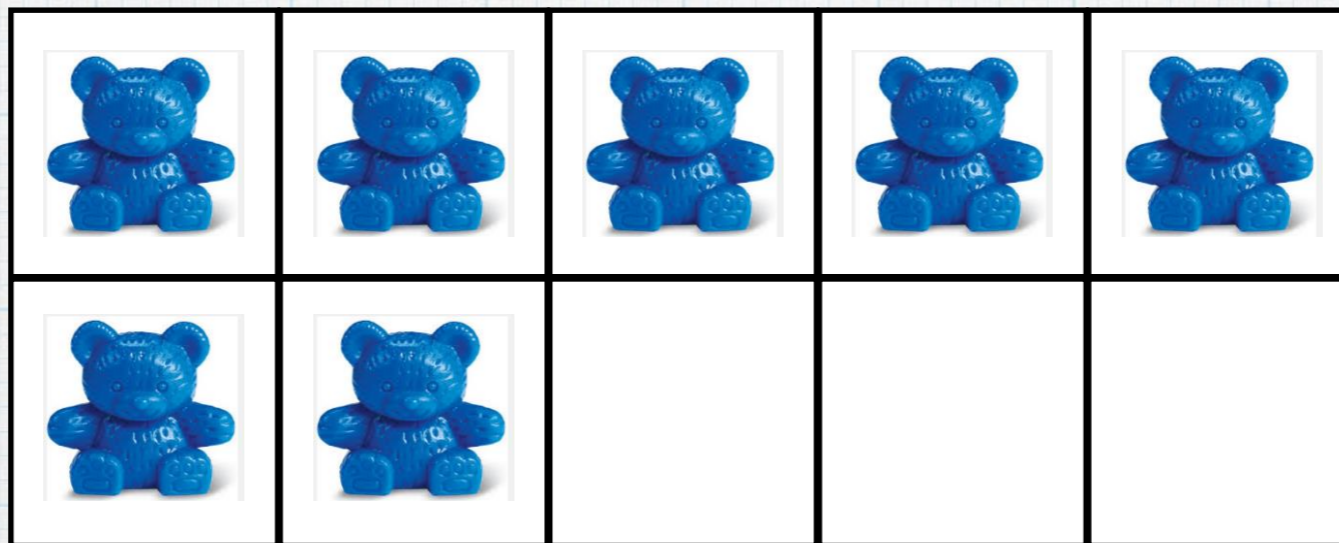


10 Frame

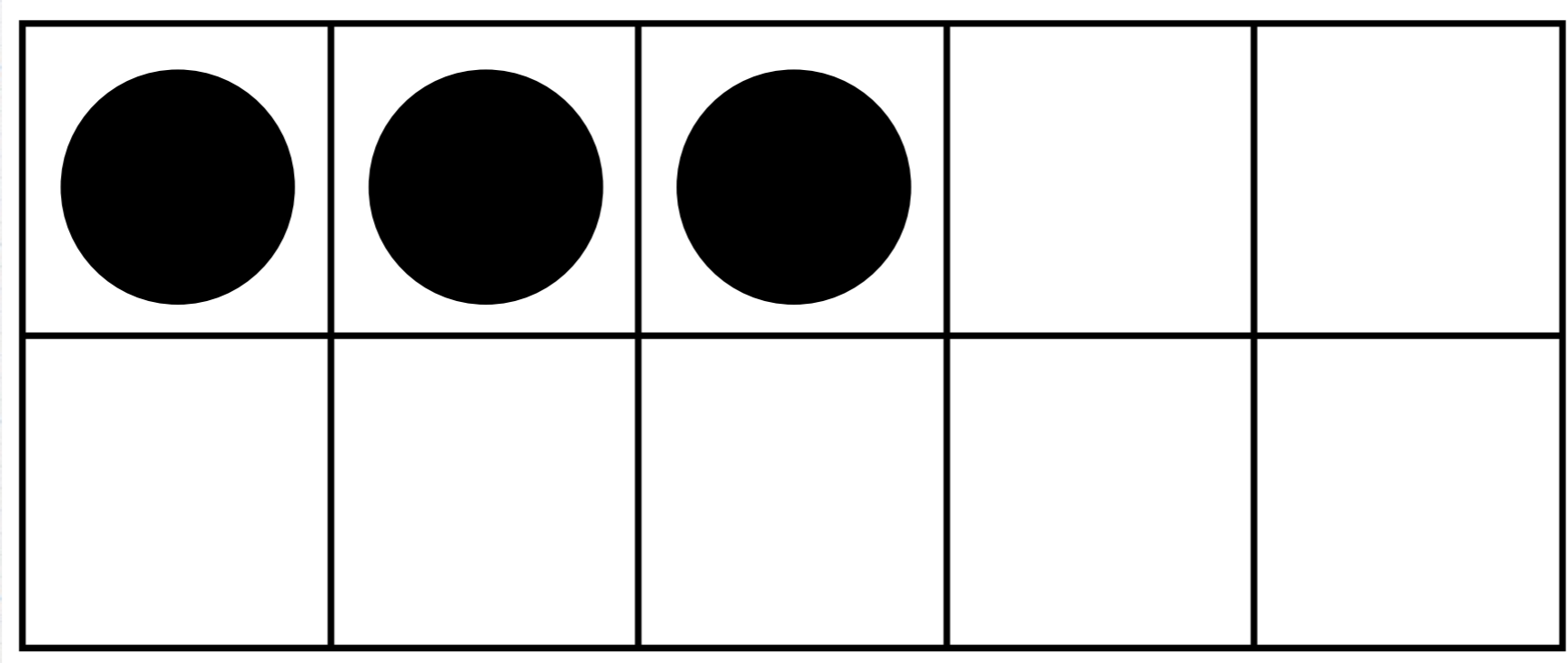
Place 7 blue bears on the ten frame.

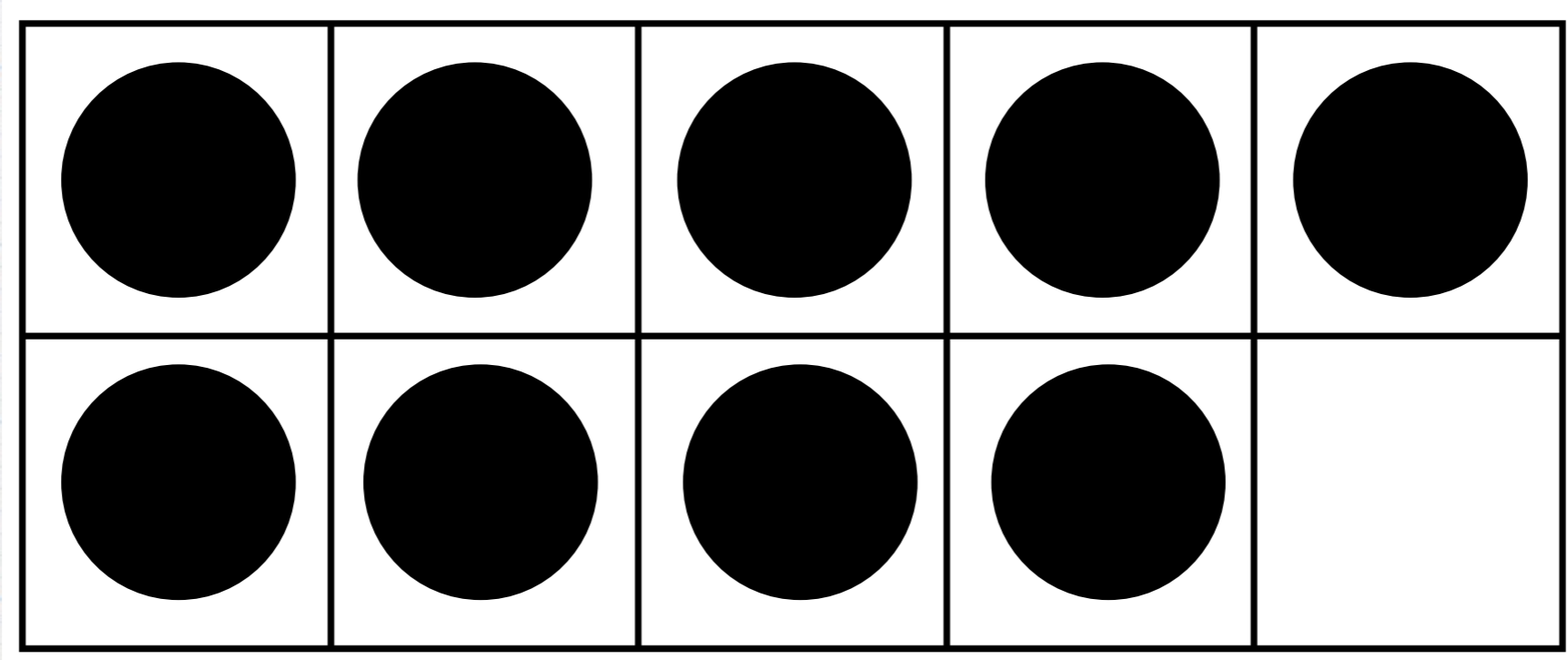
Take 1 bear off the ten frame.

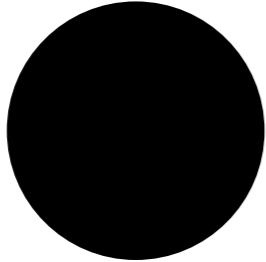
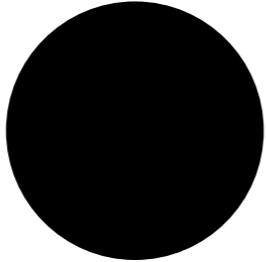
Which number is 1 less than 7?

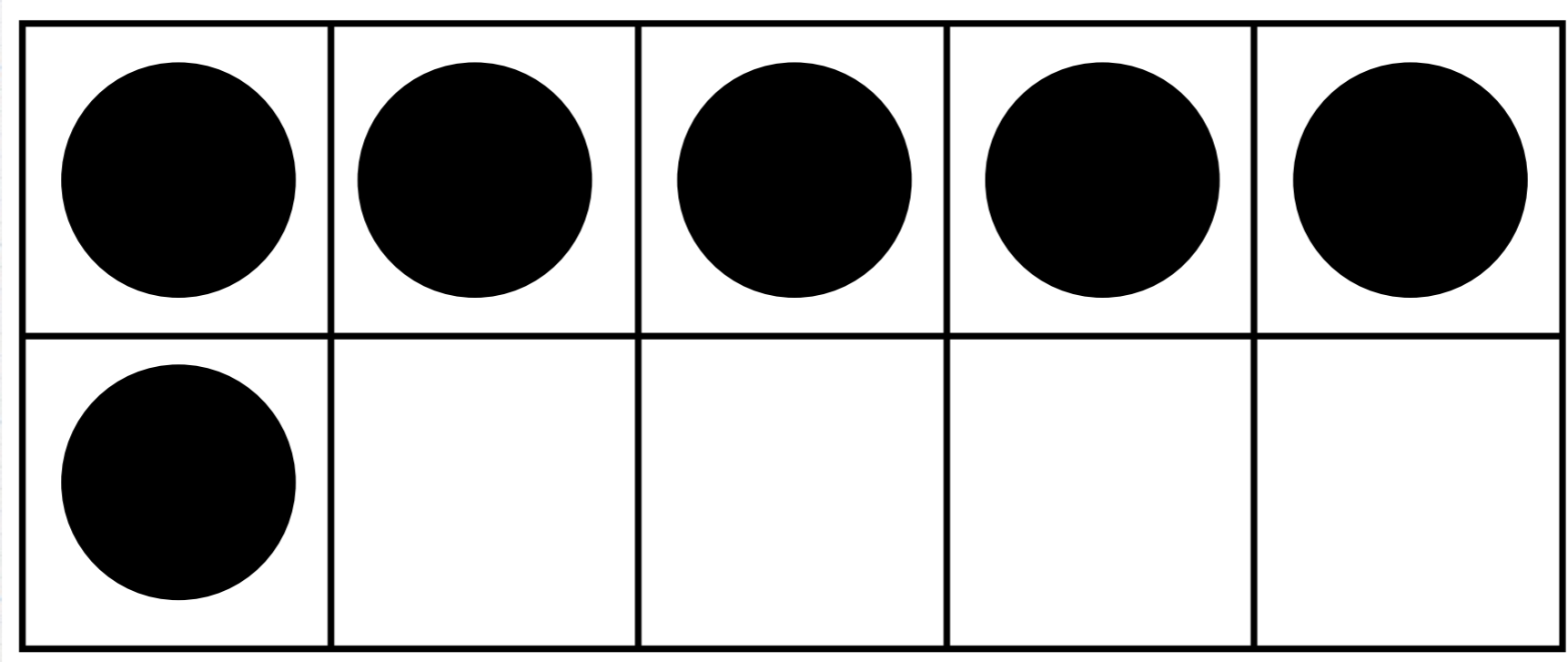


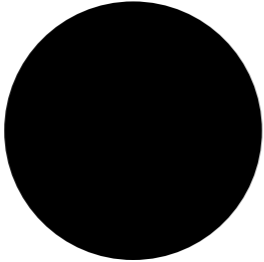
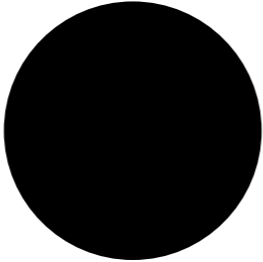
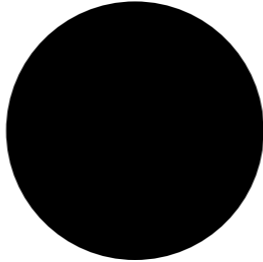
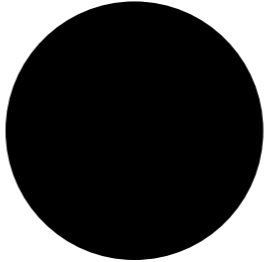
6 is one less than 7.





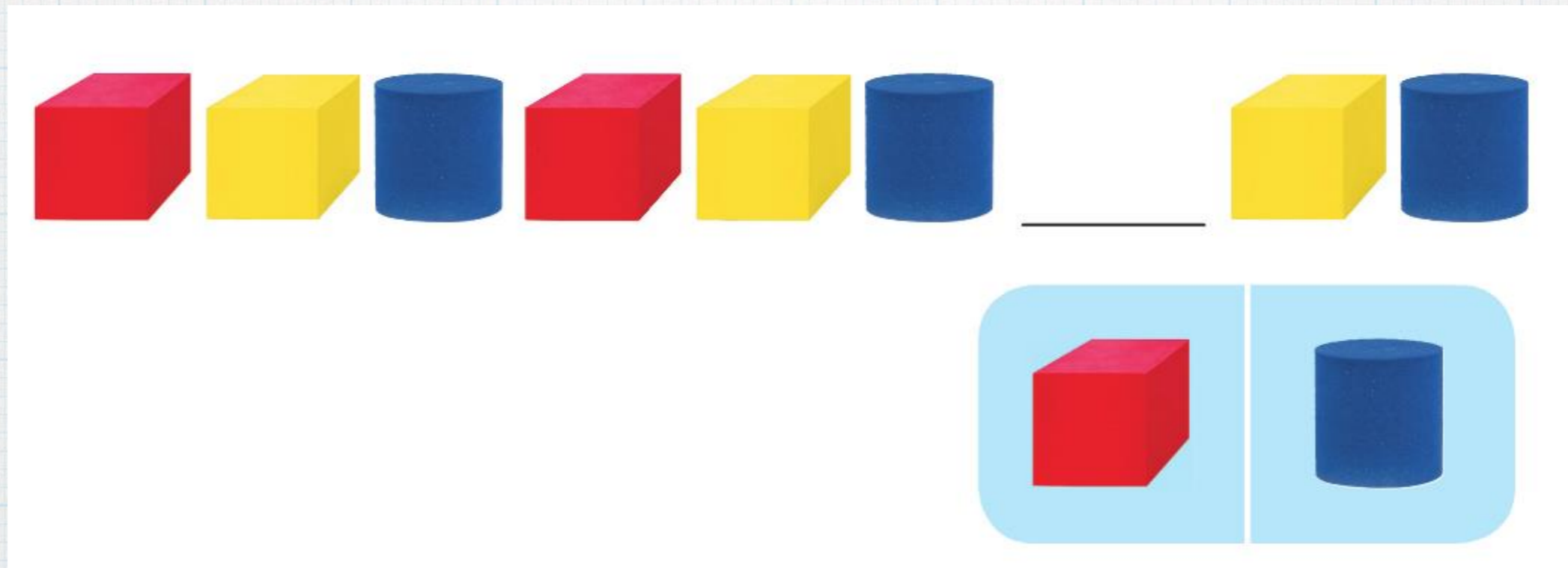
				

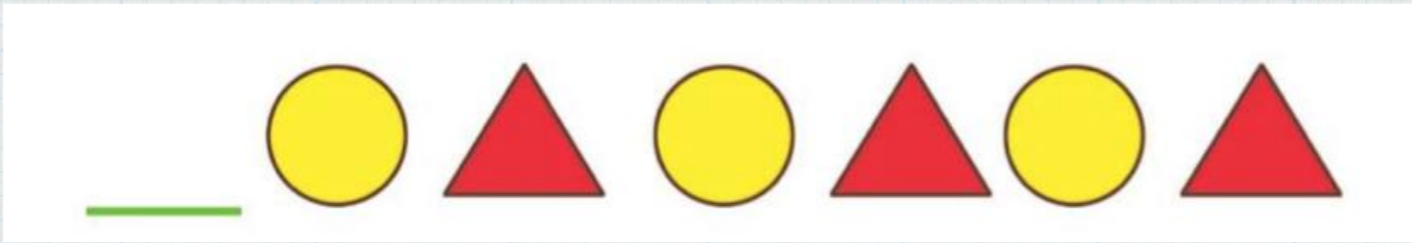
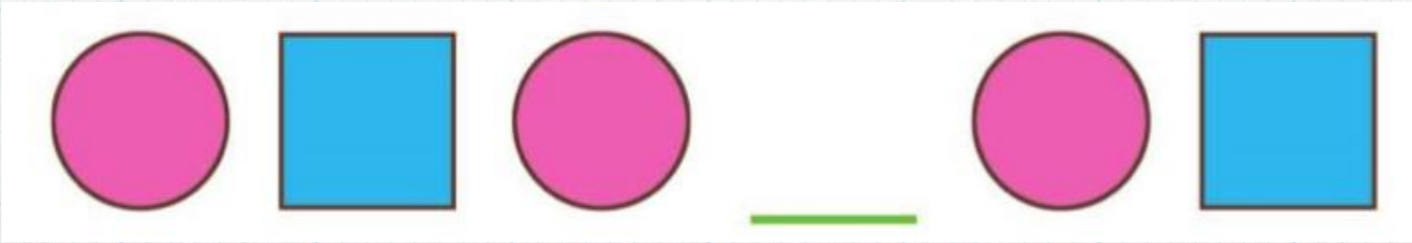
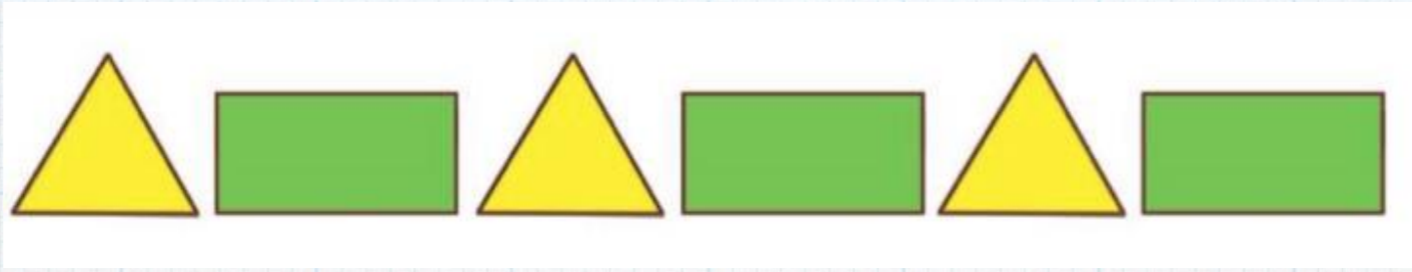




Patterns







Number Patterns

1

2

3

4

4

5

6

7

8

7

6

5

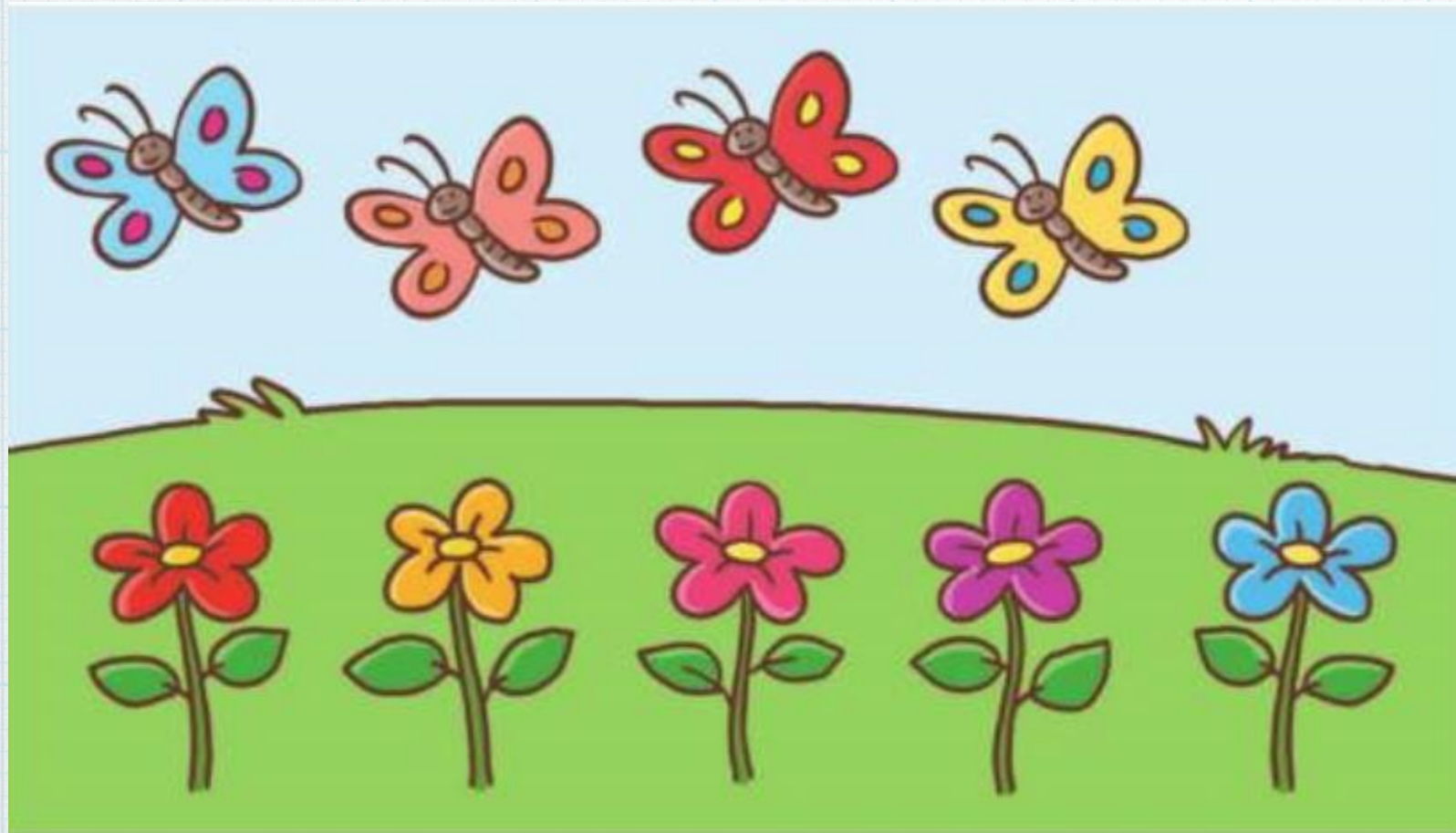
9

8

6

5

Comparing Numbers



Vocabulary

same

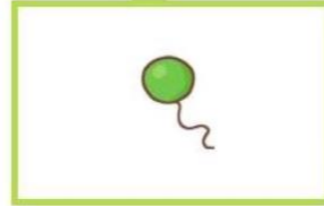
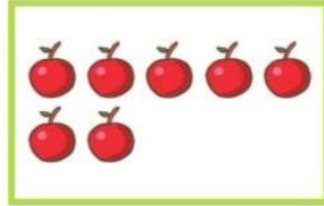
more

fewer

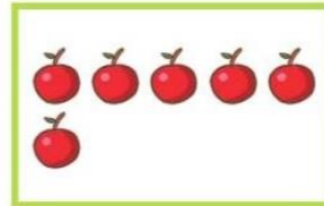
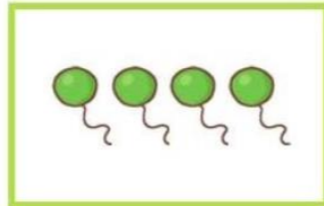
greater than

less than

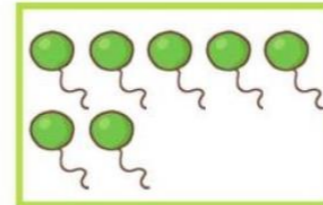
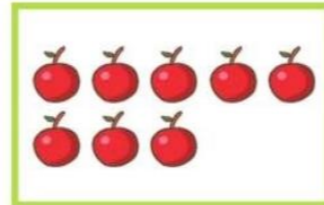
Which group has fewer than 3?



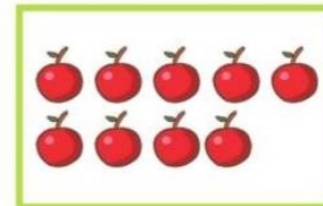
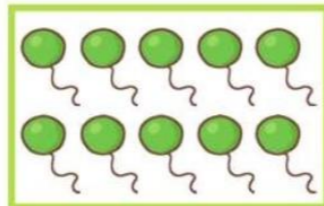
Which group has fewer than 5?



Which group has fewer than 7?



Which group has fewer than 9?



Which numbers are greater than 5?

7

4

8

2

9

3

6

Which numbers are less than 6?

5

2

7

3

9

4

8

Which number is greater?

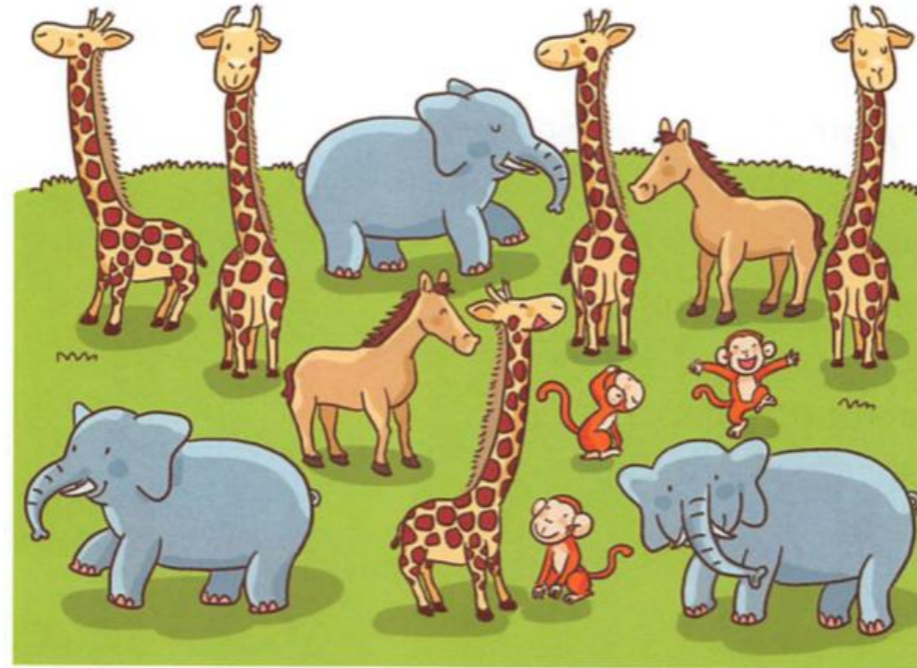
7 or 3


Which number is less?

5 or 6


Gathering and Interpreting Data

Showing data with pictures



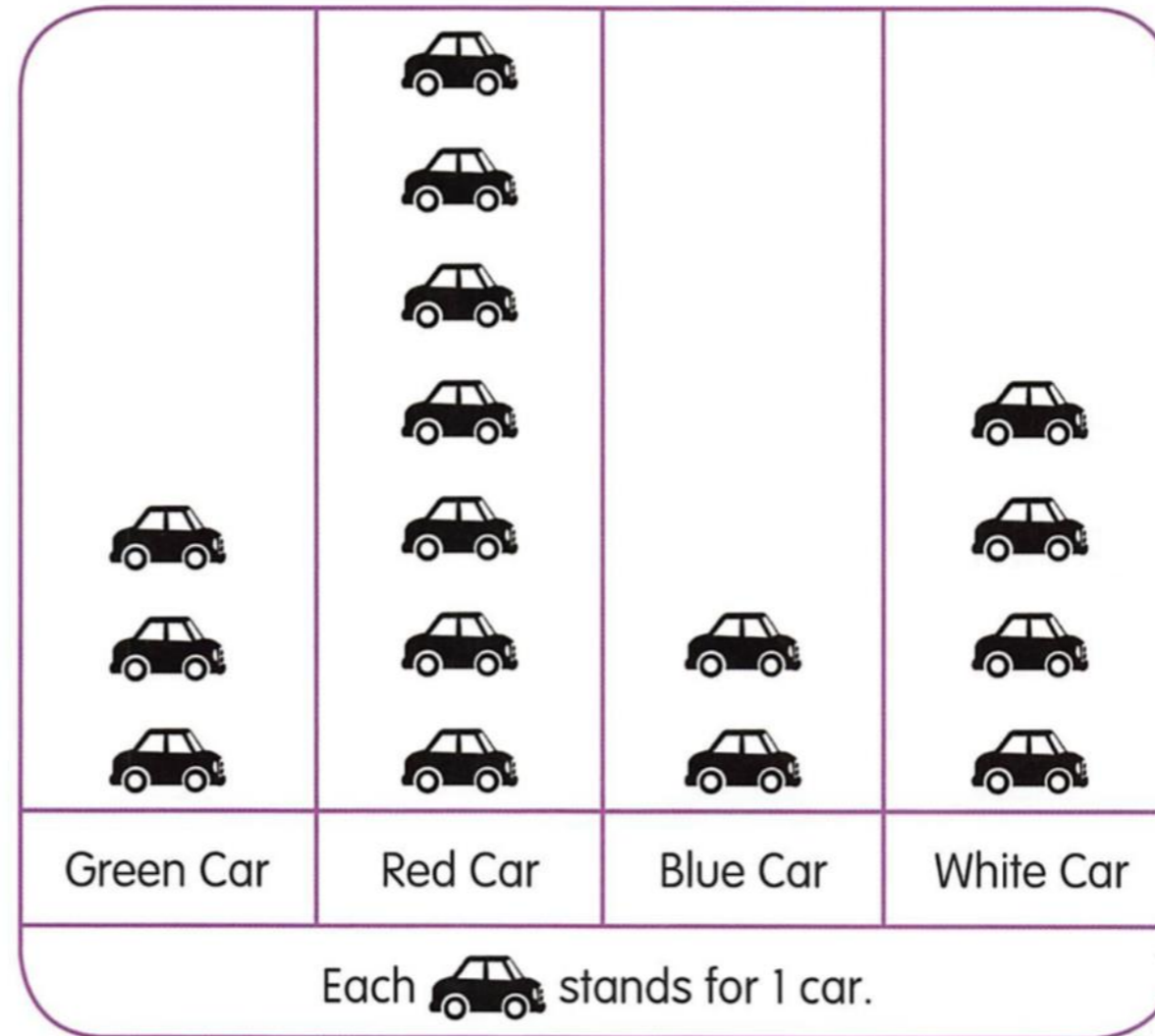
There are 5 

There are 3 

There are 3 

There are 2 

Cars in a Parking Lot



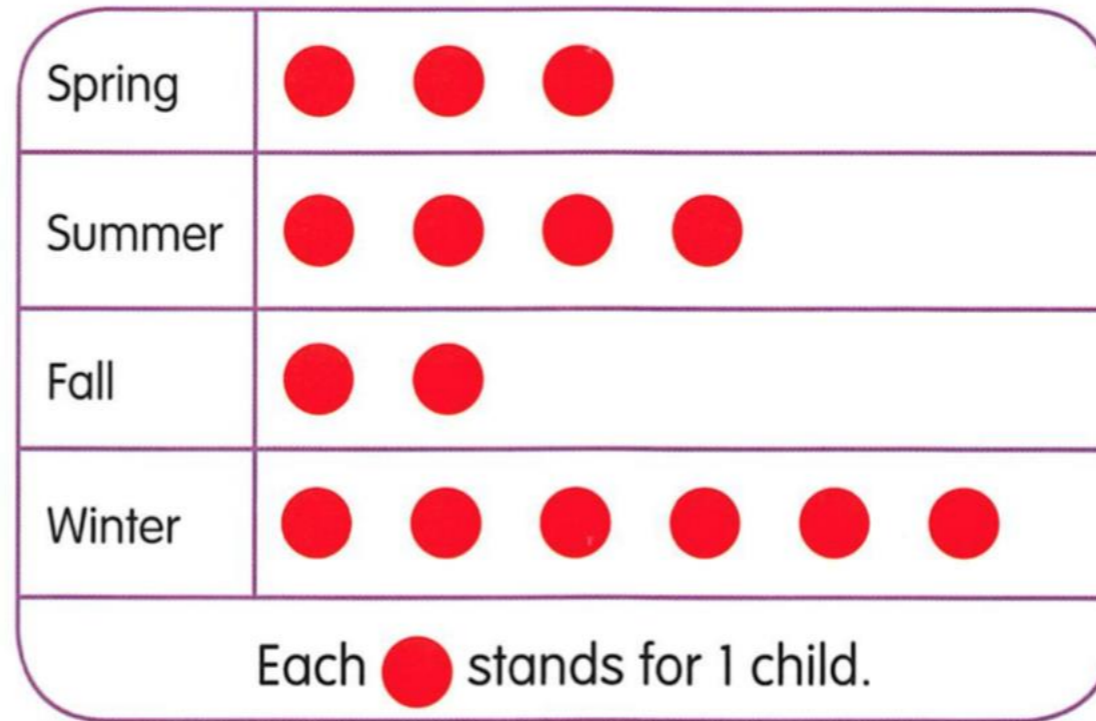
How many blue cars are there?

How many red cars and white cars are there in all?

How many more red cars than green cars are there?

How many cars are **not** green?

Favorite Seasons









Winter is the favorite season of children.

is the favorite season of 4 children.


How many children chose spring or fall as their favorite season?

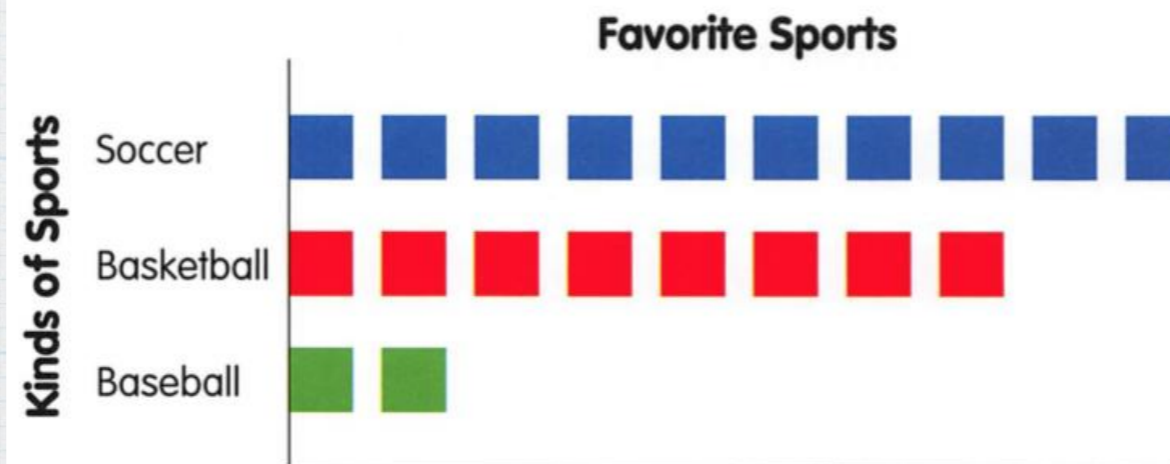
Which is the most popular season?

is the favorite season of the fewest children.

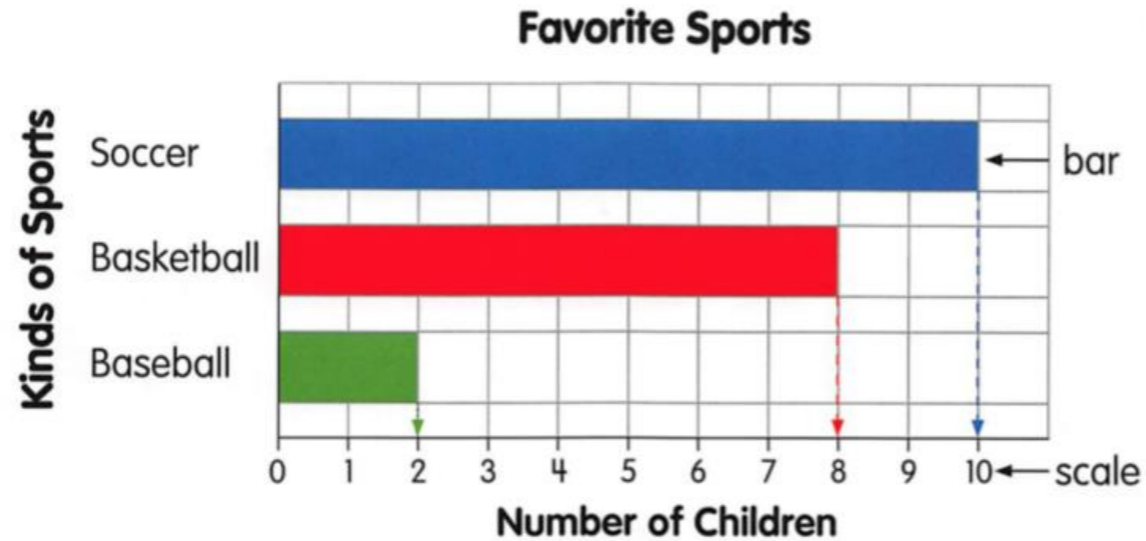
Kinds of Sports	Tally	Number of Children
 Soccer		10
 Basketball		8
 Baseball		2

The tally chart shows the number of children who choose each sport as their favorite.

Mrs. Hanson shows the data using a picture graph. She uses  to stand for 1 child.



Then Mrs. Hanson shows the same data in a bar graph.



Use the scale to find the number of children.



Mrs. Hanson reads the bar graph.
Soccer is the favorite sport of 10 children.
Basketball is the favorite sport of 8 children.
Baseball is the favorite sport of 2 children.

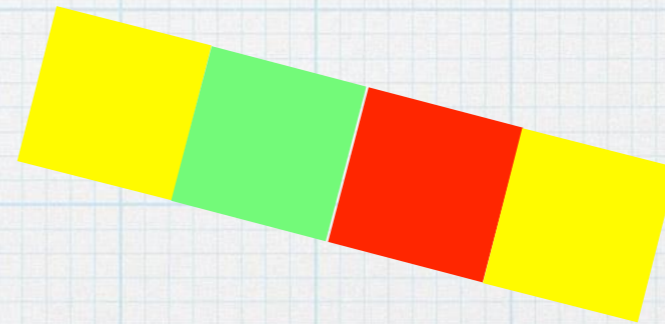
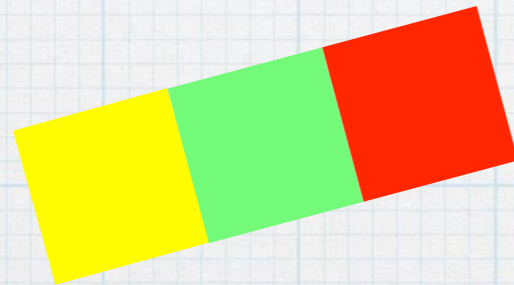
To read a bar graph, find the end of the bar and look for the number on the scale.



A **bar graph** uses the lengths of bars and a scale to show data.

Decomposing Numbers

7



3

4

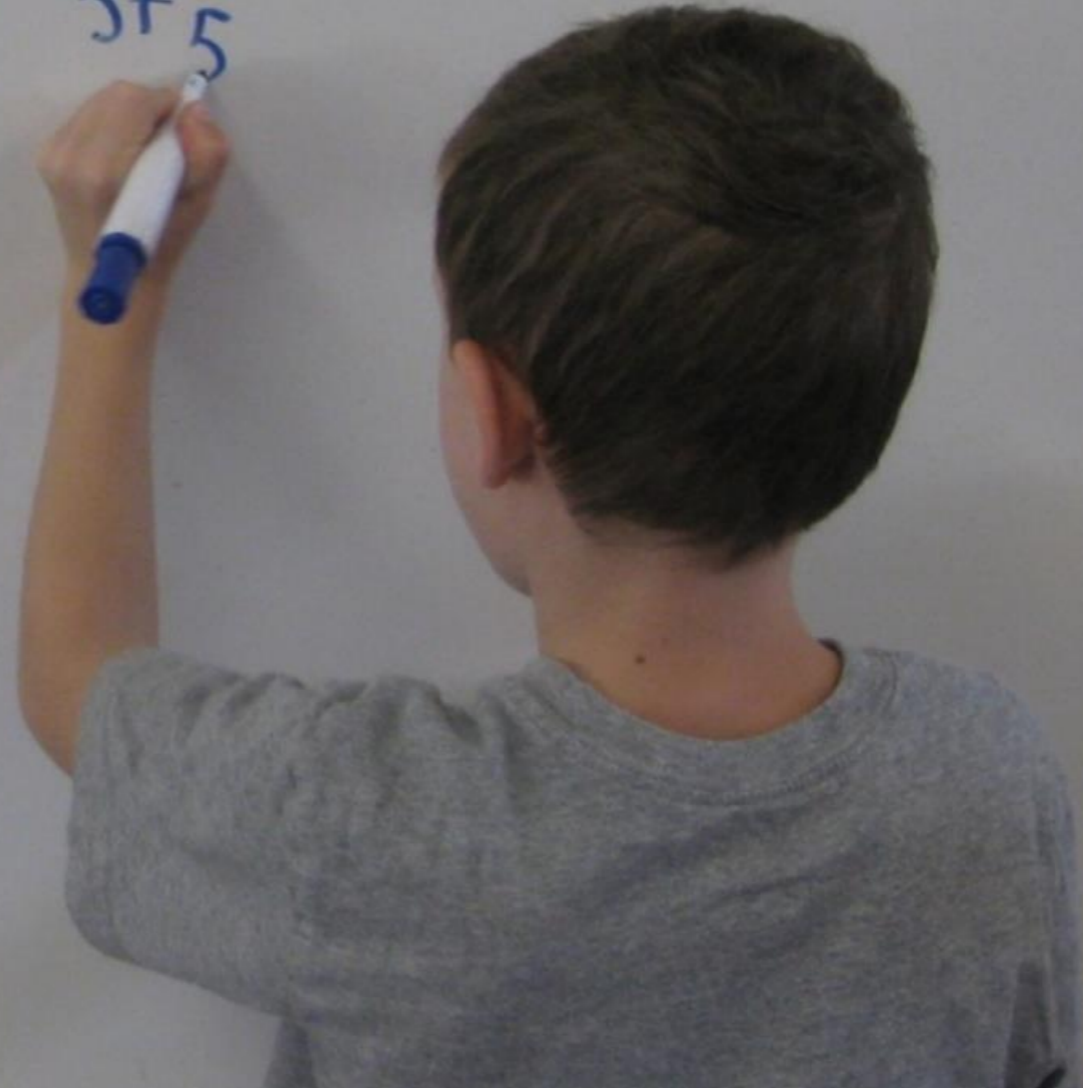
10
1 + 9 = 10

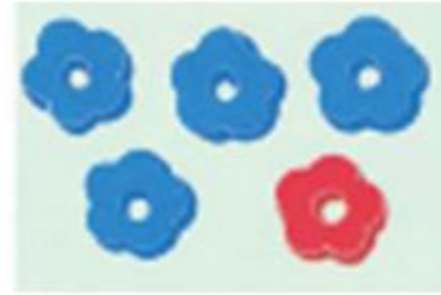
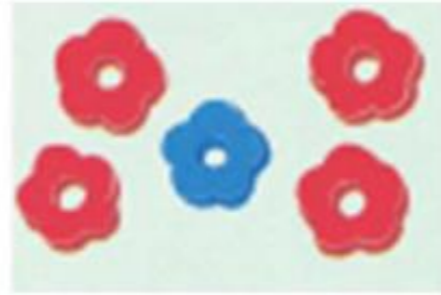
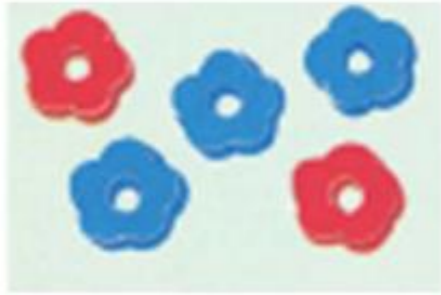
10
8 + 2 = 10

10
5 + 5

10
6 + 4

10
3 + 7





5 is 1 and 4

5 is 2 and 3

5 is 3 and 2

5 is 4 and 1

5 is and

$5 = \square + \square$

1 and 4 make 5

2 and 3 make 5

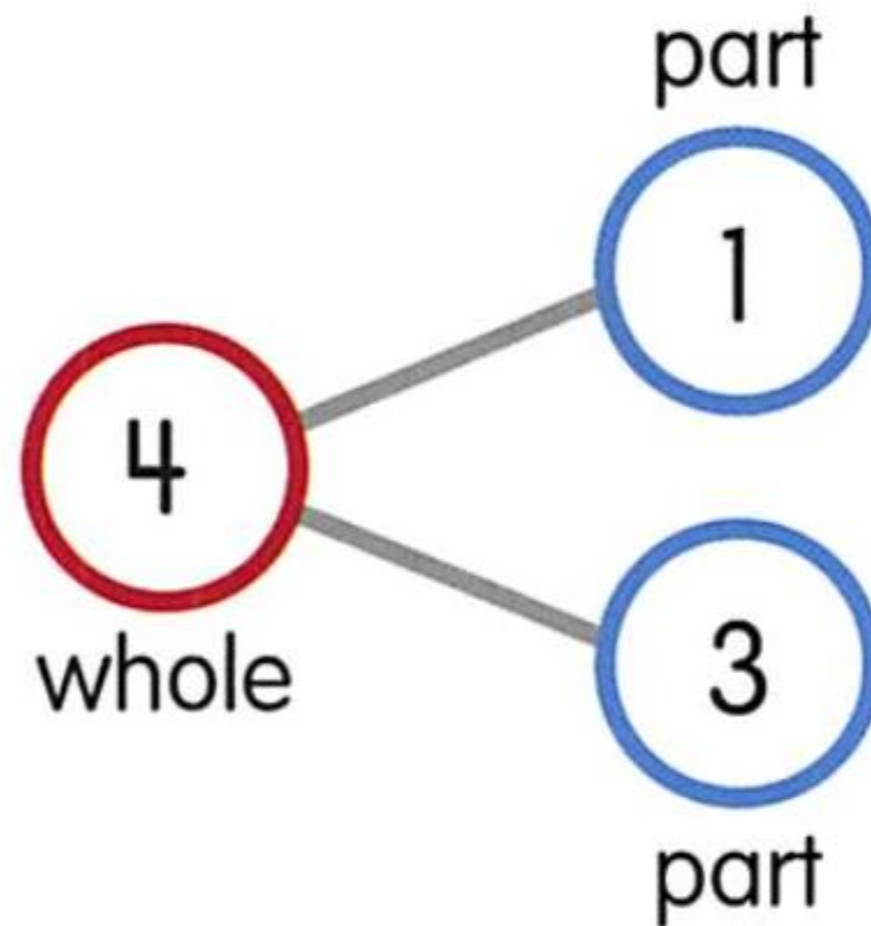
3 and 2 make 5

4 and 1 make 5

and make 5

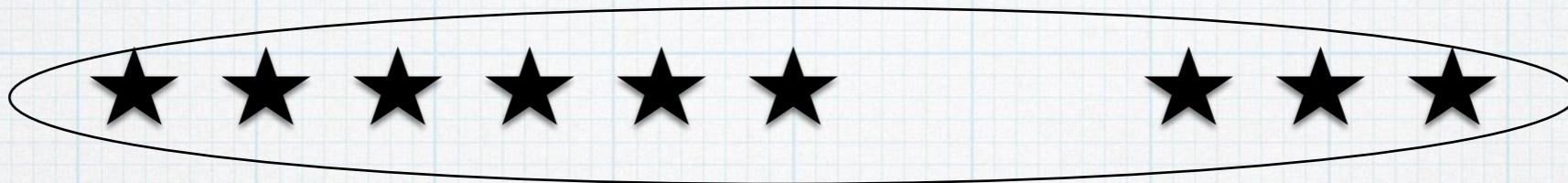
$\square + \square = 5$

Number Bonds



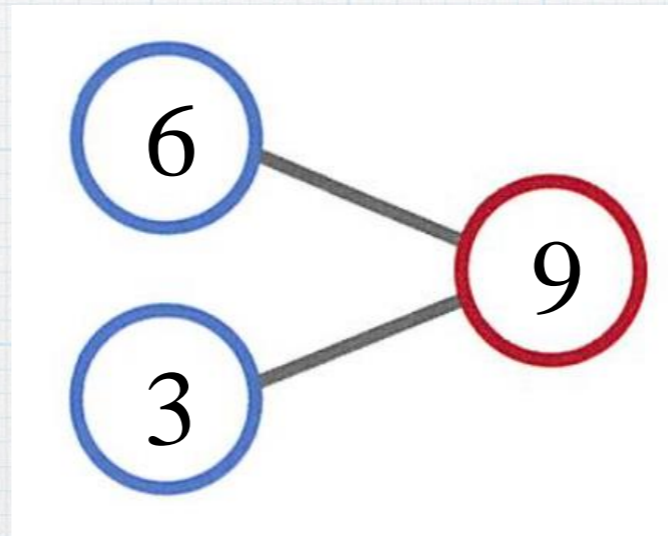
There are 2 groups of stars.

The stars are in 2 parts.



One part has 6.

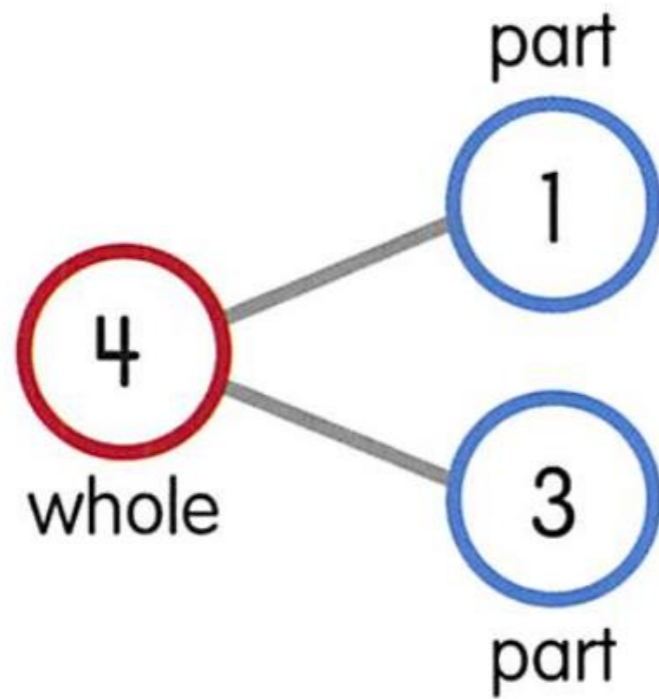
One part has 3.



There are 9 stars all together.

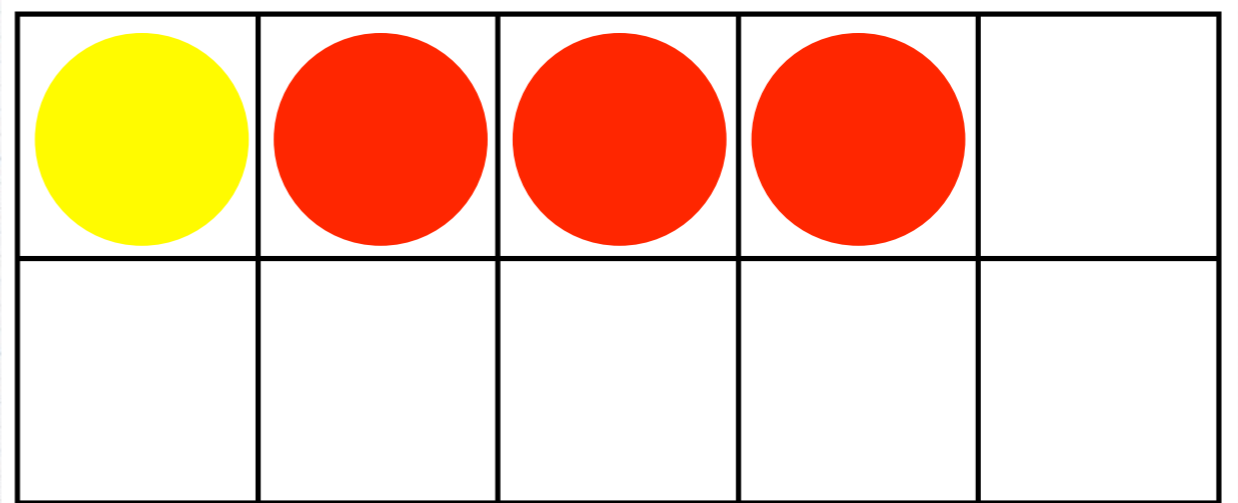
The whole is 9.





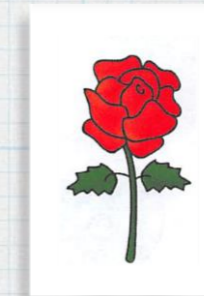
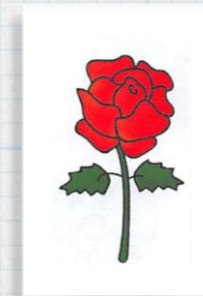
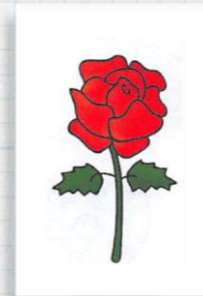
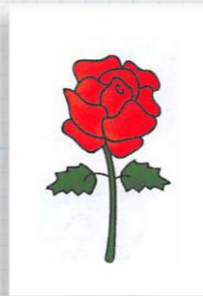
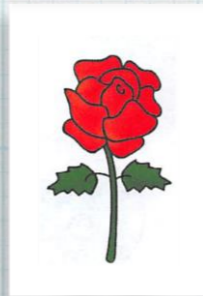
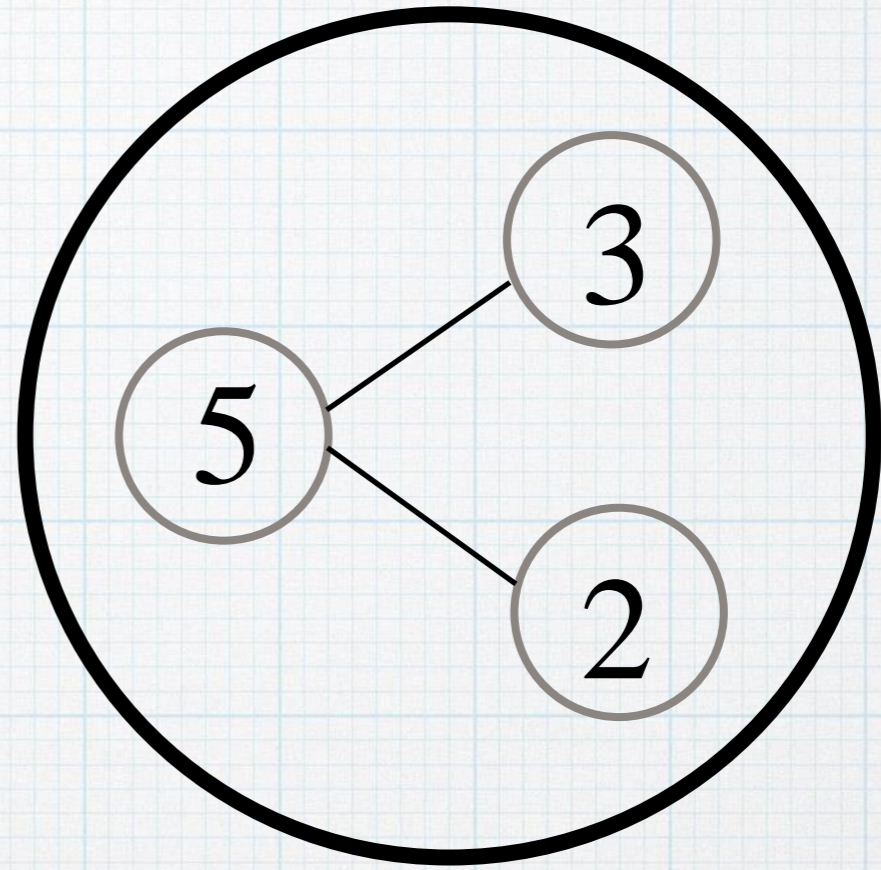
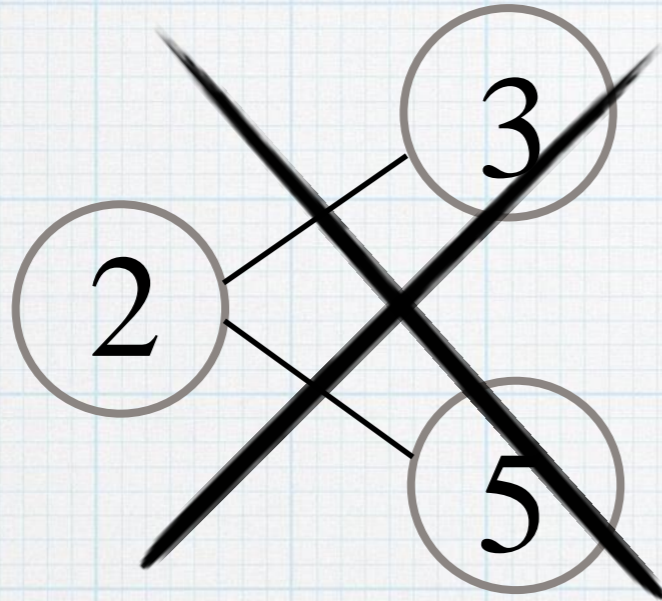
$$1 + 3 = 4$$

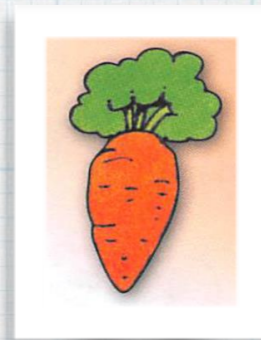
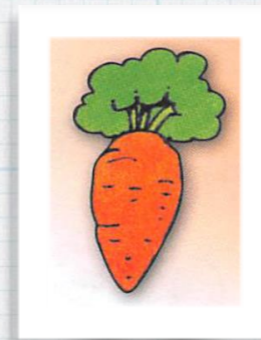
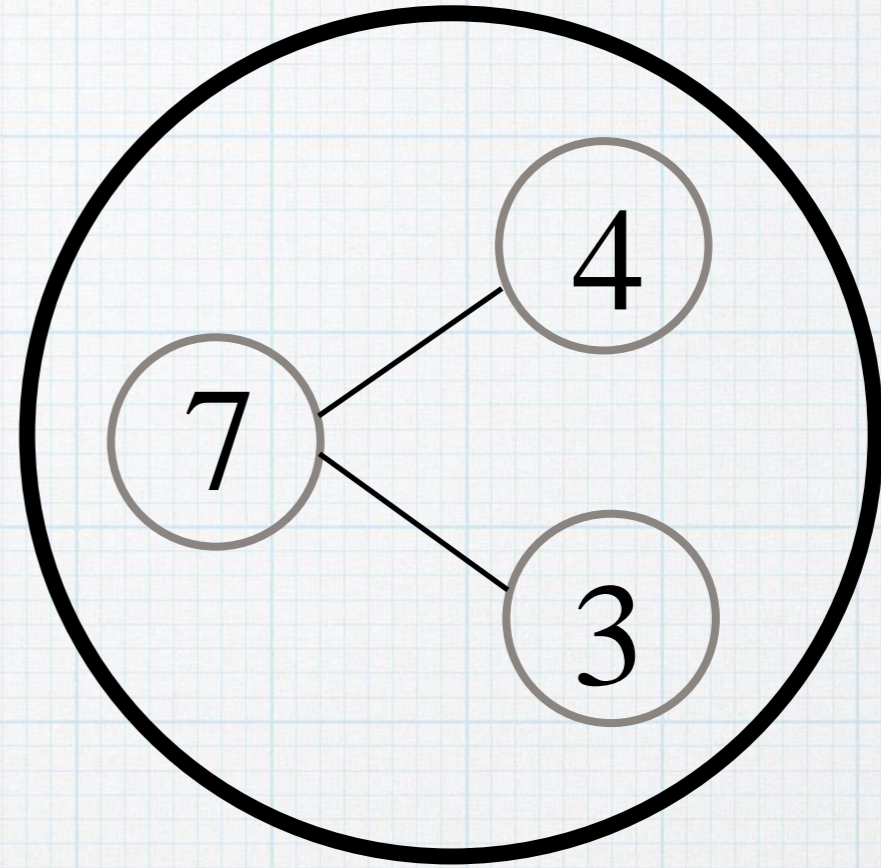
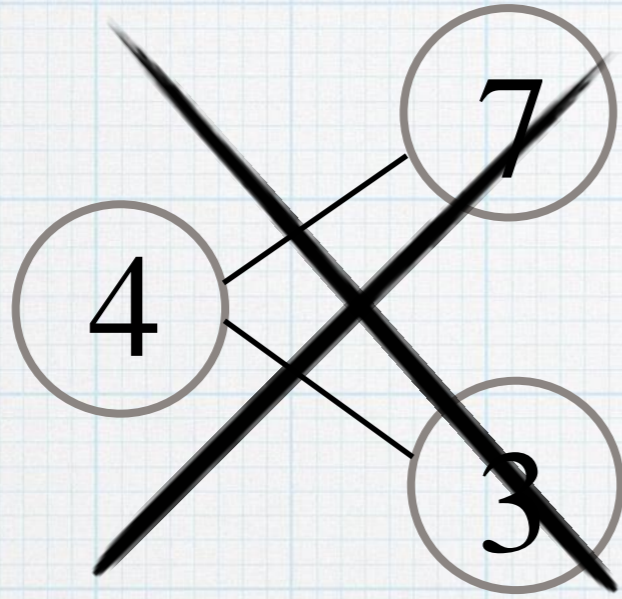
$$3 + 1 = 4$$

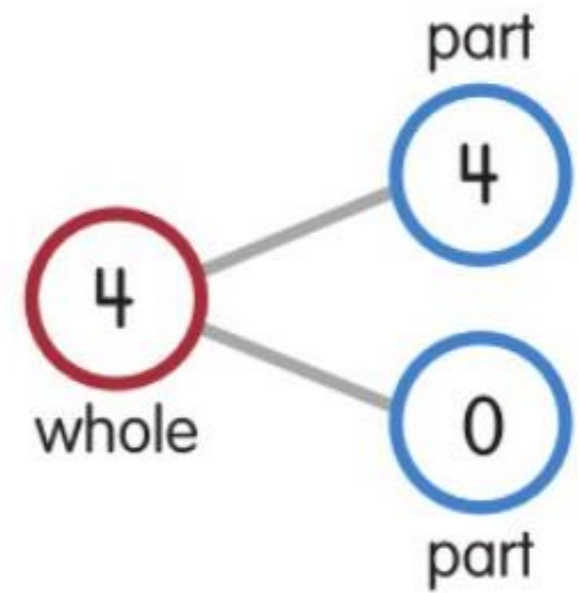
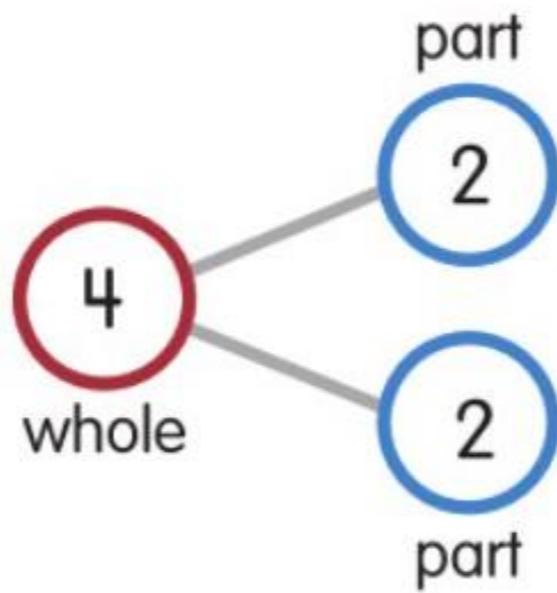
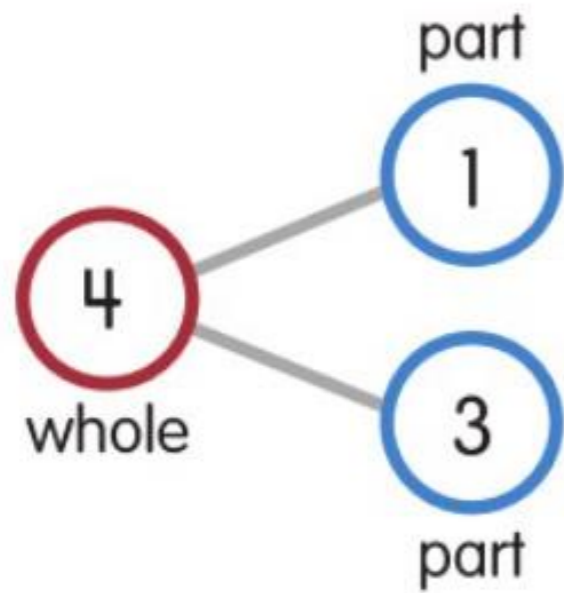


$$4 - 3 = 1$$

$$4 - 1 = 3$$



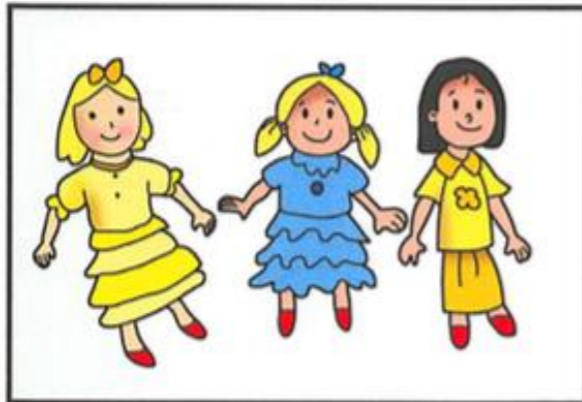




Whole



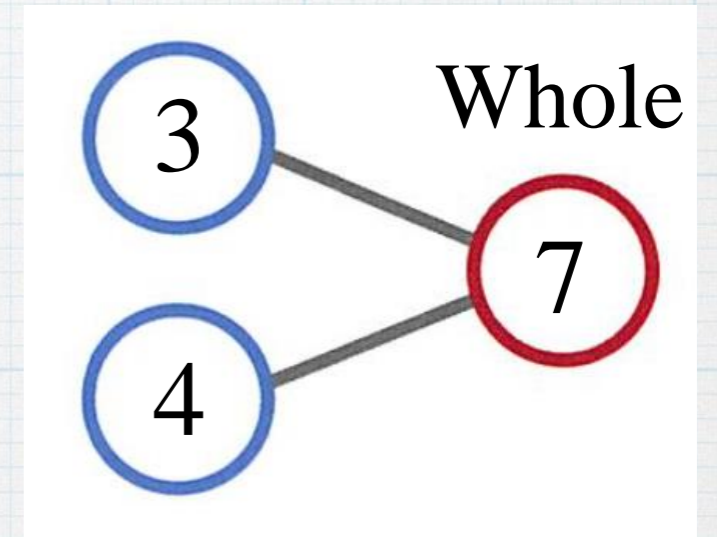
Part



Part



Part



Part

Number bonds

There are 6 ribbons in all.



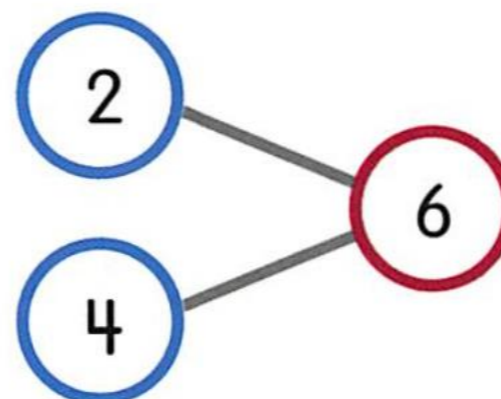
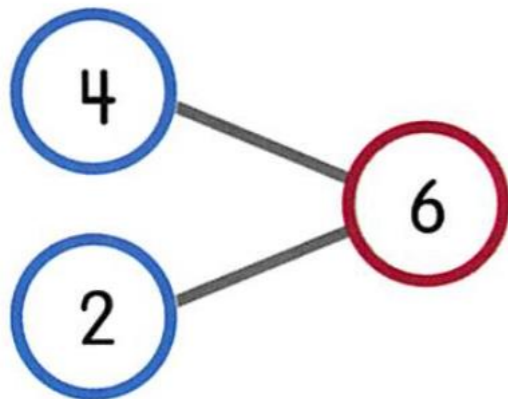
4 red ribbons



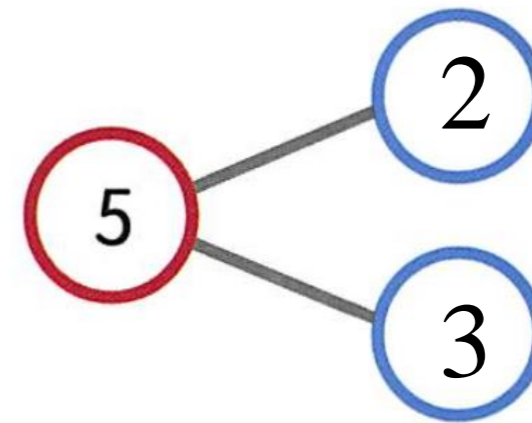
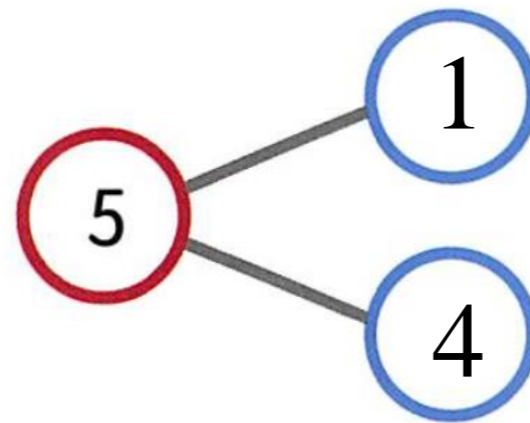
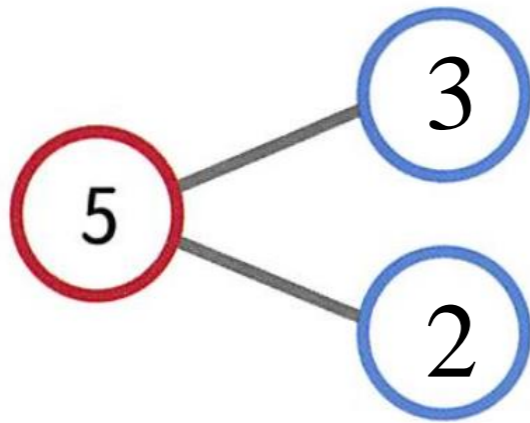
2 blue ribbons

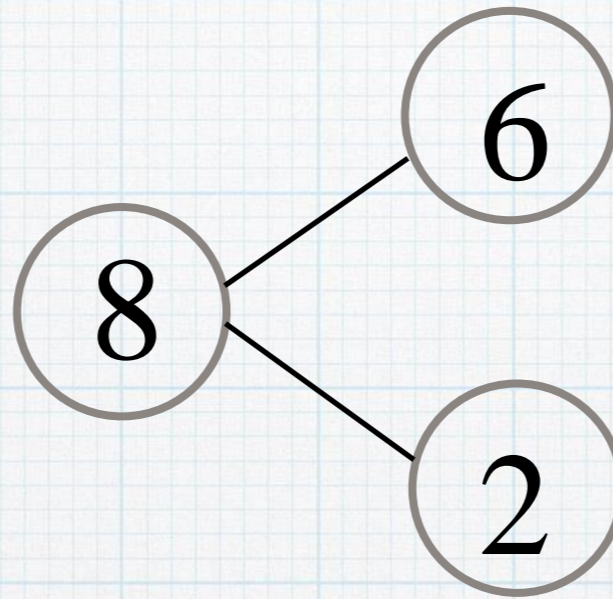
4 and 2 make 6.

4, 2, and 6 make a number bond.



What numbers make 5?

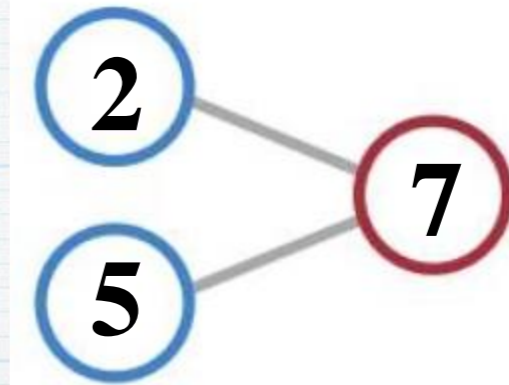




You add the parts to find the whole.

$6 + 2 = 8$ is an **addition sentence**.

Read it as, "Six plus two is **equal to** eight."



- 2 big teddy bears are on the table.
- 5 small teddy bears are on the table.

$$2 + 5 = 7$$

There are 7 teddy bears in all.

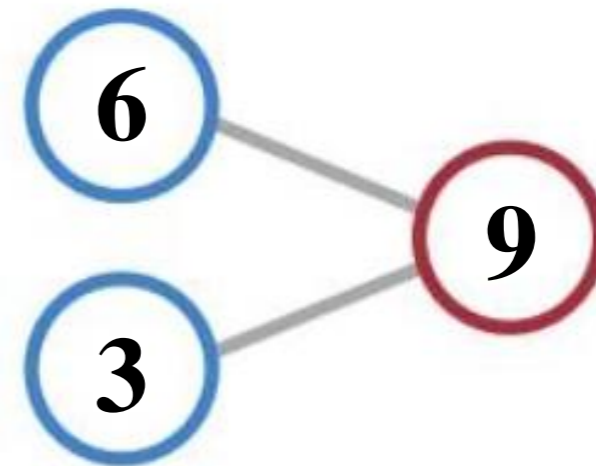


Math in Focus Textbook 1A (Common Core Edition)

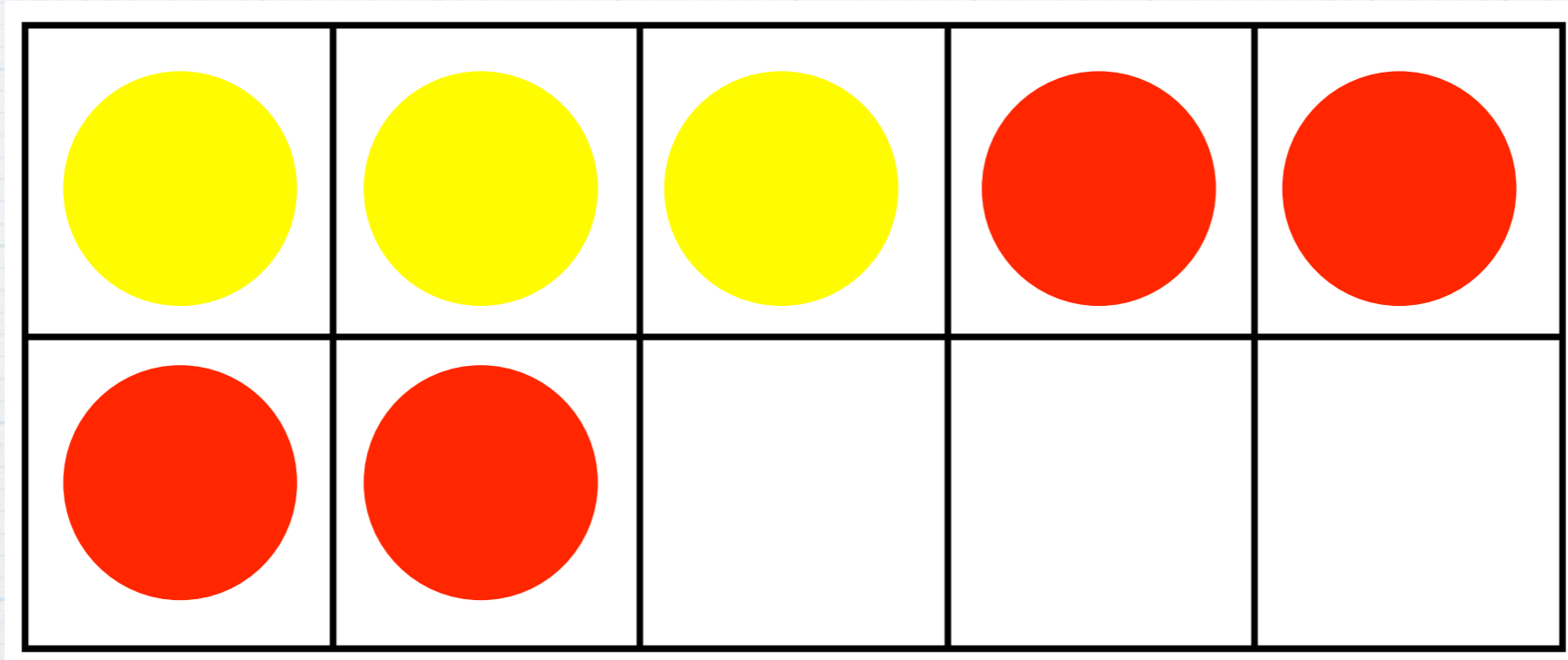
6 girls are playing.
3 boys are playing with them.
How many children are playing in all?

$$6 + 3 = \underline{9}$$

9 children are playing in all.

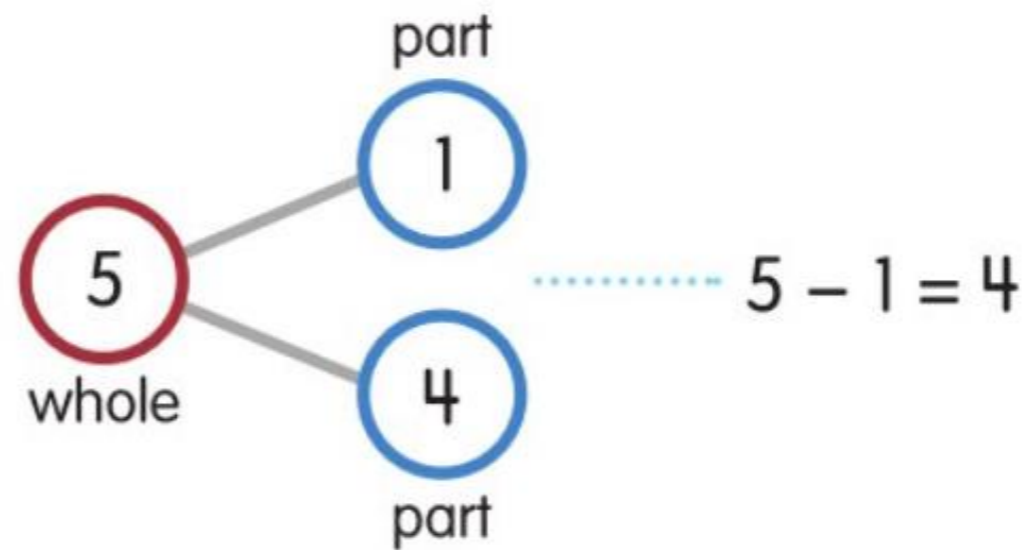


$$3 + 4 = 7$$



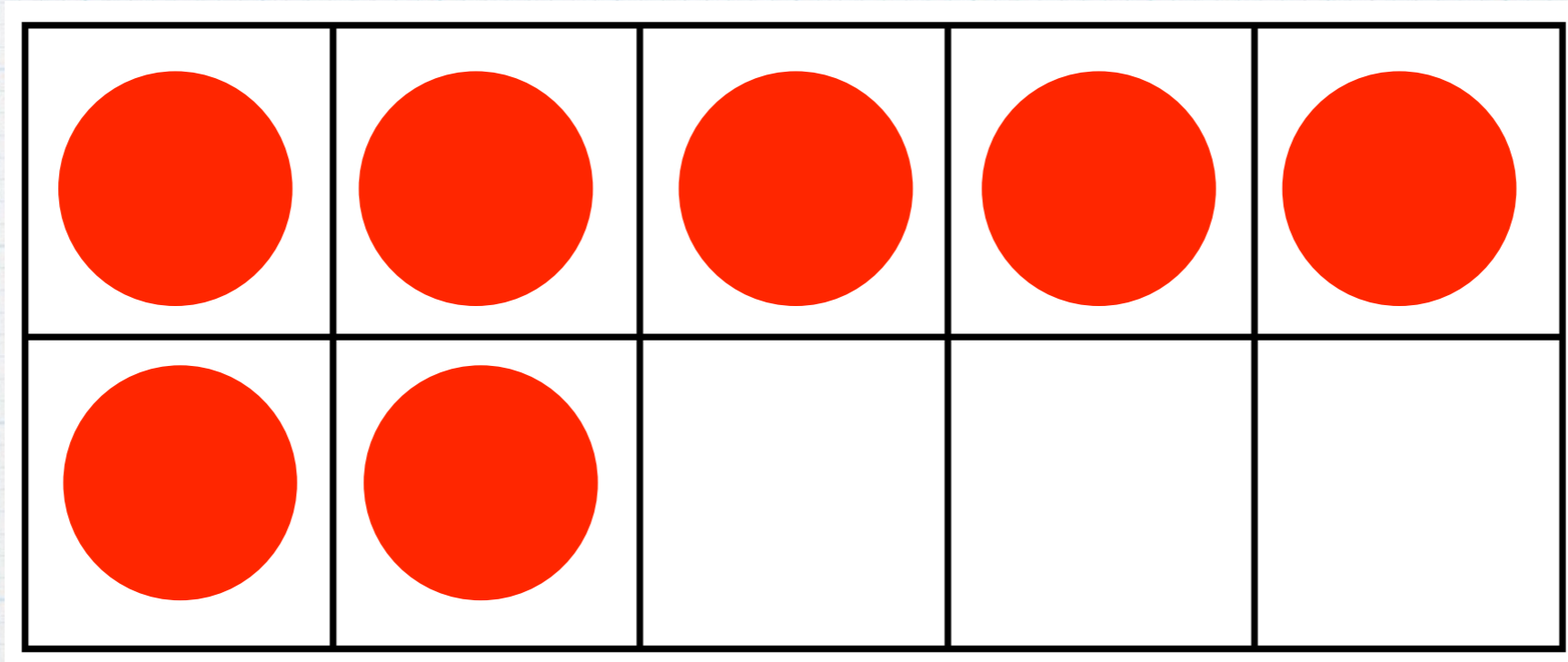
You can use number bonds to help you subtract.

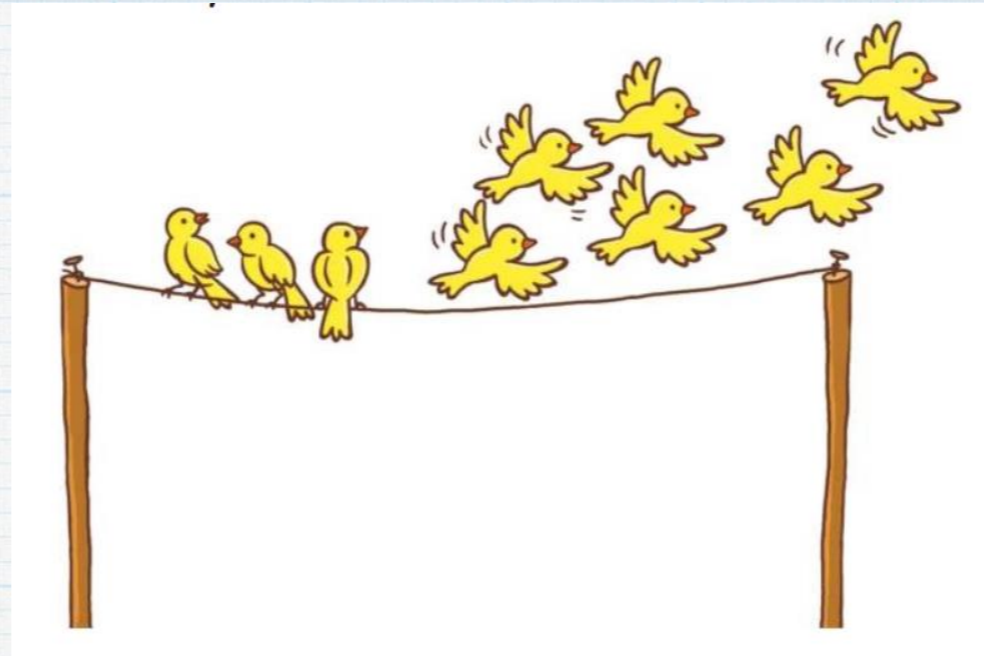
How many strawberries are left on the plate?



4 strawberries are left on the plate.

$$7 - 2 = 5$$



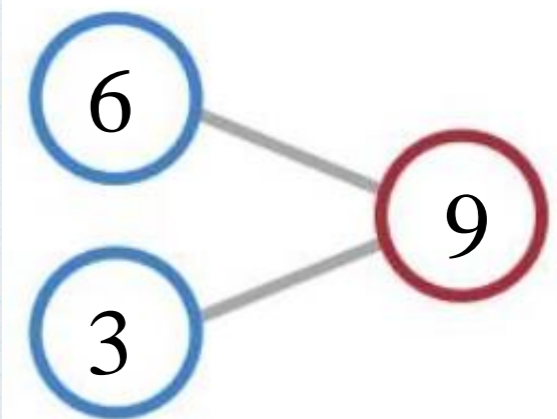


Math in Focus Textbook 1A (Common Core Edition)

9 birds are on a wire.
6 birds fly away.
How many birds are still on the wire?

$$9 - 6 = \underline{3}$$

3 birds are still on the wire.





A tree has 7 lemons.
2 of the lemons are yellow.
How many lemons are green?



Math in Focus Textbook 1A (Common Core Edition)



WORKING TOGETHER Game


Roll the Number Cube!

Players: 4

You need:

- one number cube
- base ten blocks

STEP




- 1** Roll the number cube.
Then take this number of .



STEP

- 2** Each player take turns to roll the number cube and take .


STEP

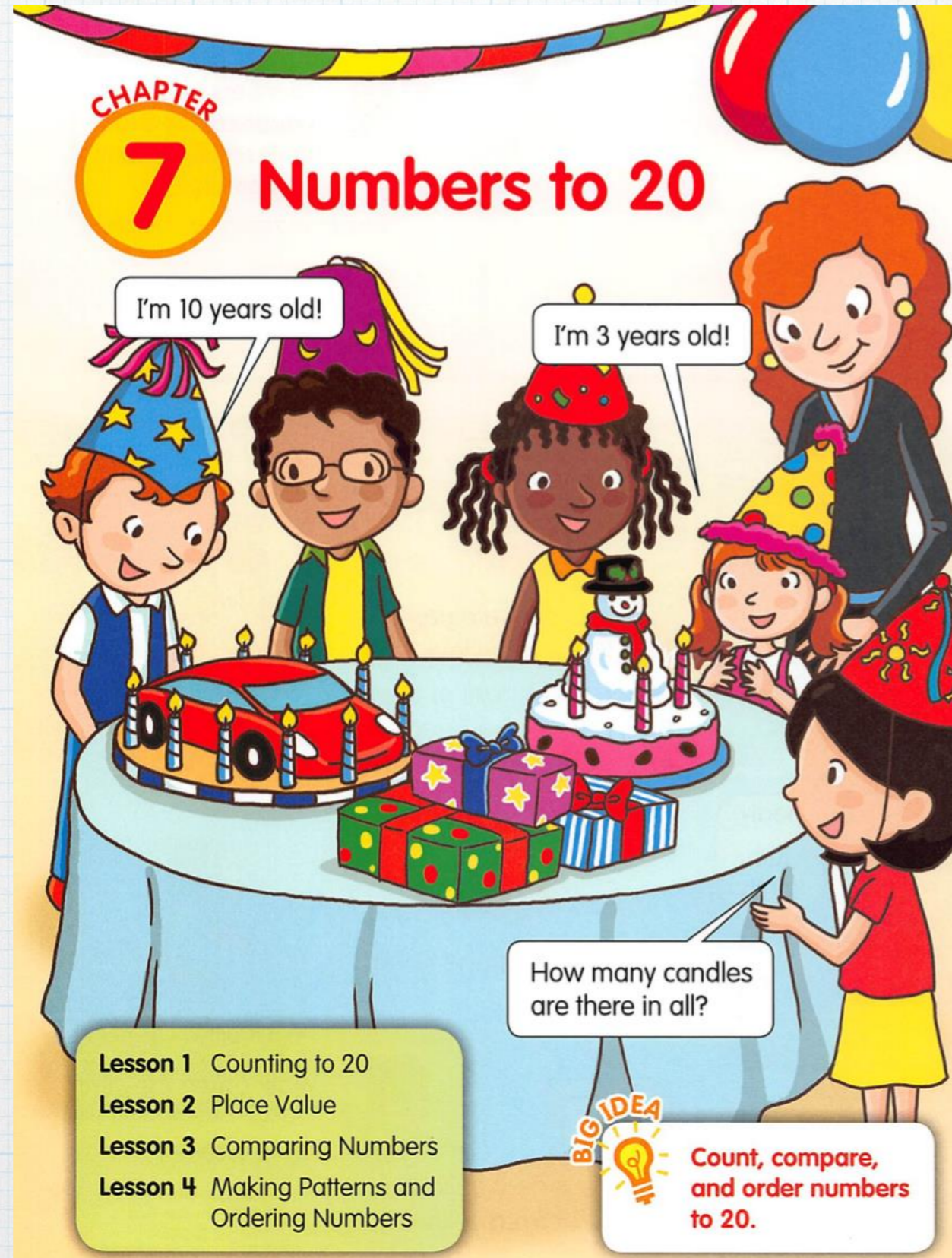
- 3** On your next turn, roll the number cube again.
Then take this number of .
- If you have 10 , trade them for one .



$6 + 4 = 10!$



The first player to get 2  wins!



CHAPTER 7 Numbers to 20

I'm 10 years old!

I'm 3 years old!

How many candles are there in all?

Lesson 1 Counting to 20
Lesson 2 Place Value
Lesson 3 Comparing Numbers
Lesson 4 Making Patterns and Ordering Numbers

BIG IDEA
Count, compare, and order numbers to 20.

LESSON 1 Counting to 20

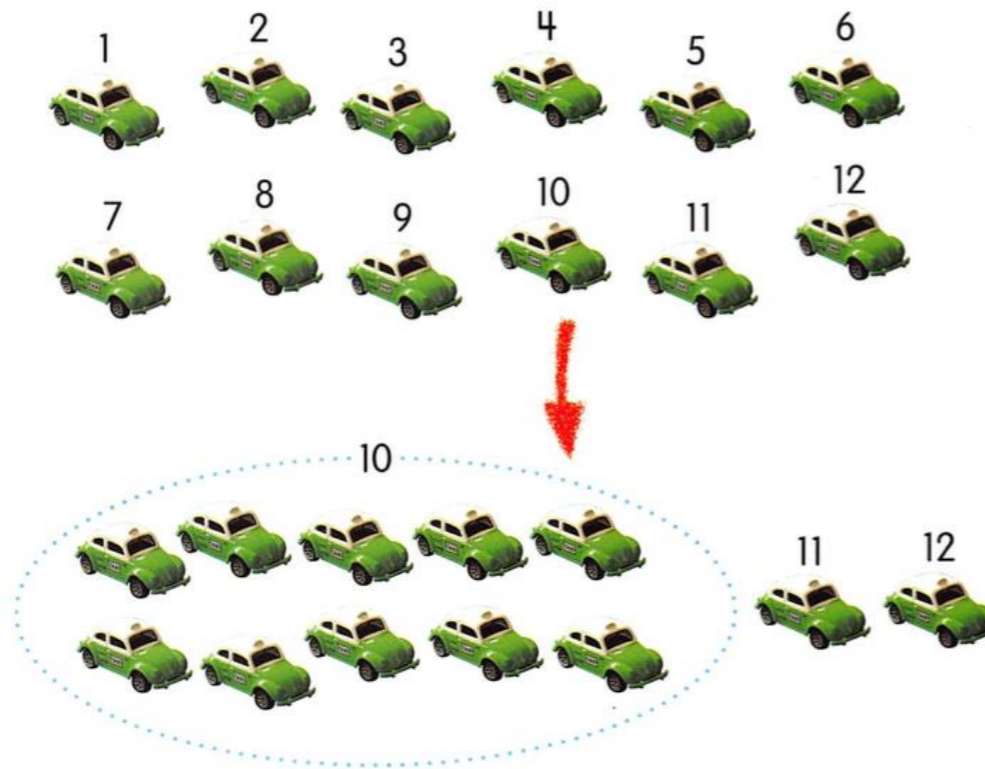
Lesson Objectives

- Count on from 10 to 20.
- Read and write 11 to 20 in numbers and words.

Vocabulary

eleven	twelve
thirteen	fourteen
fifteen	sixteen
seventeen	eighteen
nineteen	twenty

Learn You can count on from 10.

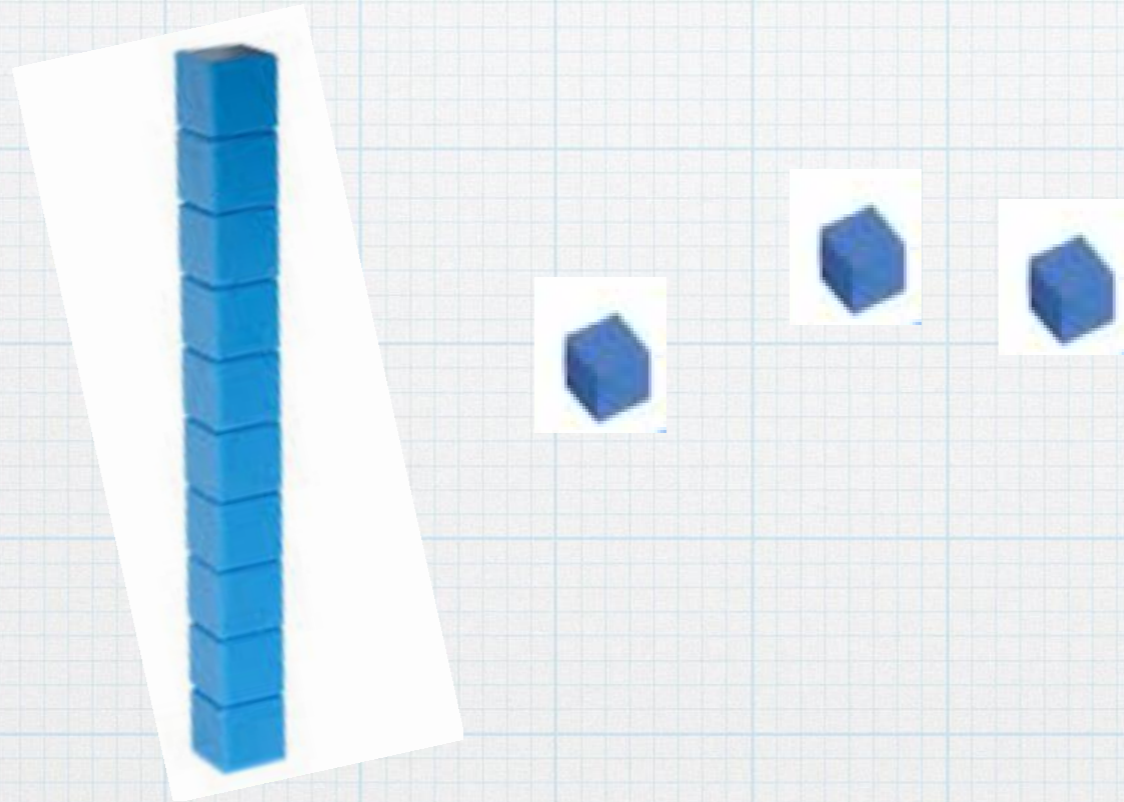


It is easier to count on: **10, 11, 12.**

10 and 3 more



10 and 3 more

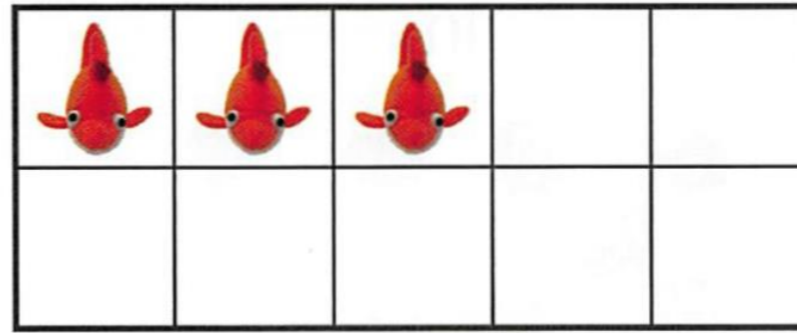
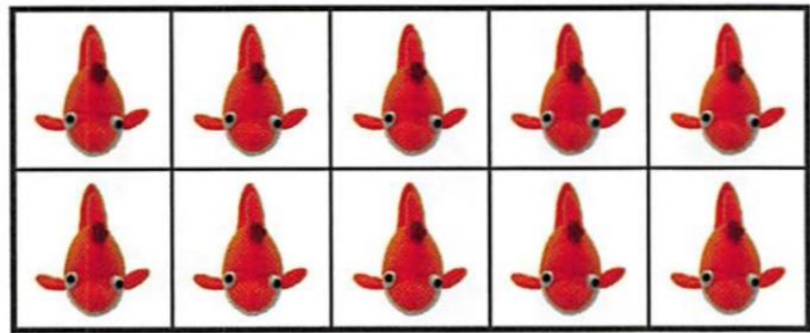


10 and 3 more



Learn

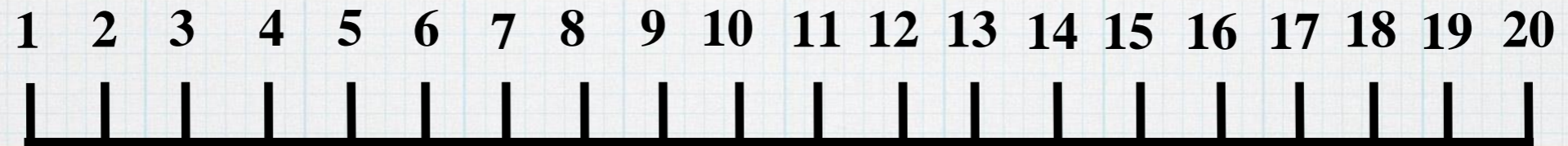
You can first make a ten. Then count on.



10 and 3 make 13.
Ten and three make thirteen.
 $10 + 3 = 13$



Number Lines



LESSON 2 Place Value

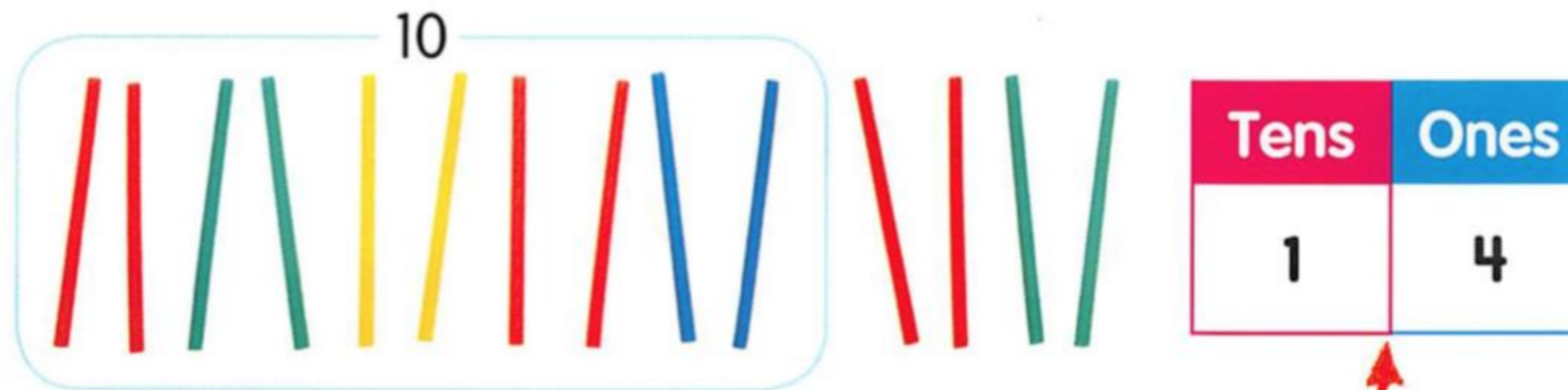
Lesson Objectives

- Use a place-value chart to show numbers up to 20.
- Show objects up to 20 as tens and ones.

Vocabulary
place-value chart

Learn

You can use place value to show numbers to 20.



$$14 = 1 \text{ ten } 4 \text{ ones}$$

This is a
place-value chart.







Learn

You can use place value to find how much greater or how much less.

Compare 13 and 15.
 Which number is greater?
 How much greater is the number?



Tens	Ones
1	3
	

Tens	Ones
1	5
	



First, compare the tens.
 The tens are equal.
 Then, compare the ones.



The ones are not equal.
 5 is greater than 3 by 2.
 So, 15 is greater than 13 by 2.

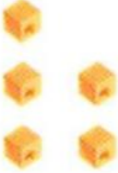
Find the correct place-value chart for the number.

3 15



Tens	Ones
	

Tens	Ones
	

Tens	Ones
	

LESSON
3

Comparing Numbers

Lesson Objective

- Compare numbers to 20.

Vocabulary

greatest
least

Learn

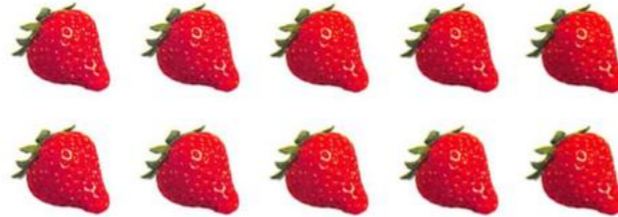
Compare sets and numbers.

Set A



12

Set B



10

Set A has 2 more than Set B.

Set B has 2 fewer than Set A.

12 is greater than 10.

10 is less than 12.



Problem of the Lesson

Andy, José, Kim, and Dave are in a bean-bag tossing contest.

Andy gets 8 points.

José gets 19 points.

Kim gets 12 points.

Dave gets 10 points.

Who wins the contest?

Learn



You can use place value to find how much greater or how much less.



Compare 13 and 15.

Which number is greater?

How much greater is the number?



Tens	Ones
1	3
	

Tens	Ones
1	5
	

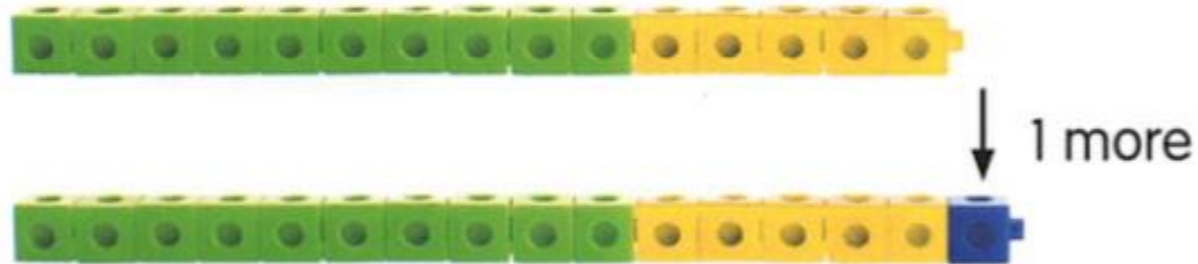
First, compare the tens.
The tens are equal.
Then, compare the ones.

The ones are not equal.
5 is greater than 3 by 2.
So, 15 is greater than 13 by 2.

Learn

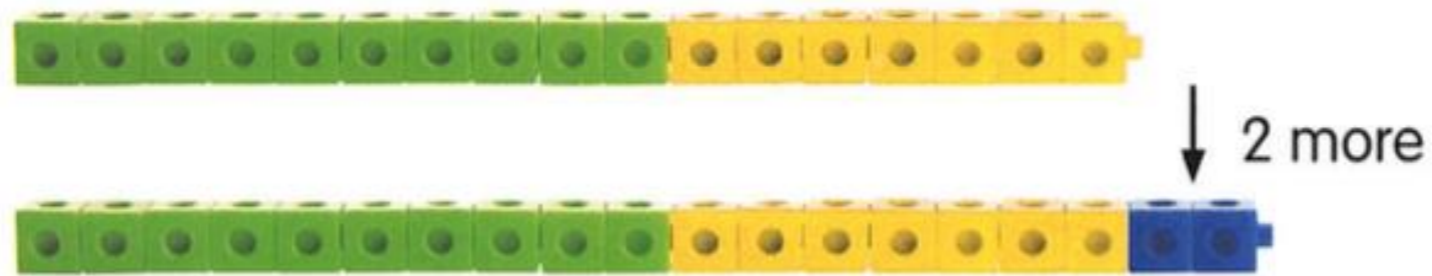
You can find a number more than another number.

What is 1 more than 15?



1 more than 15 is 16.

What is 2 more than 17?



2 more than 17 is .

Order the numbers from greatest to least.

11

9

18

15

Math in Focus Textbook 1A (Common Core Edition)

What do you know about number 17?

17 is one less than 18.

17 is one more than 16.

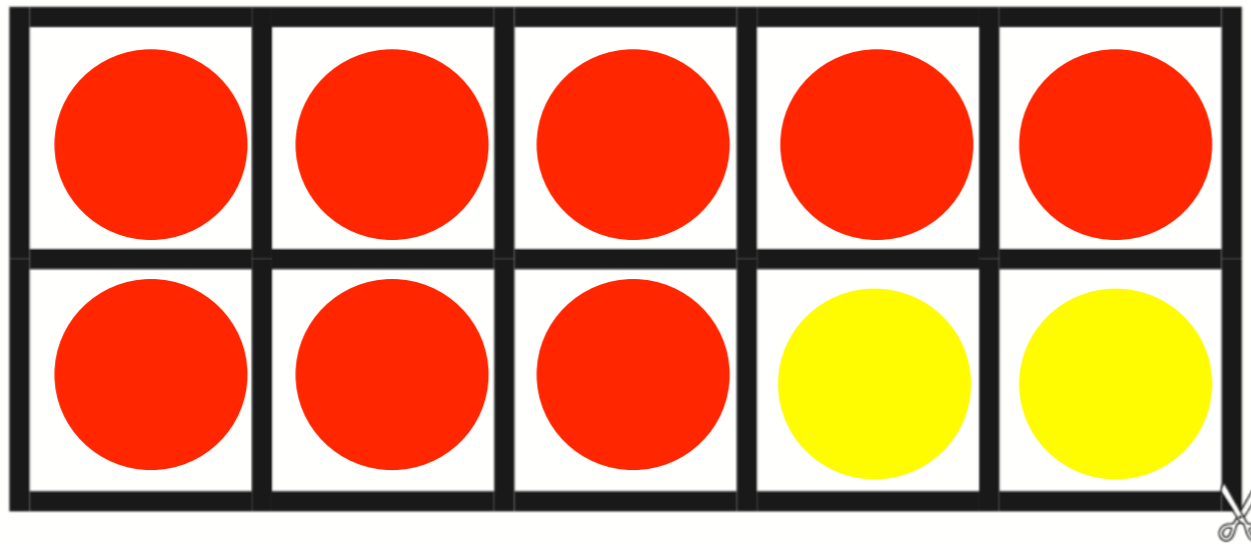
17 is an odd number.

17 can be represented by 1 ten and 7 ones.

17 can be represented by 1 dime and 7 pennies.

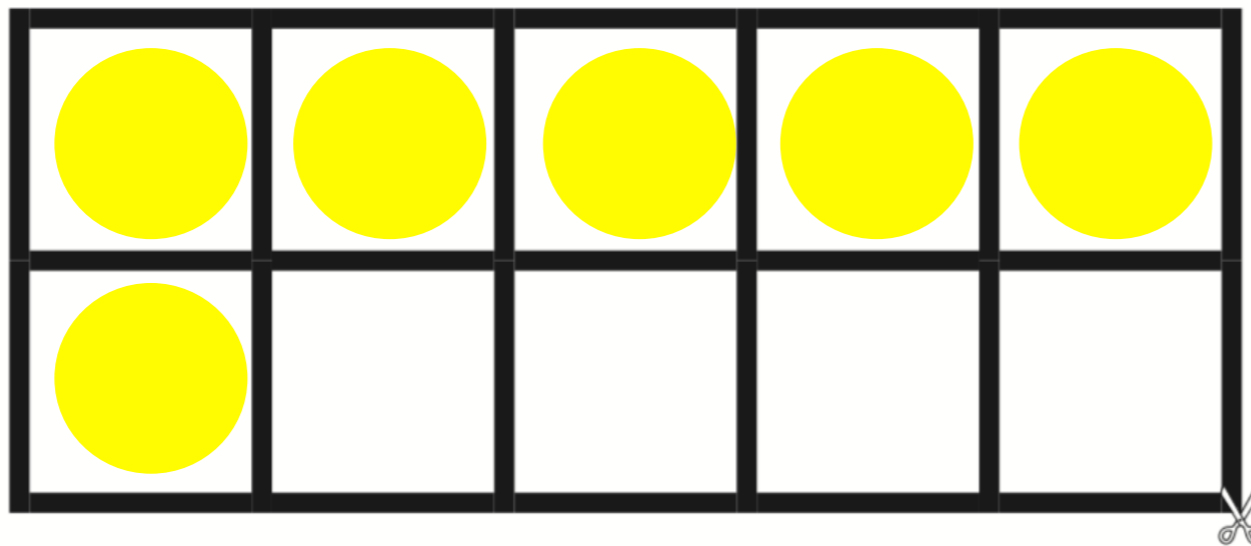
Gus has 8 cherries.
Ava gives him 6 more.

How many cherries does Gus have now?



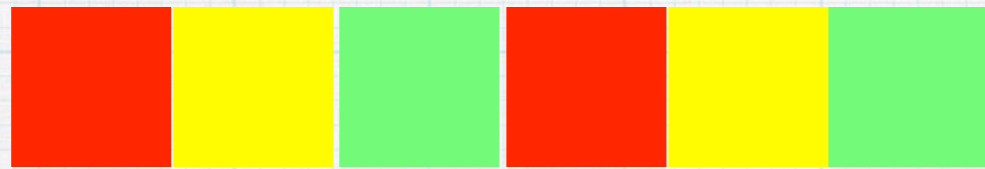
$$\begin{array}{r} 8 \\ + 6 \\ \hline \end{array} = \underline{14}$$

The number 6 is decomposed into 2 and 4. A large oval encircles the entire equation.



$$10 + 4 = \underline{14}$$

Emanuel saw 6 apple pies and 9 blueberry pies at the bakery. How many pies did Emanuel see in all?



$$\begin{array}{r} 6 \\ 5 \quad 1 \end{array} + \underline{9} = \underline{15}$$

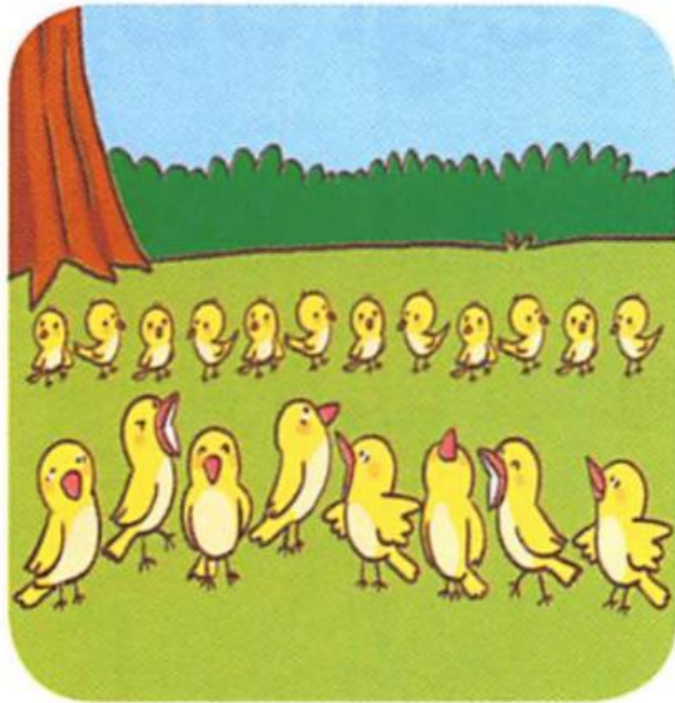
$$10 + 5 = \underline{15}$$

$$\begin{array}{r} 7 \\ 5 \swarrow \searrow \\ 2 \end{array} + \underline{8} = \underline{15}$$

$$10 + 5 = \underline{15}$$

$$\begin{array}{r} \underline{6} + 5 = \underline{11} \\ \quad \swarrow \searrow \\ \quad 4 \quad 1 \end{array}$$

$$10 + 1 = \underline{11}$$



Max sees 8 big birds.

There are 12 little birds too!

How many birds does Max see in all?

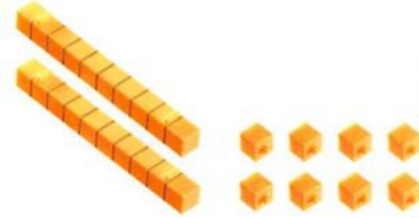
$$8 + 12 = 20$$

Max sees 20 birds altogether.

$$\begin{array}{r} 1 \\ 12 \\ + 8 \\ \hline 20 \end{array}$$

Learn

You can make numbers with tens and ones.

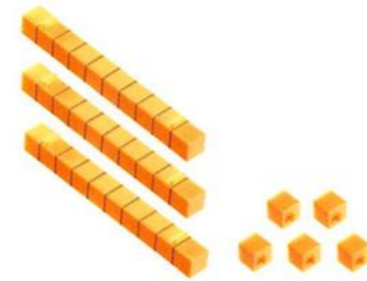


I have 28 .



20 and 8
make 28.

$20 + 8 = 28$



I have 35 .



30 and 5
make 35.

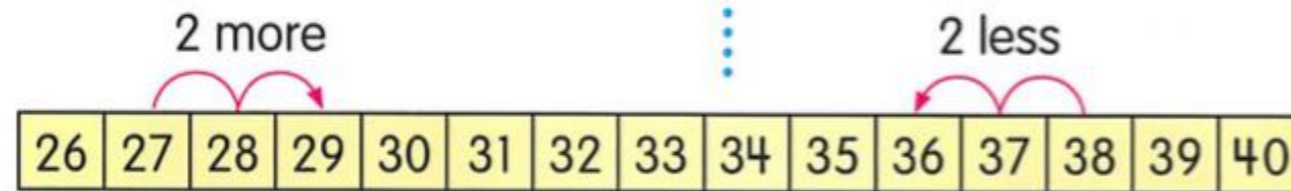
$30 + 5 = 35$



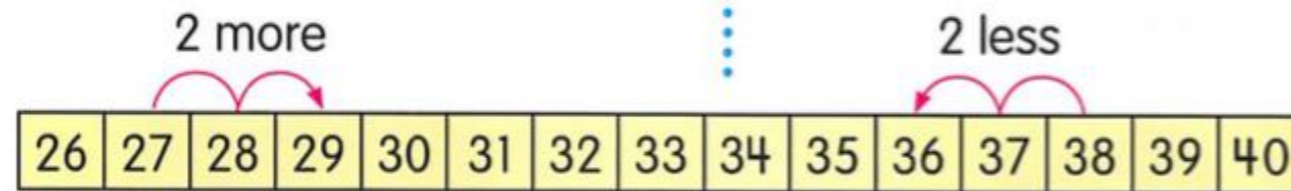
Learn

You can count on and count back using a counting tape.

Find 2 more than 27.



Find 2 less than 38.



Count on from 27.



29 is 2 more than 27.

29 is greater than 27.

Count back from 38.



36 is 2 less than 38.

36 is less than 38.

Learn

You can find the missing numbers in a pattern by adding or subtracting.

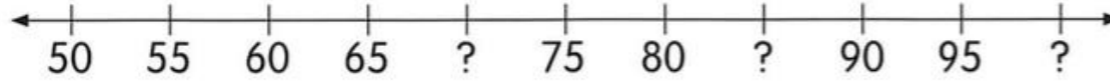
The numbers on the number line make a pattern. Some numbers are missing.



How do you find the numbers?

5 more than 50 is 55.
5 less than 60 is 55.

5 more than 80 is 85.
5 less than 90 is 85.



5 more than 65 is 70.
5 less than 75 is 70.

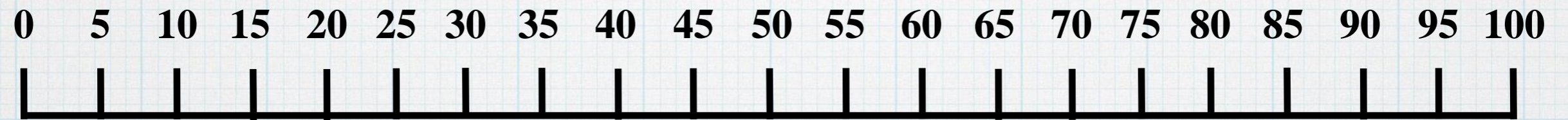
5 more than 95 is 100.

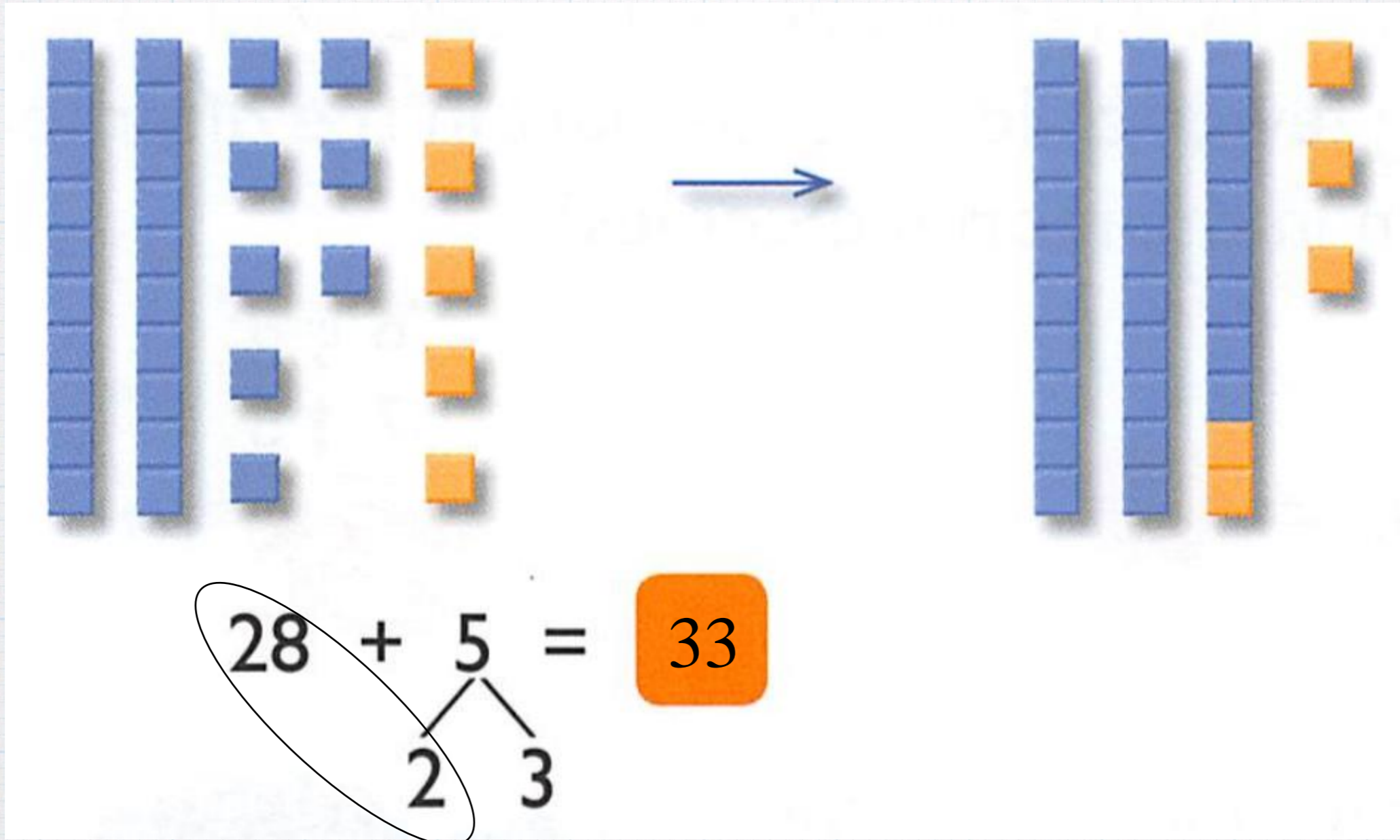


I find 5 more than a number by adding 5 to the number. I find 5 less than a number by subtracting 5 from the number.

Number Lines

Counting by Fives





$28 + 5 = 33$

28 + 5 = 33

28 + 5 = 33

$$28 + 5 = \underline{33}$$

A hand-drawn oval encircles the numbers 28 and 5. A bracket is drawn under the 5, with a vertical line extending down to the number 2, and a diagonal line extending to the number 3, illustrating the decomposition of 5 into 2 and 3.

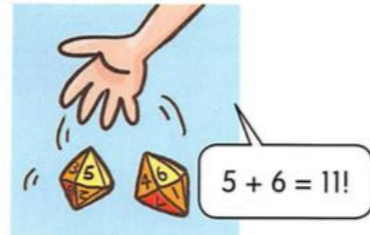
$$30 + 3 = \underline{33}$$

WORKING TOGETHER **Game**

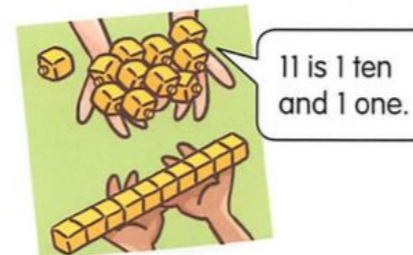
Make a Hundred!

Players: 3-4
You need:
• base ten blocks
• two ten-sided dice

STEP 1 Player 1 rolls the ten-sided dice. Add the numbers.



STEP 2 Take this number of . If there are 10 , trade them for 1 .

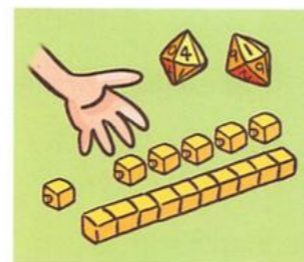


STEP 3 Players take turns following

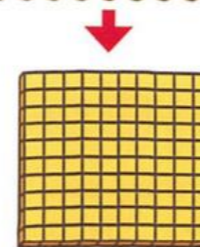
STEP 1 and **STEP 2**.

STEP 4 After your first turn, repeat **STEP 1**.

Take this number of . Add to the and that you have.



The first player to get 10 to make a hundred square wins!

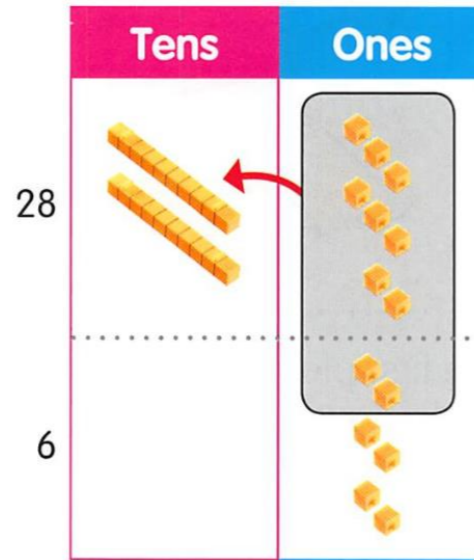


Learn

You can use place-value charts to add ones to a number with regrouping.

$$28 + 6 = ?$$

28 = 2 tens 8 ones



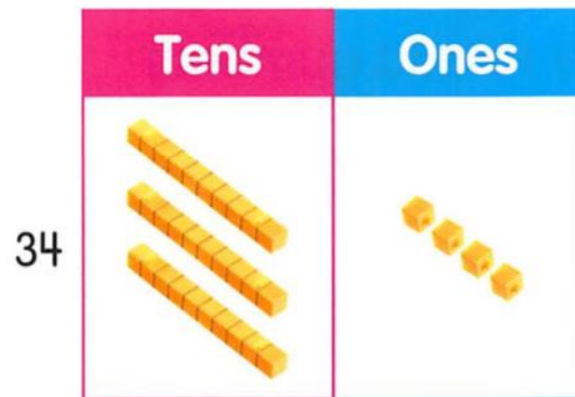
Step 1 Add the ones.

	Tens	Ones
	1	
	2	8
+		6
<hr/>		
	3	4

8 ones + 6 ones = 14 ones

Regroup the ones.

14 ones = 1 ten 4 ones



Step 2 Add the tens.

	Tens	Ones
	1	
	2	8
+		6
<hr/>		
	3	4

1 ten + 2 tens + 0 tens = 3 tens

So, $28 + 6 = 34$.

$$33 + 18 = \underline{51}$$
$$\begin{array}{cc} \wedge & \wedge \\ \underline{30} & \underline{3} & \underline{10} & \underline{8} \end{array}$$

$$30 + 10 = 40$$

$$3 + 8 = 11$$

$$40 + 11 = 51$$

$33 + 28 =$

$50 + 11 = 61$

$56 + 37 =$

$80 + 13 = 93$

$49 + 35 =$

$70 + 14 = 84$

100 Chart

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

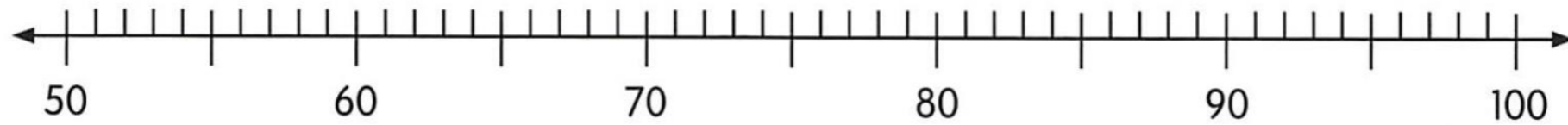
Compare the numbers:

27

94

56

Find 72 on the number line.



Count by Tens

0 10 20 30 40 50 60 70 80 90 100

Find 47 on the number line.

Between which 2 tens is 47?

Count by Tens

0 10 20 30 **40** **50** 60 70 80 90 100

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

47 is between 40 and 50.

47 is closer to 50.

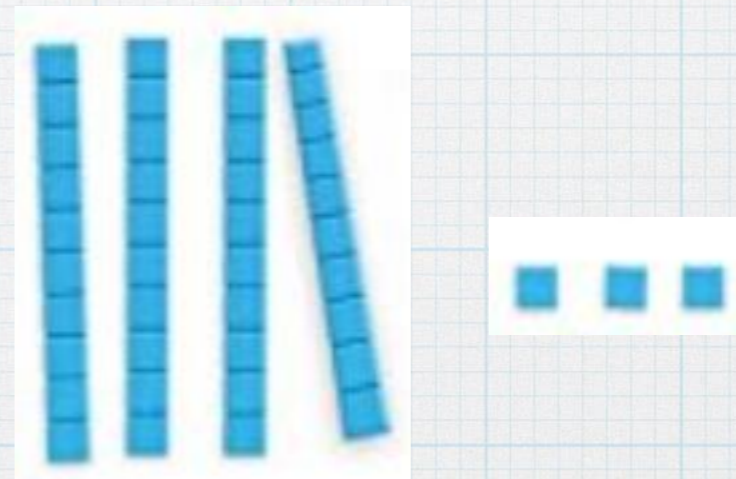
What do you know about number 43?

$$40 + 3$$

forty-three



3 more than 40

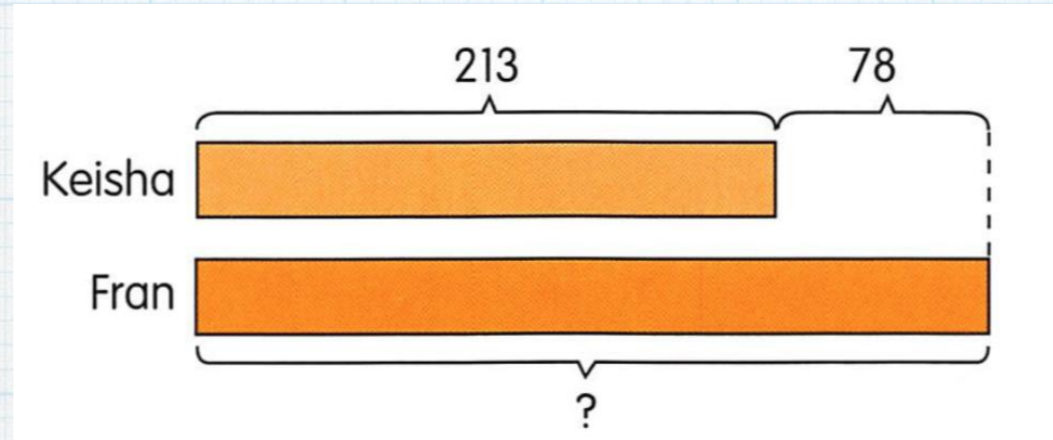


7 less than 50

an odd number

4 tens and 3 ones

Bar Model Drawing



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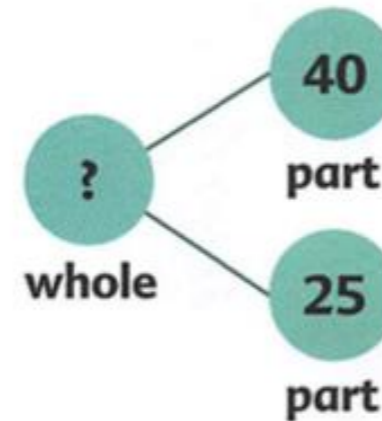
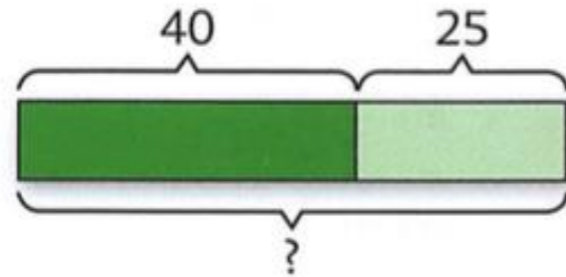
Helps children visualize and illustrate word problems

Determine which mathematical operations are necessary

Record their work with clearly marked labels

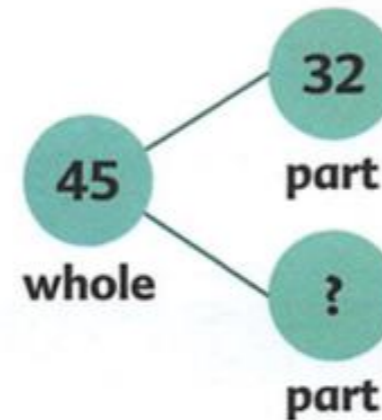
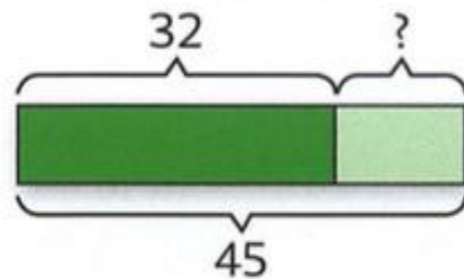
Part-Whole Models

$$40 + 25 = \square$$



To find the whole, we add.

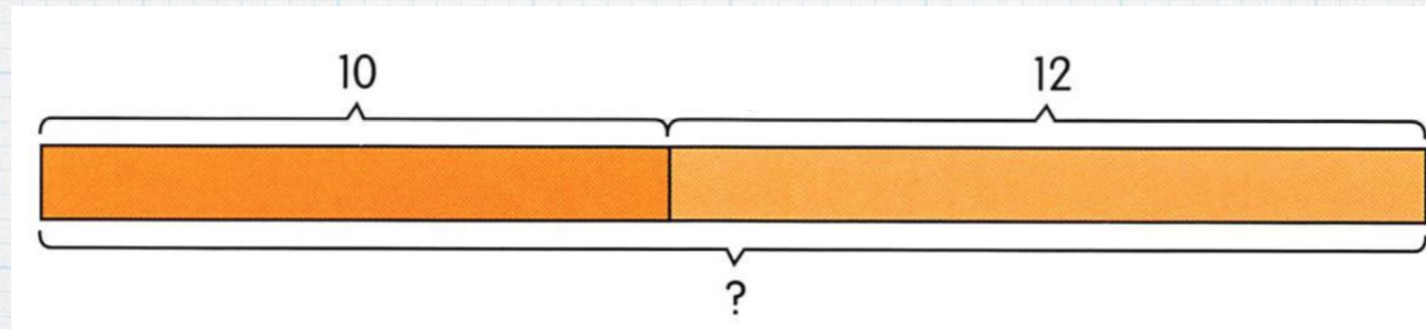
$$32 + \square = 45$$



To find a part, we subtract.

$$45 - 32 = \square$$

Mandy makes 10 granola bars.
Aida makes 12 granola bars.
How many granola bars do they make in all?

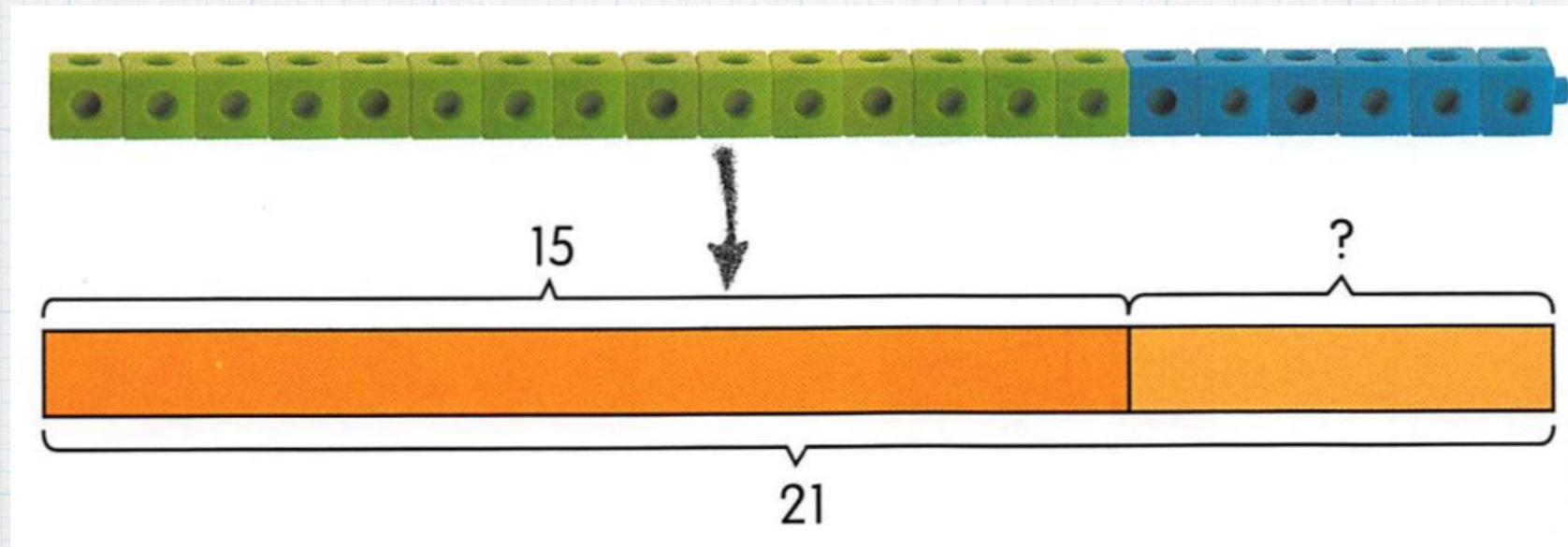


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$$10 + 12 = 22$$

They make 22 granola bars in all.

The second grade class has a new aquarium.
There are 21 fish in it.
15 fish were given by families.
The rest were bought by the school.
How many fish did the school buy?

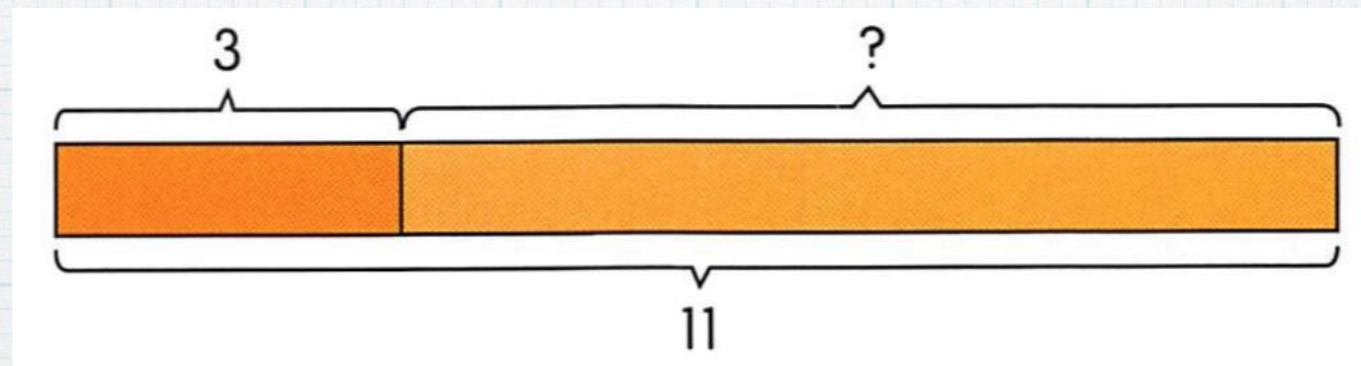


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$$21 - 15 = 6$$

The school bought 6 fish.

Lily has 11 teddy bears.
3 of them are big.
The rest are small.
How many teddy bears are small?



Math in Focus Textbook 2A (Common Core Edition)

$$11 - 3 = \underline{8}$$

8 of the teddy bears are small.

Comparison Models

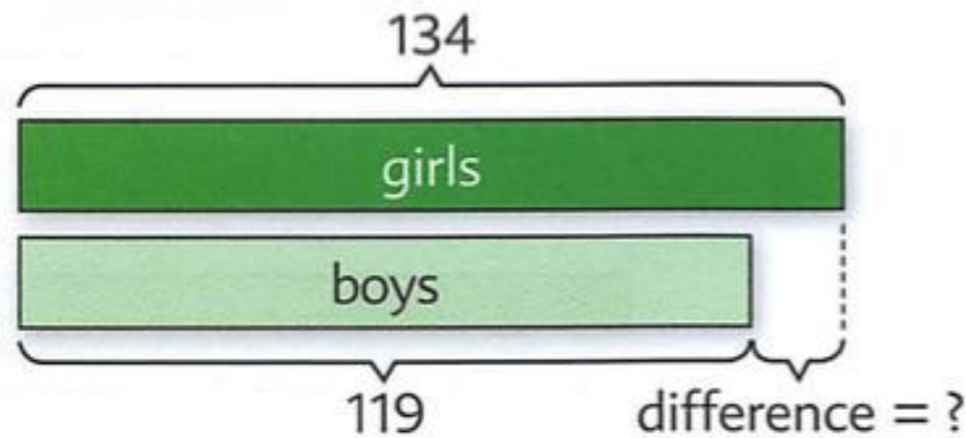
134 girls and 119 boys took part in an art competition.

How many more girls than boys were there?

This is a **comparison** model.



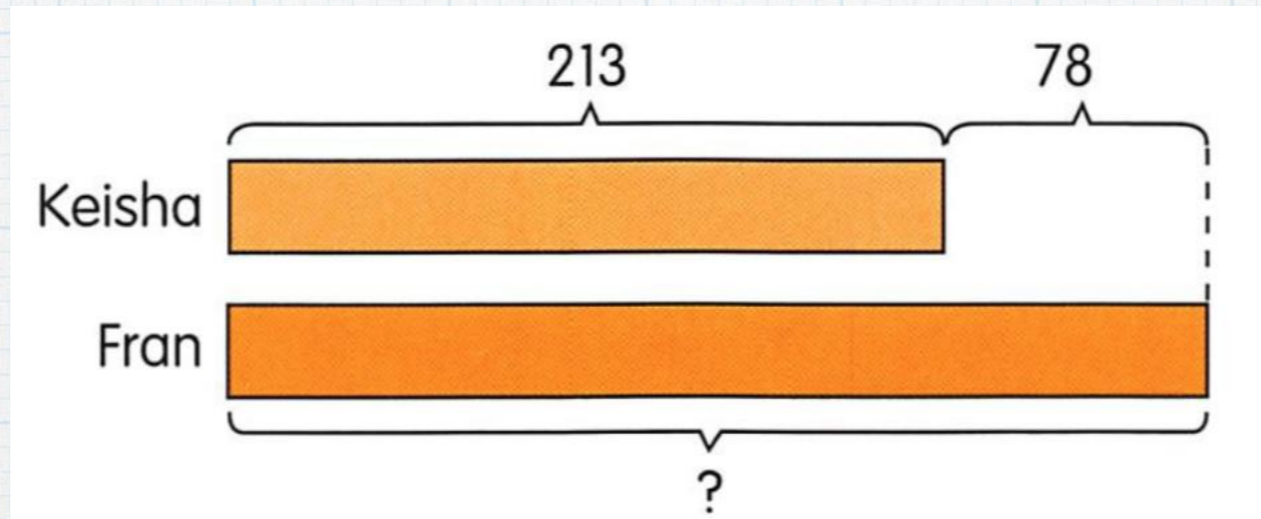
The **difference between 134 and 119** is 15.



$$134 - 119 = 15$$

There were **15** more girls than boys.

Keisha has 213 pins in her collection.
Fran has 78 more pins in her collection.
How many pins does Fran have in her collection?

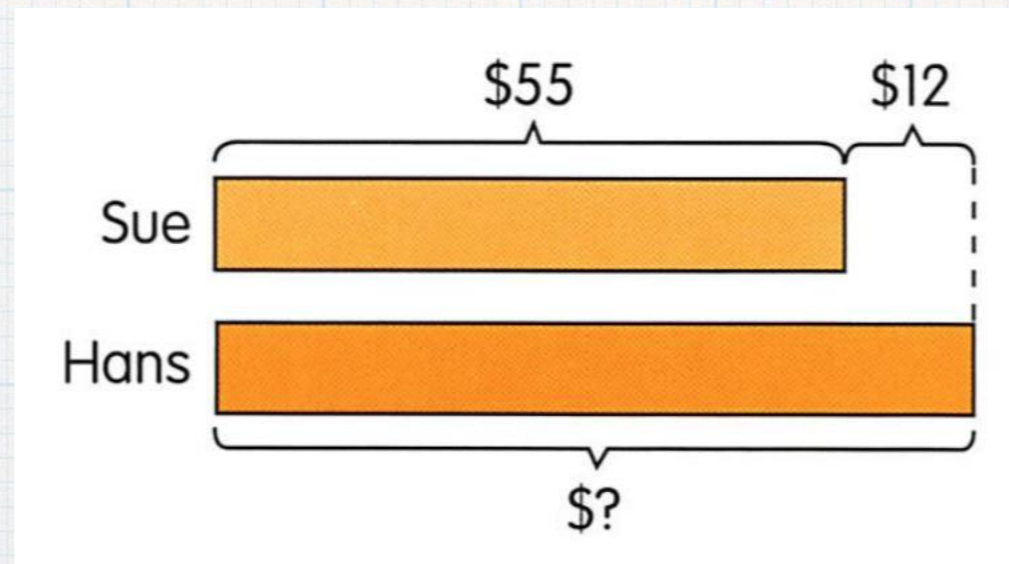


Math in Focus Textbook 2A (Common Core Edition)

$$213 + 78 = 291$$

Fran has 291 pins in her collection.

Sue has \$55.
Hans has \$12 more than Sue.
How much money does Hans have?

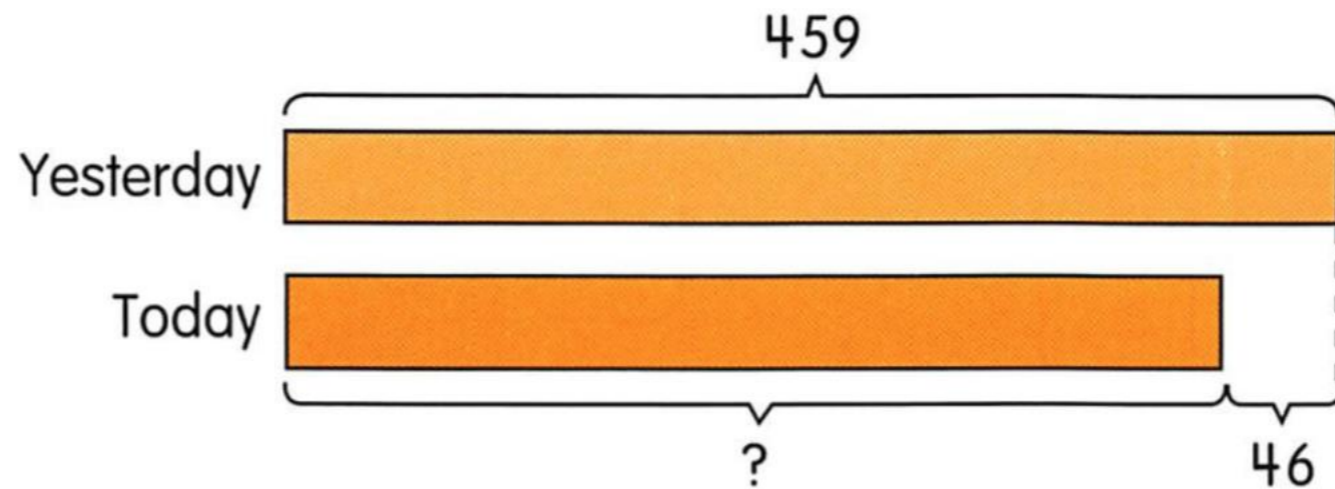


Math in Focus Textbook 2A (Common Core Edition)

$$\$ 55 + \$ 12 = \$ 67$$

Hans has \$ 67 .

459 children were at the library yesterday.
46 fewer children are at the library today.
How many children are at the library today?



Math in Focus Textbook 2A (Common Core Edition)

$$459 - 46 = 413$$

413 children are at the library today.

Thank you for coming to learn about
Singapore Math.