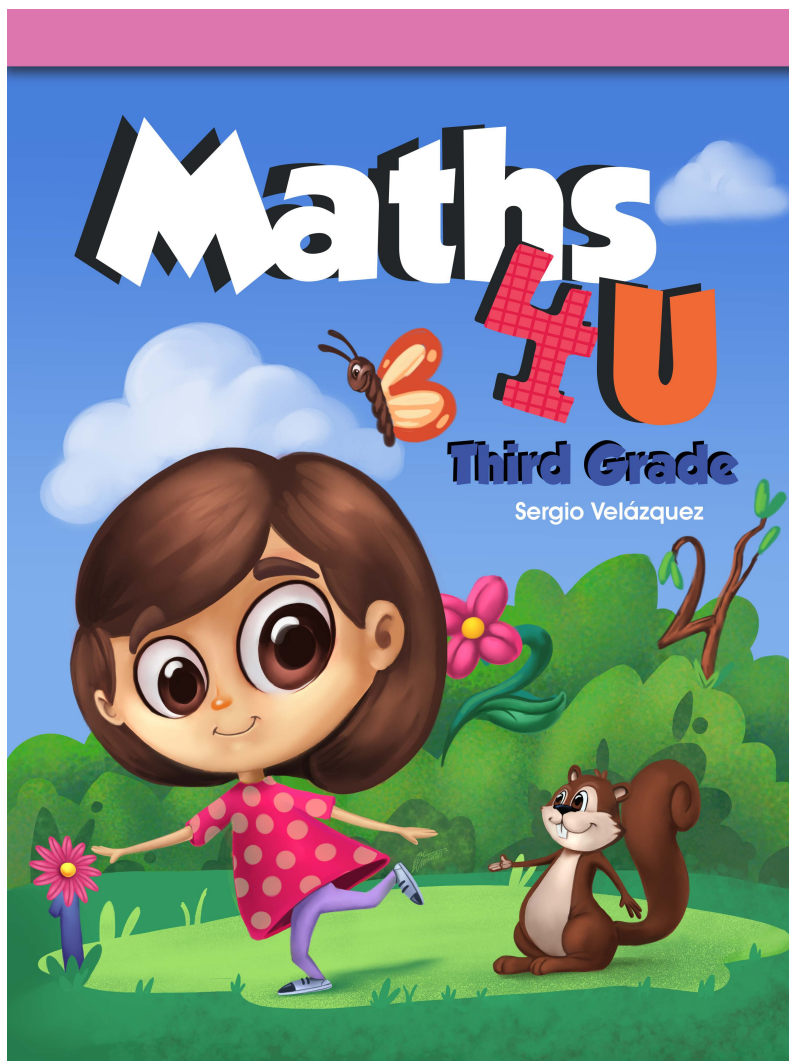




Maths 4 U Third Grade

Serie Maths 4 U

Libro metodología CLIL aplicada al aprendizaje y práctica de matemáticas en inglés como lengua extranjera.

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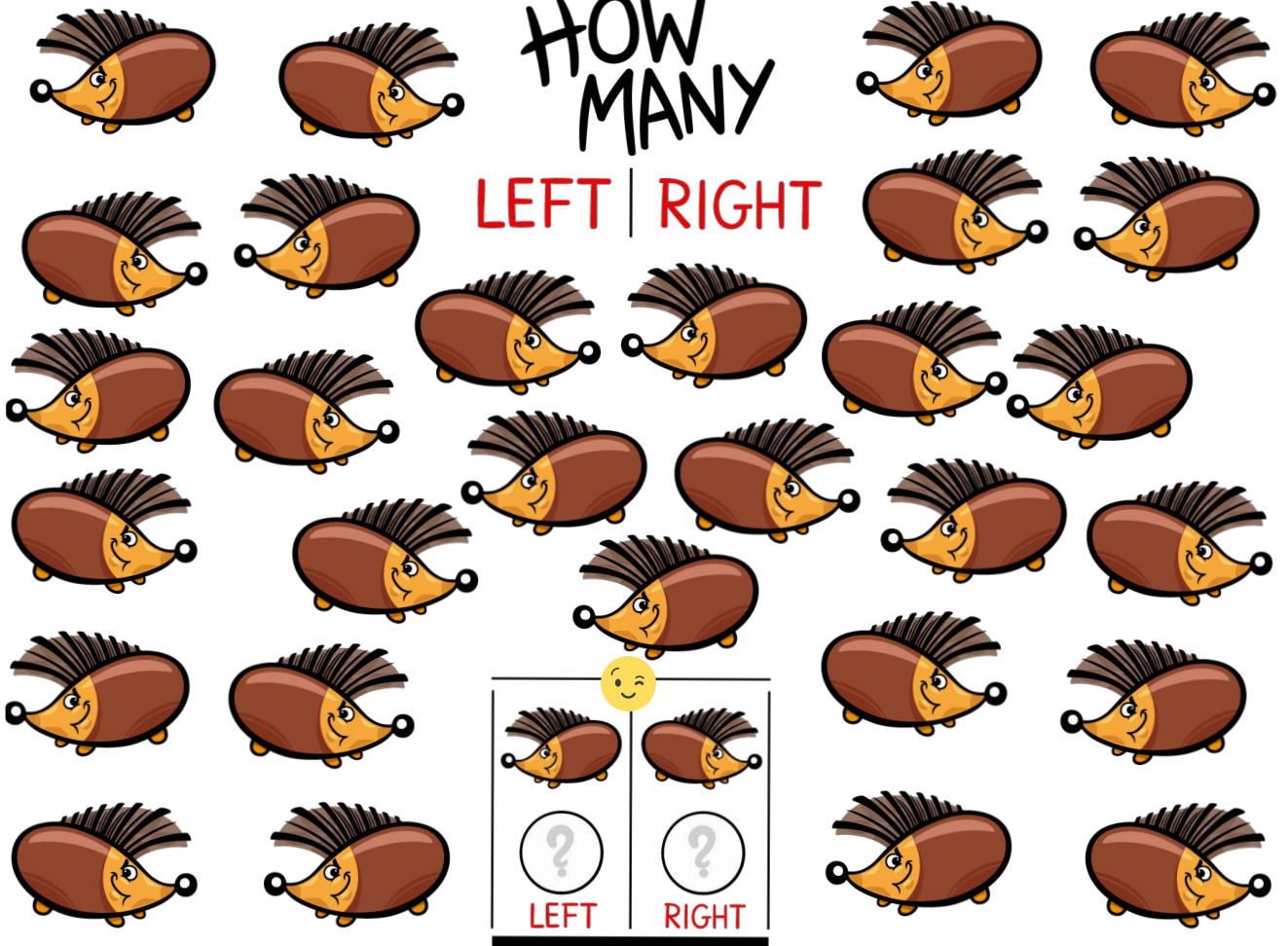
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HOW
MANY

LEFT | RIGHT





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UNIT 1 Counting thousands, hundreds, tens and ones



TAKE THE CHALLENGE



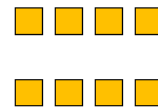
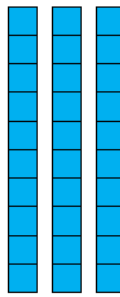
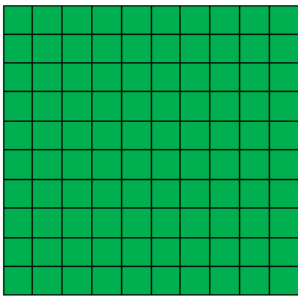
Read the clues to guess the secret number.

The secret number is.....

The secret number has three digits. The ones digit is 72 less than 81. The hundreds digit is an odd number which is bigger than 1 but smaller than 4. The tens digit is the same as $5 + 4$.

Read and label the blocks.

Do you remember what the blocks represent?



Read and complete the text.

position

determines

value

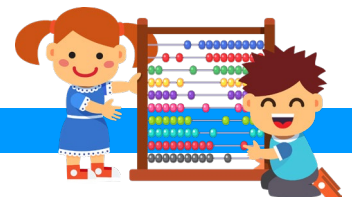
digit

counting

Place _____ is the basis of the _____ system.

Before any numbers can be added, subtracted, multiplied or divided, the place value of numbers must be understood.

A place value system is one in which the _____ of a _____ in a number _____ its value.





Look at the example and write the other three numbers in the correct spaces.

Ex. 7 854

2 379

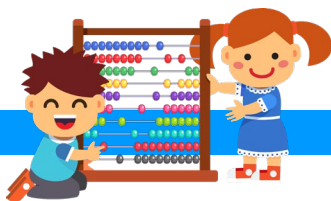
9 482

6 478

Thousands	Hundreds	Tens	Ones
7	8	5	4

Read and write the missing numbers.

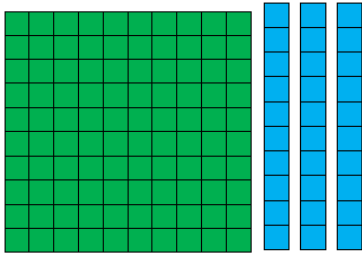
1	one	11	eleven		ten	100	one hundred
2	two		twelve	20	twenty		two hundred
	three	13	thirteen	30	thirty	300	three hundred
4	four	14	fourteen		forty	400	four hundred
5	five	15	fifteen	50	fifty		five hundred
	six		sixteen		sixty	600	six hundred
7	seven	17	seventeen	70	seventy	700	seven hundred
	eight		eighteen	80	eighty		eight hundred
9	nine	19	nineteen		ninety	900	nine hundred
10	ten		twenty	100	one hundred	1000	one thousand





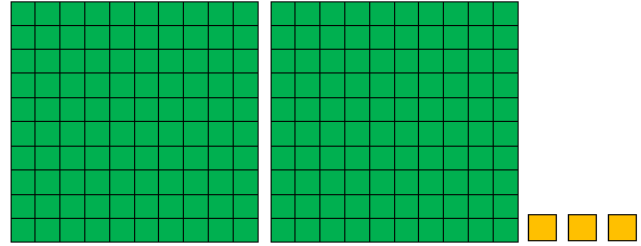
Look and write how many blocks there are in each set.

a)



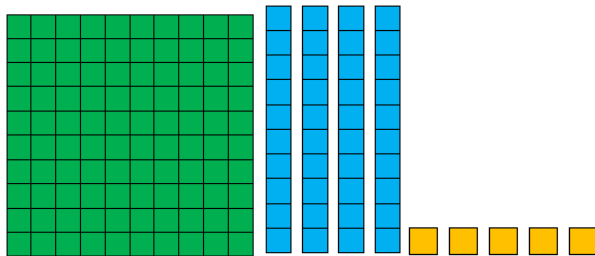
_____ blocks

b)



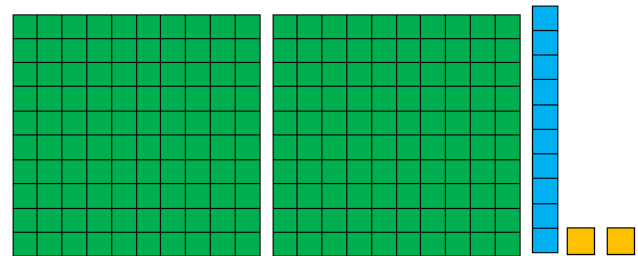
_____ blocks

c)



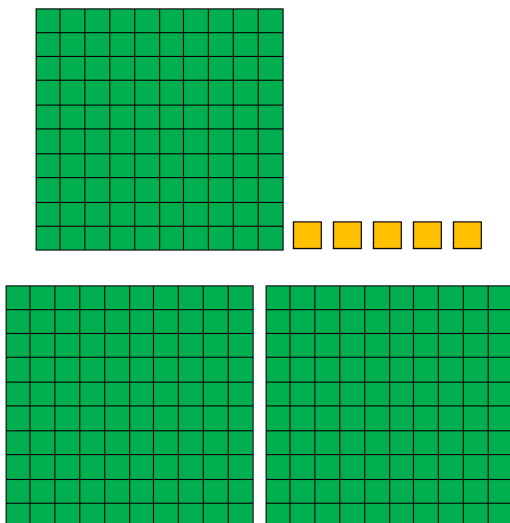
_____ blocks

d)



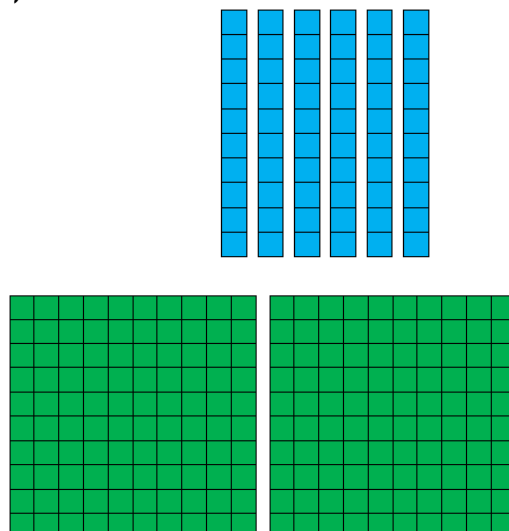
_____ blocks

e)

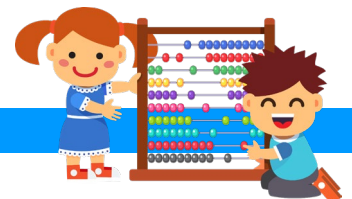


_____ blocks

f)



_____ blocks





Draw lines to match the numbers with the words.

eight hundred and fifty-seven	•	• 194
four hundred and twenty	•	• 329
three hundred and sixty	•	• 857
five hundred and thirteen	•	• 649
one hundred and ninety-four	•	• 360
nine hundred and eighty-three	•	• 787
two hundred and twenty-one	•	• 983
six hundred and forty-nine	•	• 513
seven hundred and eighty-seven	•	• 221
three hundred and twenty-nine	•	• 420

Write the numbers as words.

- a)

8	9	5
---	---	---

 =
- b)

2	6	9
---	---	---

 =
- c)

9	9	9
---	---	---

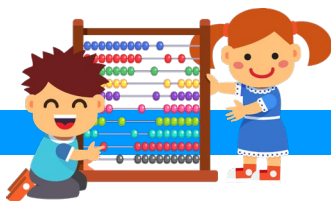
 =
- d)

1	7	7
---	---	---

 =
- e)

3	5	8
---	---	---

 =





You're up!

Listen to your teacher and write the numbers. Then check and write your score.

Dictation



a)

b)

c)

d)

e)

f)

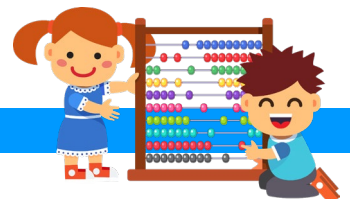
g)

h)

i)

j)

Score: _____ / _____ 10 _____





Large numbers



TAKE THE CHALLENGE



Read the clues to guess the secret number.

The secret number is.....

The secret number has four digits. It is smaller than 6000 but bigger than 5000. The hundreds digit is smaller than 7 but bigger than 5. The tens digit is an odd number smaller than 5 but bigger than 1. The unit digit is in the 3 times table and is bigger than 4 but smaller than 8.

Write these numbers as words. Use the boxes to help you.

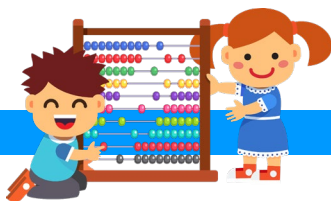
	T	H	T	O
1965 =	one thousand	nine hundred	sixty	five
8408 =				
5385 =				
6225 =				
7883 =				

Write the value of the green digits as words.

39**2**5 27**9**6

416**3** 9**8**12

7**5**61 5**3**85





Comparing numbers

Read and complete.

There is a symbol we can use to compare numbers.

When one value is smaller than another one, we use the "less than" sign $<$.

When one value is bigger than another one, we use the "greater than" sign $>$.



Look and write the correct symbol " $>$ " or " $<$."

5 882 _____ 5 689

5 785 _____ 4 824

1 414 _____ 1 029

3 012 _____ 5 572

2 435 _____ 9 417

5 727 _____ 6 304

Write the numbers in order.

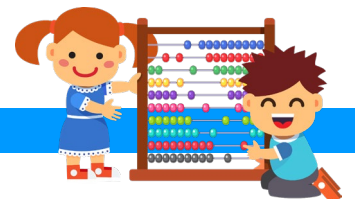
5 385, 4 567, 5 310



6 711, 7 661, 6 177



1 055, 1 122, 1 027





Write the missing symbol. Then explain what it shows.



a) 648 972 It shows that _____

b) 329 279 _____

c) 2794 8276 _____

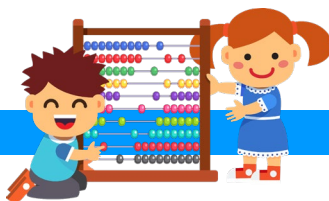
d) 6791 5872 _____

The numbers below have been written in a number chain. Write the missing symbols. Go from left to right.

648 329 2794 6791 28346

28346 124865 351794 19678 5872

5872 8276 279 972 1587





Ask your friends to tell you some large numbers and write them on the lines.
Then write “>” or “<.”

_____ _____ _____ _____

Do some research. Make a list of things you can buy in the cafeteria. Write three options for each category – from the cheapest to the most expensive. Include the prices and the symbols.

- There is an example about food.

Hot dogs

\$8.00

<

Sandwiches

\$15.50

<

Tortas

\$23.50

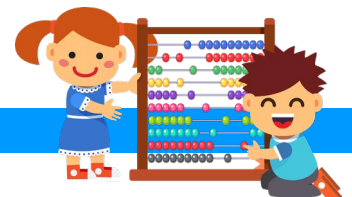
Food

Drinks

Fruit

Sweets

Cookies





Interview your friends and keep track of their answers. If they give a correct answer, put a tick in the box. If they don't, put a sad face.

Questions

- a) What number is 2 more than 167?
- b) What number is 4 less than 167?
- c) What number is 5 more than 178?
- d) What number is 3 less than 945?
- e) What number is 8 more than 754?
- f) What number is 1 less than 1 000?

Friend 1	Friend 2	Friend 3

Correct answers: _____

Wrong answers: _____

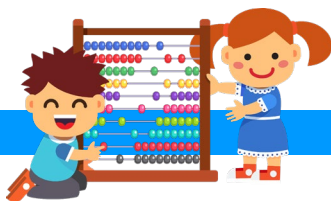
Read the word problems and answer the questions.

a) There are 686, 923 people living in Alaska. There are 873, 092 people living in Delaware. Which state has a greater population?

The state with a greater population is _____ .

b) The size of Texas is 268 581 square miles. Minnesota is 86 939 square miles. Which state has a smaller area?

The state with a smaller area is _____ .





You're up

Look and rearrange the numbers. Make the largest number possible.

54 855

18 272

82 987

81 126

99 633

96 535

Which was the smallest number you got? _____

Which was the largest number you got? _____

Read and write.

Number pattern 1



Examine the numbers and try to discover the pattern.

5 554

5 274

4 994

4 714

The rule that the numbers follow is _____

Number pattern 2

Examine the numbers and try to discover the pattern.

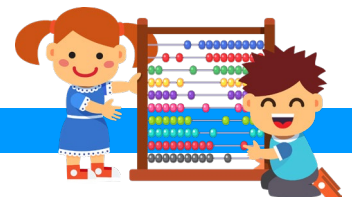
1 203

1 624

2 045

2 466

The rule that the numbers follow is _____





Three - number additions



TAKE THE CHALLENGE

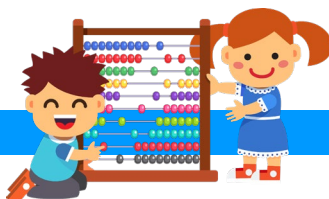
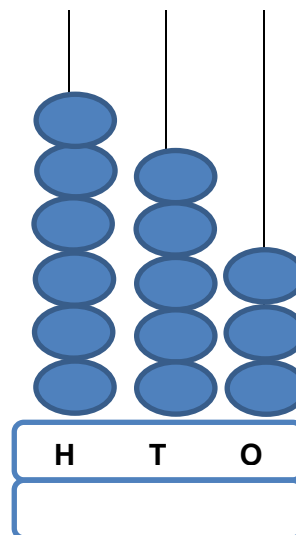
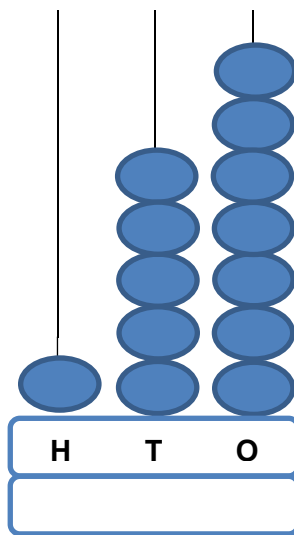
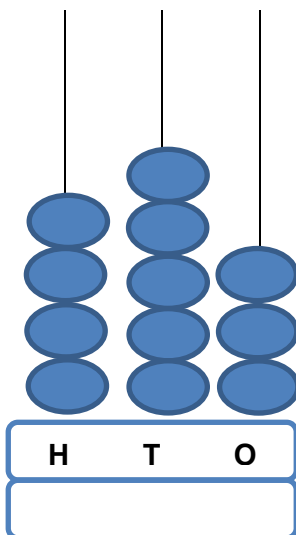
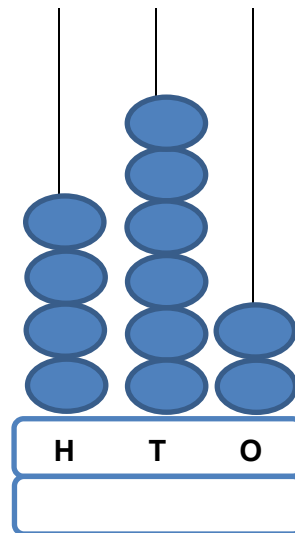
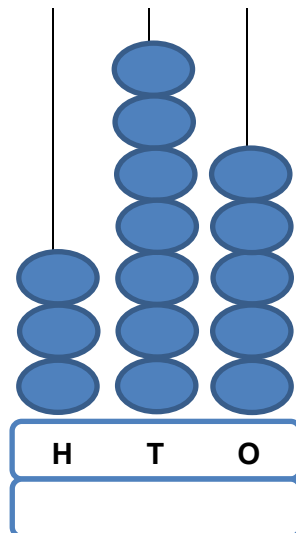
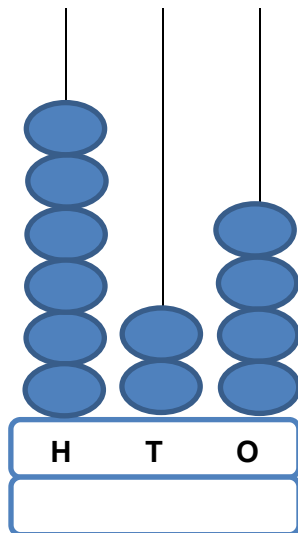


Read the clues to guess the secret number.

The secret number is.....

The secret number has five digits. The ten thousands digit is the same as the hundreds digit, and it is an odd number which can be divided by 3 to make 3. The thousands digit is bigger than 8. The units digit is the first number of today's date. The tens digit is smaller than 1.

Look at the abacus and write the number shown.





Read and complete.

To solve three-number additions, you must put the numbers in order.



Ex.

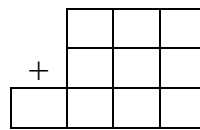
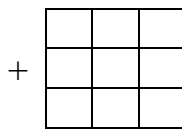
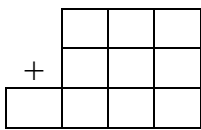
$$347 + 591$$

Hundreds	Tens	Units

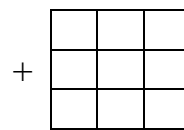
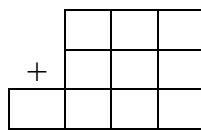
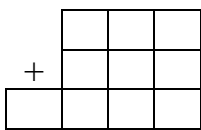
Put these additions in order and solve them. Then write the results from the smallest to the biggest number.

$$\begin{array}{lllll}
 342 + 980 = & 875 + 123 = & 546 + 721 = & 735 + 456 = & 824 + 267 = \\
 326 + 631 = & 416 + 447 = & 229 + 506 = & 335 + 085 = & 348 + 110 =
 \end{array}$$

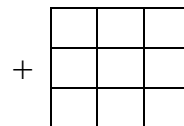
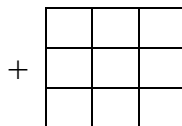
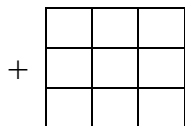
The smallest number:



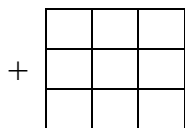
.....
.....
.....



.....
.....
.....

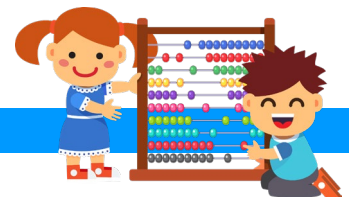


.....
.....
.....



The biggest number:

.....
.....





Word problems

Read and answer the questions.

a) A girl has 77 green marbles, 89 blue marbles and 104 red marbles.

How many marbles are there in all?

Number of green marbles.

_____ →

Number of blue marbles.

_____ →

Number of red marbles.

_____ →

Total number of marbles.

_____ →

+

H	T	O

b) Anna learnt 96 new words in the first month, 135 in the second month and 165 in the third month.

How many new words has she learnt together?

Number of words in first month.

_____ →

Number of words in second month.

_____ →

Number of words in third month.

_____ →

Total number of words.

_____ →

+

H	T	O

c) There are 248 men, 245 women and 44 children in a village.

What is the total number of people staying in the village?

Number of men.

_____ →

Number of women.

_____ →

Number of children.

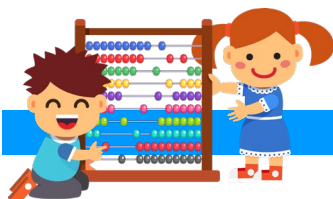
_____ →

Total number of people.

_____ →

+

H	T	O





You're up!

Look and solve the puzzles.

2	+	3	=	
+		+		+
9	+	4	=	
=		=		=
	+		=	

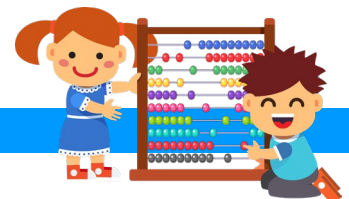
+	27	68	34
42			
17			
56			

3	+	9	=	
+		+		+
7	+	3	=	
=		=		=
	+		=	

+	61	45	38
13			
23			
59			

7	+	4	=	
+		+		+
6	+	1	=	
=		=		=
	+		=	

+	10	40	70
20			
50			
60			





UNIT 2 Patterns



TAKE THE CHALLENGE



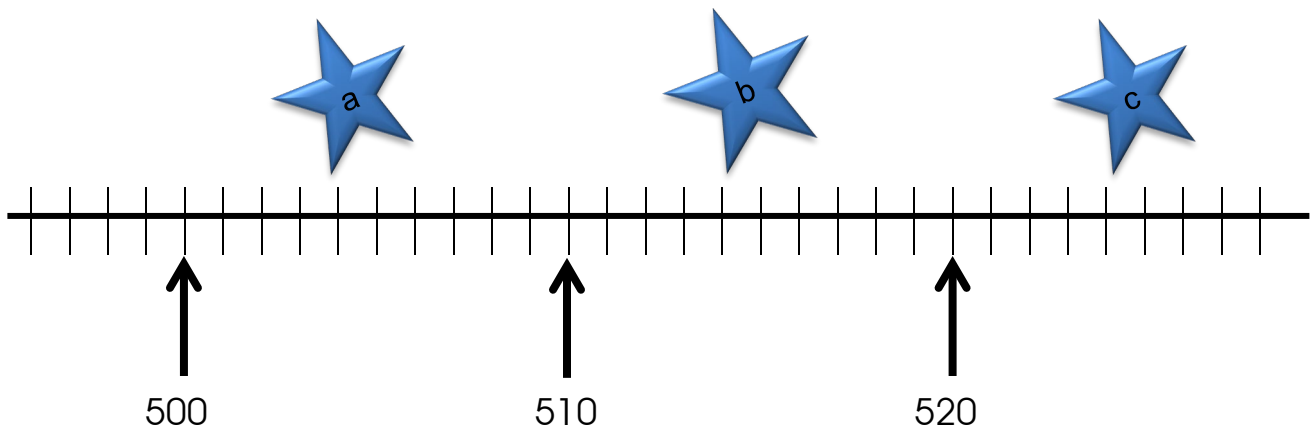
Read and answer the question. Write what comes next.

Anna wore a pink shirt on the first day of school. On the second day, she wore a blue shirt. On the third day, she wore an orange shirt. On the fourth day, she wore a white shirt. She wore her pink shirt again on the fifth day.

What will she probably wear on the sixth day? _____

Look and answer the question with a friend.

- Which numbers are shown by the stars?



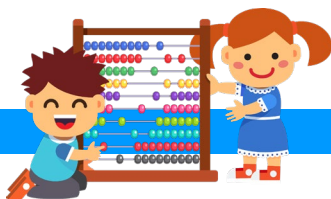
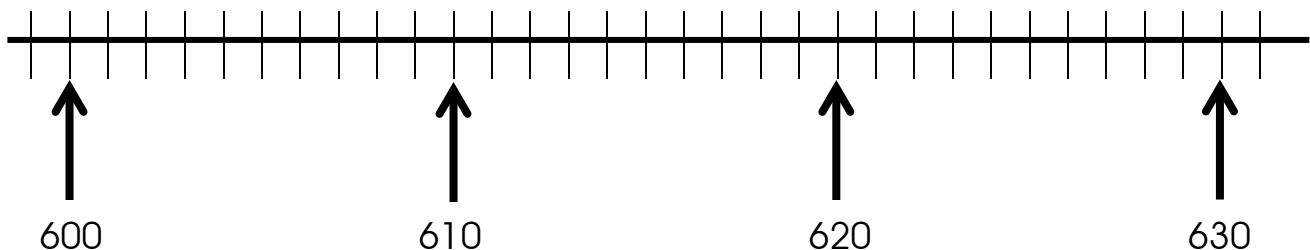
Draw spots to show the numbers.

a) 607

b) 612

c) 617

d) 622





Look and write the missing numbers in the sequences.

- a) 3343 3342 3341 3339
- b) 1591 1592 1594 1595
- c) 4812 4814 4815 4817
- d) 7566 7570

Read and answer the question. Then write the halfway numbers.

What is the halfway number between 2580 and 2620?

a) 3949 3965

c) 8588 8596

b) 7422 7482

d) 1915 1923

Read and write the missing numbers.

Adding or subtracting 10, 100 or 1000 makes the digits in a number change:

9413

10 less is 94 **0** 3

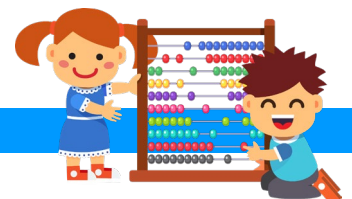
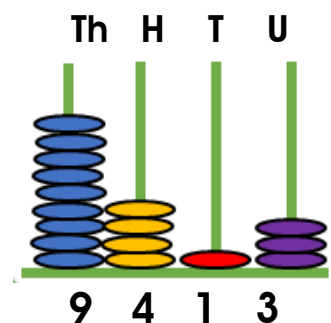
10 more is 94 **2** 3

100 less is 9 **_** 1 3

100 more is 9 **_** 1 3

1000 less is **_** 4 1 3

1000 more is **_** 4 1 3





Read and complete these.

a) 10 more than 4680 is

b) 100 more than 4680 is

c) 1000 more than 4860 is

d) 100 less than 4860 is

e) 1000 less than 4860 is

f) 10 less than 4860 is

Look at the patterns and write the next three numbers.

6320

6420

580

590

870

980

Write the missing numbers.

a) Count by 10s.

5795

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5835

b) Count by 100s.

792

----------------------	----------------------	----------------------

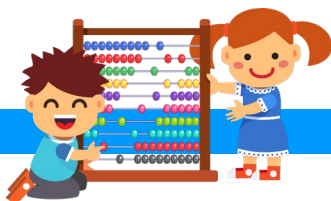
1192

c) Count by 1000s.

3417

----------------------	----------------------	----------------------

7417





Even and odd numbers

Read and write some examples.

Even numbers always end in 0, 2, 4, 6 or 8.

Example:

.....
.....
.....
.....

Odd numbers always end in 1, 3, 5, 7 or 9.

Example:

.....
.....
.....
.....

Write the numbers in the correct column. Then write two more numbers in each section.

319

56

70

57

982

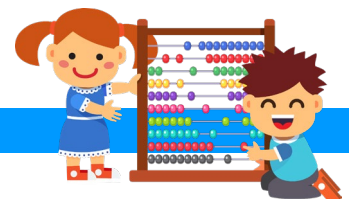
921

364

216

407

Even numbers	Odd numbers





Read and answer the questions about the chart on the previous page.

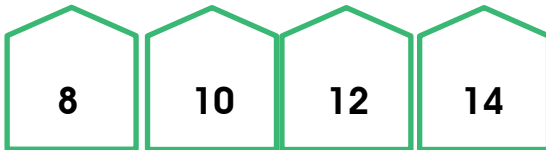
a) How many even numbers are less than 100?

b) Which is the biggest even number in the chart?

c) How many odd numbers are bigger than 100?

d) Which is the smallest odd number in your chart?

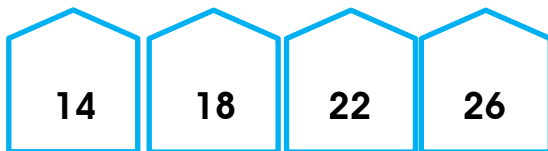
Look at the numbers and count the difference between them – discover the pattern.



Counting by ____s.



Counting by ____s.



Counting by ____s.



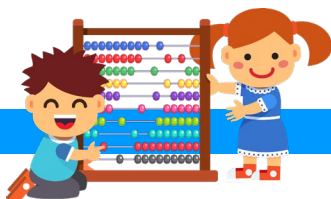
Counting by ____s.

Complete the patterns.

a) 812 816 820

b) 664 668 672

c) 6458 6460 6462



You're up!

Look and write the next number in the sequence. Then explain the answer.

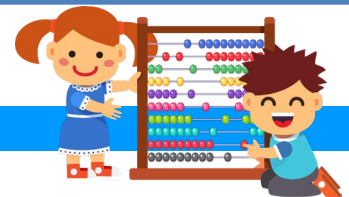
Pattern	Rule	Proof
1, 2, 3, 4	add 1	$1 + 1 = 2$ $2 + 1 = 3$ $3 + 1 = 4$
2, 4, 6, 8, ____		
3, 6, 9, 12, ____		
4, 14, 24, 34, ____		
52, 44, 36, 28, ____		

Write the next numbers according to the rule.

Add 5 55, 60, 65, _____, _____, _____, _____

Subtract 11 88, 77, _____, _____, _____, _____

Add 9 1, _____, _____, _____, _____, _____





Triangles

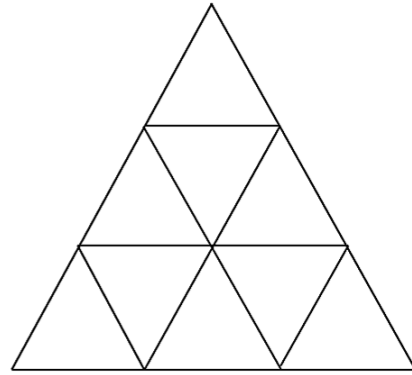


TAKE THE CHALLENGE



Read, look and write.

This arrangement forms thirteen triangles.



How many triangles are:

- **small:**
- **medium:**
- **large:**

Can you remove just three lines to leave just four triangles?

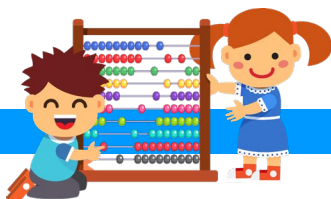
Comparing and classifying shapes, line segments and angles are aspects that are often involved in geometry. If you need to classify triangles, you have to consider: angles, lines or angles and lines.



Read and match.

What is the correct definition?

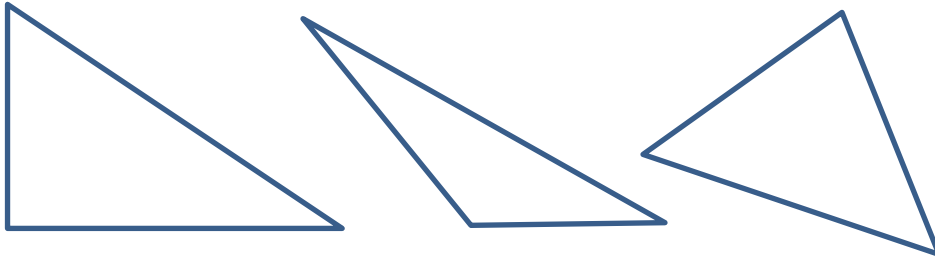
- | | | |
|---------------|---|---|
| Comparing | • | • It is the space between two lines or surfaces at the point at which they touch each other, measured in degrees. |
| Classifying | • | • It is a part of a line that has two end points. |
| Line Segments | • | • to examine or look for the differences between two or more things |
| Angles | • | • to divide things into groups according to their type |





Look at the triangles and talk to a friend.

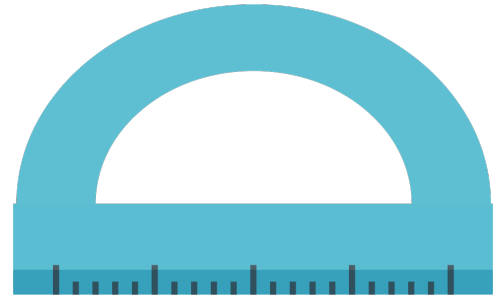
How are the triangles different?



Protractor

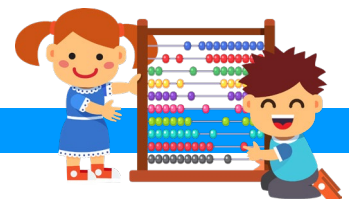
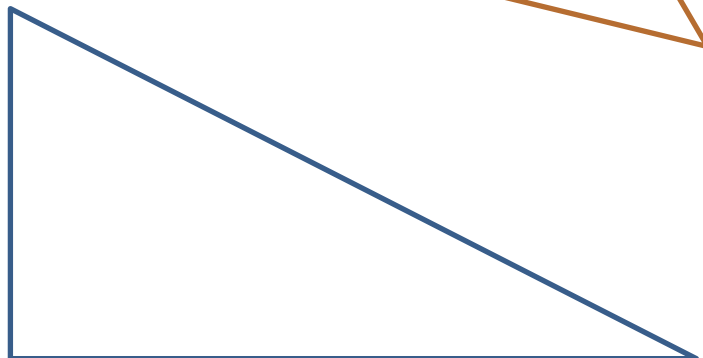
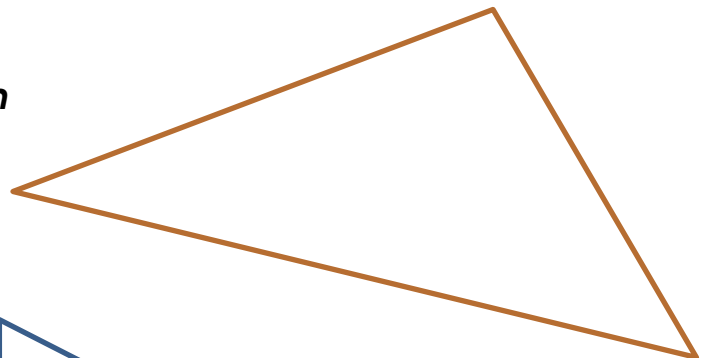
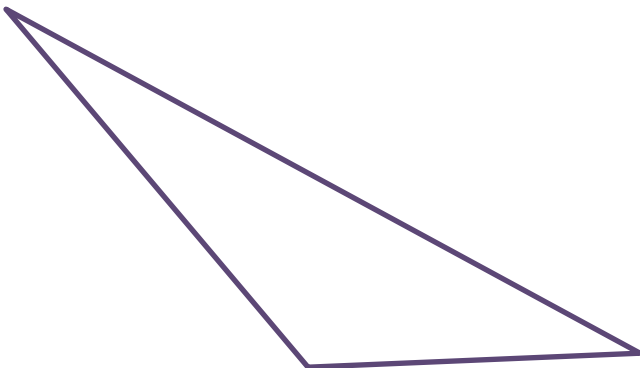
A protractor is a type of ruler that is used for measuring and drawing angles.

It is usually in the form of half a circle made from transparent plastic with numbers (degrees) printed on it.



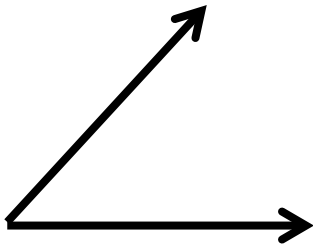
Use a protractor to measure the three interior angles of each triangle. Then read the descriptions on the next page and say what type of angle each is.

“Write the measurement of each angle in degrees.”

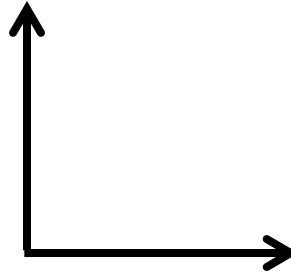




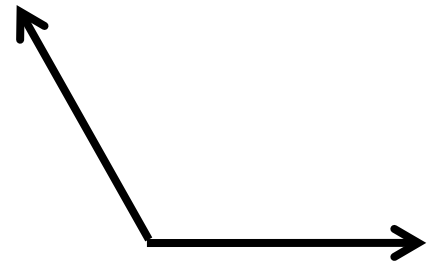
An acute angle measures **less than** 90° .



A right angle measures **exactly** 90° .



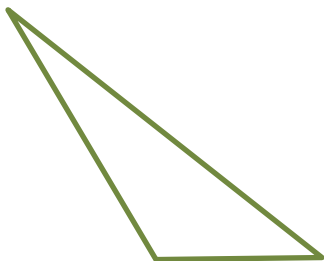
An obtuse angle measures **more than** 90° **and less than** 180° .

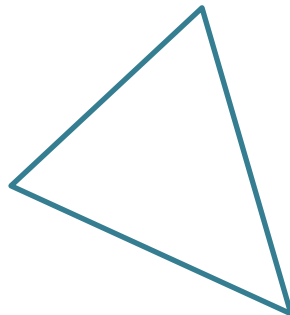


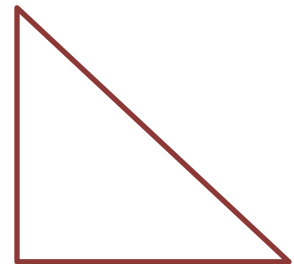
It is time to classify the triangles according to the measurement and the types of angles.

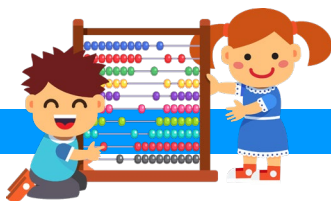
- If any of the angles is **greater than 90°** , name the triangle as an **obtuse**.
- If the triangle possesses **a right angle of 90°** , classify it as a **right triangle**.
- If all three angles are **less than 90°** , categorize the triangle as **acute**.
- There is another option:
If all three angles are congruent, categorize it as an **equilateral triangle**.
- In an equilateral triangle, all three of the angles **will be 60°** , because the sum of the three interior angles in a triangle is always **180°** . An equilateral triangle is in the acute category.

Use the measurements you wrote in the previous activity to write what type of triangle each is.





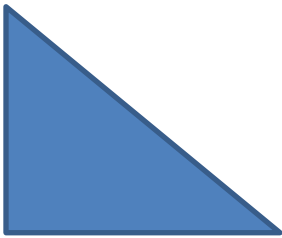


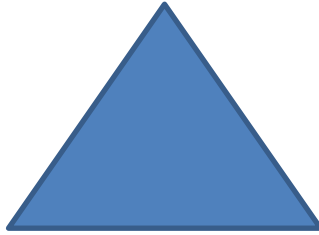


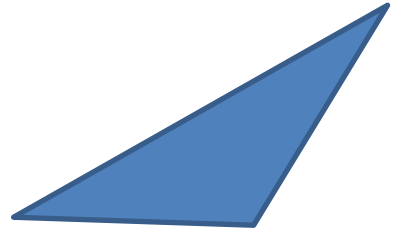


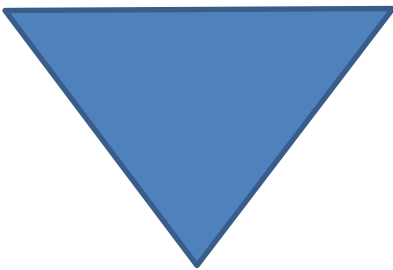
Identify each triangle based on angles. Use a protractor.

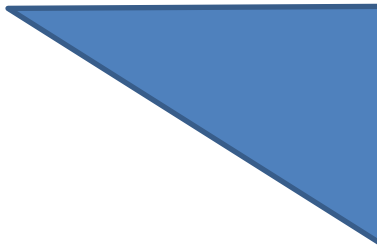
Acute, Obtuse or Right?

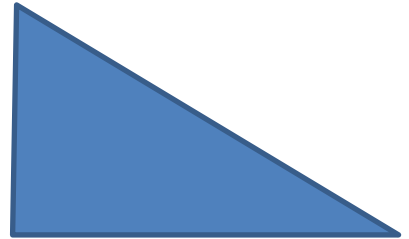


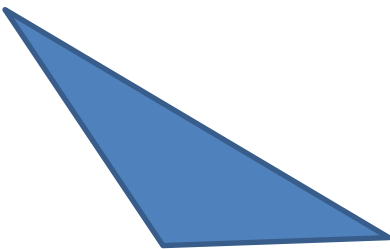


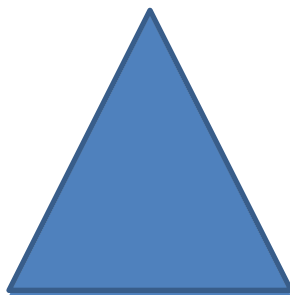


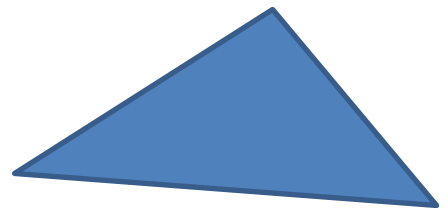


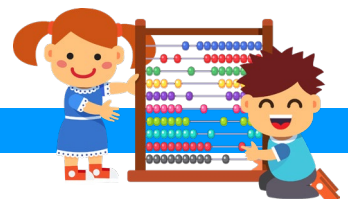










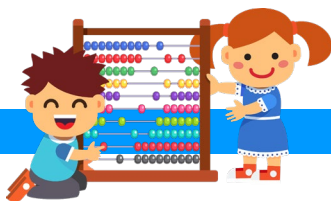
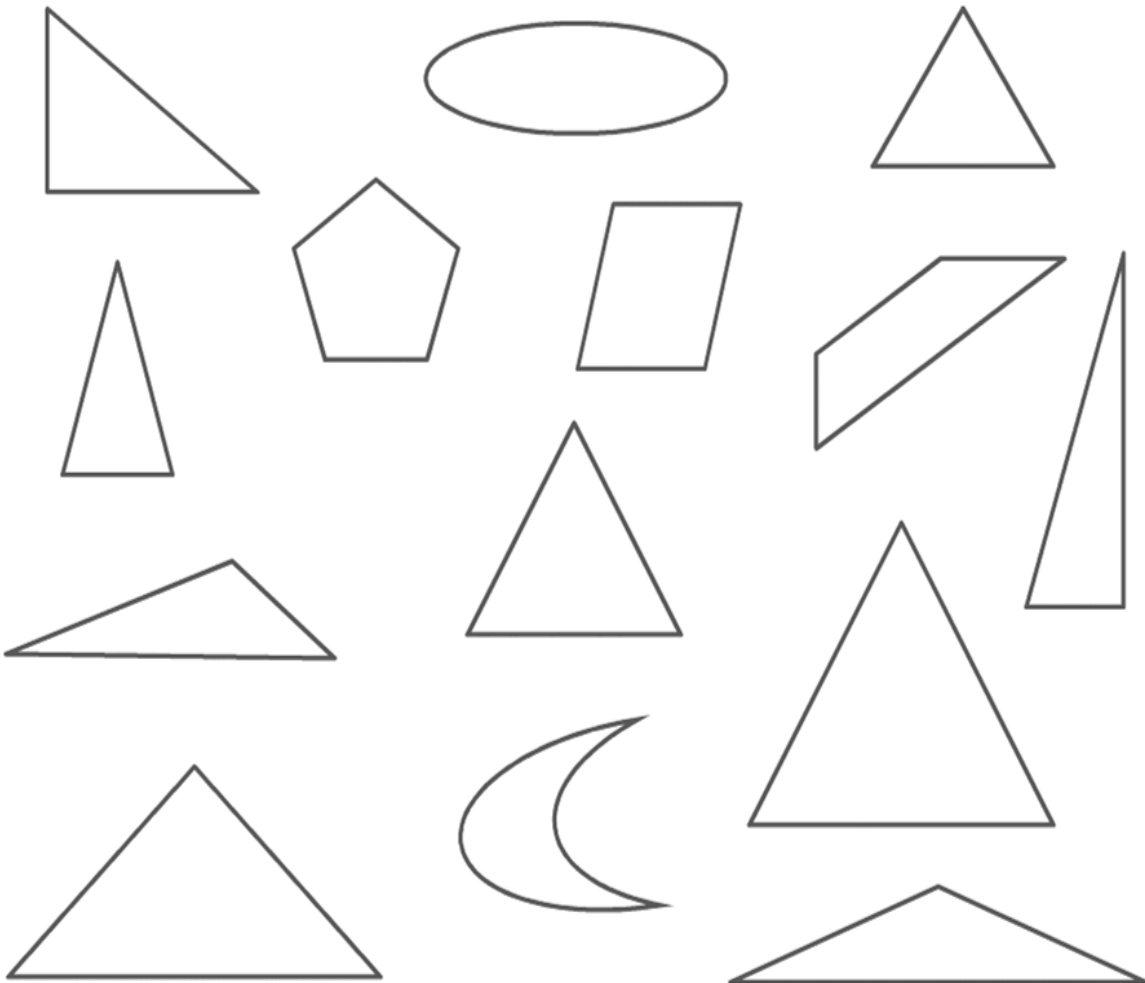




You're up!

Read and colour.

Name	Characteristics	Colour
Equilateral triangles	All sides equal All angles equal	Orange
Isosceles triangles	2 sides equal 2 angles equal	Green
Scalene triangles	No sides equal No angles equal	Blue





Time



TAKE THE CHALLENGE



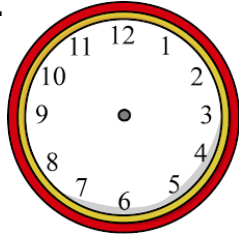
Read, draw and write.

Simon got to the sports centre at 4 o'clock.

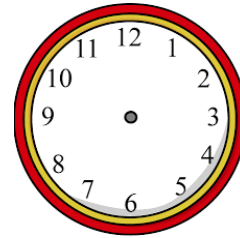
He went home at 7 o'clock.

For how long was Simon at the sports centre?

Draw the time when Simon got to the sports centre.



Draw the time when he went home.



Look at the lines. They show the number of words you have to write for the answer.

He _____.

Talk to a friend and write.

1 hour has _____ minutes.

1 week has _____ days.

1 day has _____ hours.

1 year has _____ months.

Do the math.

How many minutes are there in ...?

6 hours = _____

3 hours = _____

5 hours = _____

8 hours = _____

How many hours are there in...?

3 days = _____

2 days = _____

6 days = _____

4 days = _____

How many days are there in...?

3 weeks = _____

4 weeks = _____

7 weeks = _____

2 weeks = _____

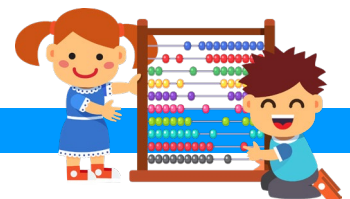
How many months are there in...?

6 years = _____

2 years = _____

5 years = _____

3 years = _____



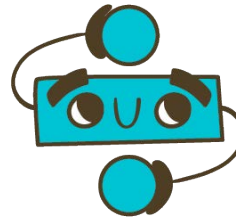


Every time the minute hand gets to another number, it means that 5 minutes have passed (by).

Pay attention to the words in colour. They show when you have to make a change.

Tip

- past = after
- to = before
- and a half = 30 minutes past or after
- o'clock = a new hour starts



Look and write.



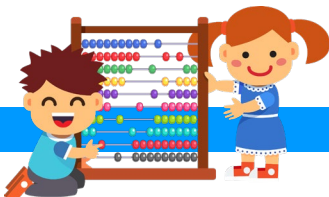
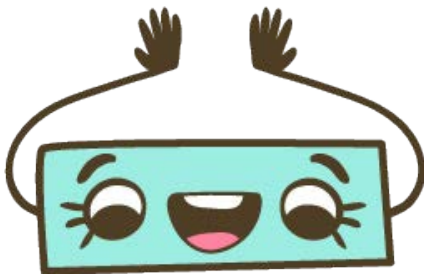
It is 5 **past** 12.



It is ___ **past** ___.



It is ___ **past** ___.





It is ___ **past** ___.



It is ___ **past** ___.



It is 12 **and a half**.



It is ___ **to** ___.



It is ___ **to** ___.



It is ___ **to** ___.



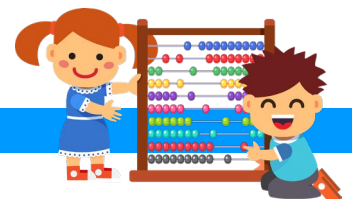
It is ___ **to** ___.



It is ___ **to** ___.



It is ___ **o'clock**.





What do the hands tell?

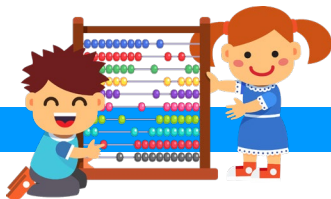
The short hand of a clock tells you the hour.

The long hand of a clock tells you the minutes.

Read and write.



1. The long hand points to the number **1**, it means **5** minutes **after** the hour.
2. The long hand points to the number **2**, it means **10** minutes **after** the hour.
3. The long hand points to the number ____, it means ____ minutes after the hour.
4. The long hand points to the number ____, it means ____ minutes after the hour.
5. The long hand points to the number ____, it means ____ minutes after the hour.
6. The long hand points to the number ____, it means ____ minutes after the hour.
7. The long hand points to the number ____, it means ____ minutes before the next hour.
8. The long hand points to the number ____, it means ____ minutes before the next hour.
9. The long hand points to the number ____, it means ____ minutes before the next hour.
10. The long hand points to the number ____, it means ____ minutes before the next hour.
11. The long hand points to the number ____, it means ____ minutes before the next hour.
12. The long hand points to the number ____, it means o'clock - the next hour starts.

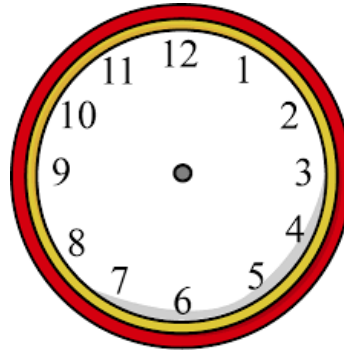




Read, draw and write.

Draw a short hand pointing to the number six.

Draw a long hand pointing to the number four.



What time is it?

___ : ___

Draw a short hand pointing to the number nine.

Draw a long hand pointing to the number eleven.

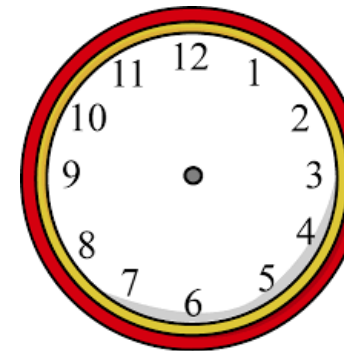


What time is it?

___ : ___

Draw a short hand pointing to the number three.

Draw a long hand pointing to the number nine.

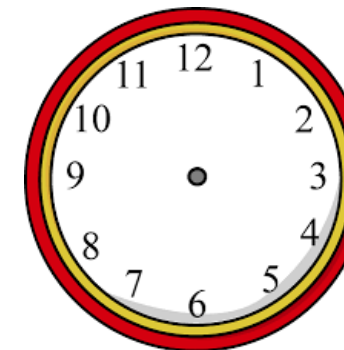


What time is it?

___ : ___

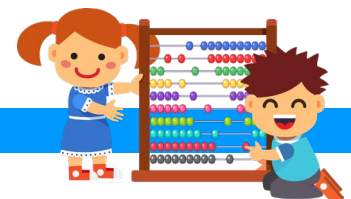
Draw a short hand pointing to the number eight.

Draw a long hand pointing to the number ten.



What time is it?

___ : ___





When the long hand gets to the numbers 3 and 9, we call that a **quarter**. When the long hand gets to the number 3, it is a **quarter past** or a **quarter after** the hour. When the long hand gets to the number 9, it is a **quarter to** or a **quarter before** the next hour.

Look and write the time using **a quarter**.



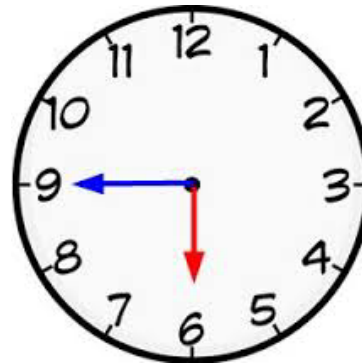
It is _____



It is _____



It is _____



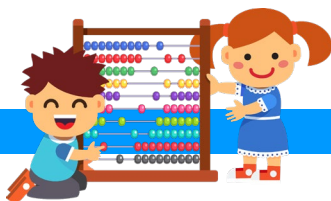
It is _____



It is _____



It is _____





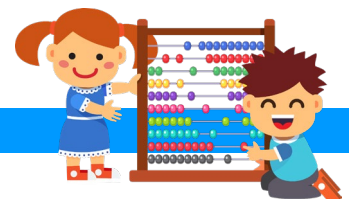
The calendar

Write the months of the year and a celebration in each month. Look at the examples.

January 1st New Year's Day	F _____, _____	M _____, _____
A _____, _____	M _____, _____	J _____, _____
J _____, _____	A _____, _____	S _____, _____
O _____, _____	N _____, _____	December 31st New Year's Eve

Look at a calendar and answer the questions.

- Which months have five Wednesdays? _____
- How many Mondays does May have? _____
- What's the date of the third Thursday of September? _____
- What's the date of the first Friday of April? _____
- What day of the week is August 22nd? _____
- Which is the seventh month of the year? _____
- How many days does February have? _____
- What day of the week is June 15th? _____





You're up!

Read and write.



What time is it? _____

What time will it be in 2 hours? _____

What time was it 1 hour and 25 minutes ago? _____

What time will it be in 3 hours and 10 minutes? _____



What time is it? _____

What time will it be in 3 hours? _____

What time was it 6 hours ago? _____

What time will it be in 4 hours and 17 minutes? _____

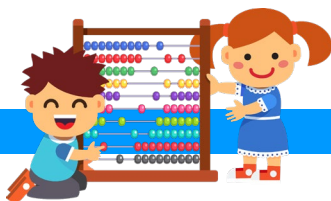


What time is it? _____

What time will it be in 40 minutes? _____

What time was it 35 minutes ago? _____

What time will it be in 5 hours? _____





Handling data



TAKE THE CHALLENGE



Read and answer the questions.

A gardener has a big farm.
There are 12 rows on his farm.
He can plant 8 trees in each row.
This time he is going to use 7 rows.

How many trees can he plant in total?

How many trees is he going to plant this time?

How many rows will have no trees?

How many trees will not grow this time?

Pictograms

Read and unscramble the words to complete the explanation.

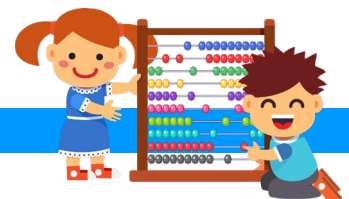
A **pictogram** is a (ctrah) _____ that uses (pucesitr) _____ to represent data.

Pictograms are set out in the form of (cmsnlou) _____ - columns of pictures are used to show the (nbsmeru) _____ involved.

Write the names of five fruits. Then interview your friends and tick their answers.

- What is your favourite fruit?

Fruits	Friend 1	Friend 2	Friend 3	Friend 4	Friend 5	Friend 6	Friend 7
1.							
2.							
3.							
4.							
5.							





Write the results of your survey. There is one example.

Fruits	How many kids like the fruit	Pictures
banana	5	
1.		
2.		
3.		
4.		
5.		

Read and show the information with a pictogram.

A girl went to the bookstore with her parents last Saturday. Her mum bought some magazines. Her dad bought 2 history books. Mum asked the girl, "What book do you want to buy?" The girl said she wanted a book about animals.

After a few minutes, the girl found a great book about birds.

The girl cannot read it in one day because she has many things to do.

She has homework from school and she has to help her mum with the chores.

So she decided to read a few pages every day starting next Monday.



Day 1 - 6 pages

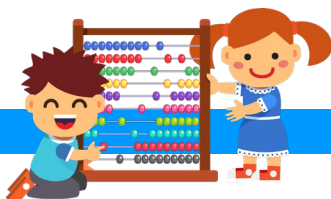
Day 2 - 8 pages

Day 3 - 5 pages

Day 4 - 8 pages

Day 5 - 7 pages

Day 6 - 10 pages



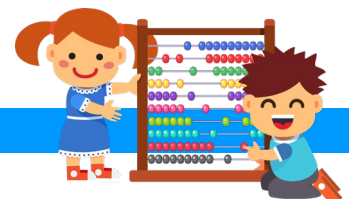


Write the information. There is one example.

Days	Number of pages	Pictures
Sunday	6	

Read and write. Use the information from the pictogram.

1. Number of pages the girl has read by Wednesday. _____
2. Number of pages the girl has read by Friday. _____
3. Total number of pages the book has. _____
4. When will she finish reading the book? _____





Bar graphs

Read and complete the explanation.

have

another

bar

presents

values

A **bar graph** is a chart that _____ grouped data with rectangular bars.

They _____ lengths proportional to the _____ they present.

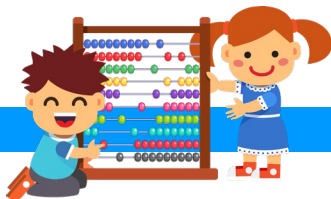
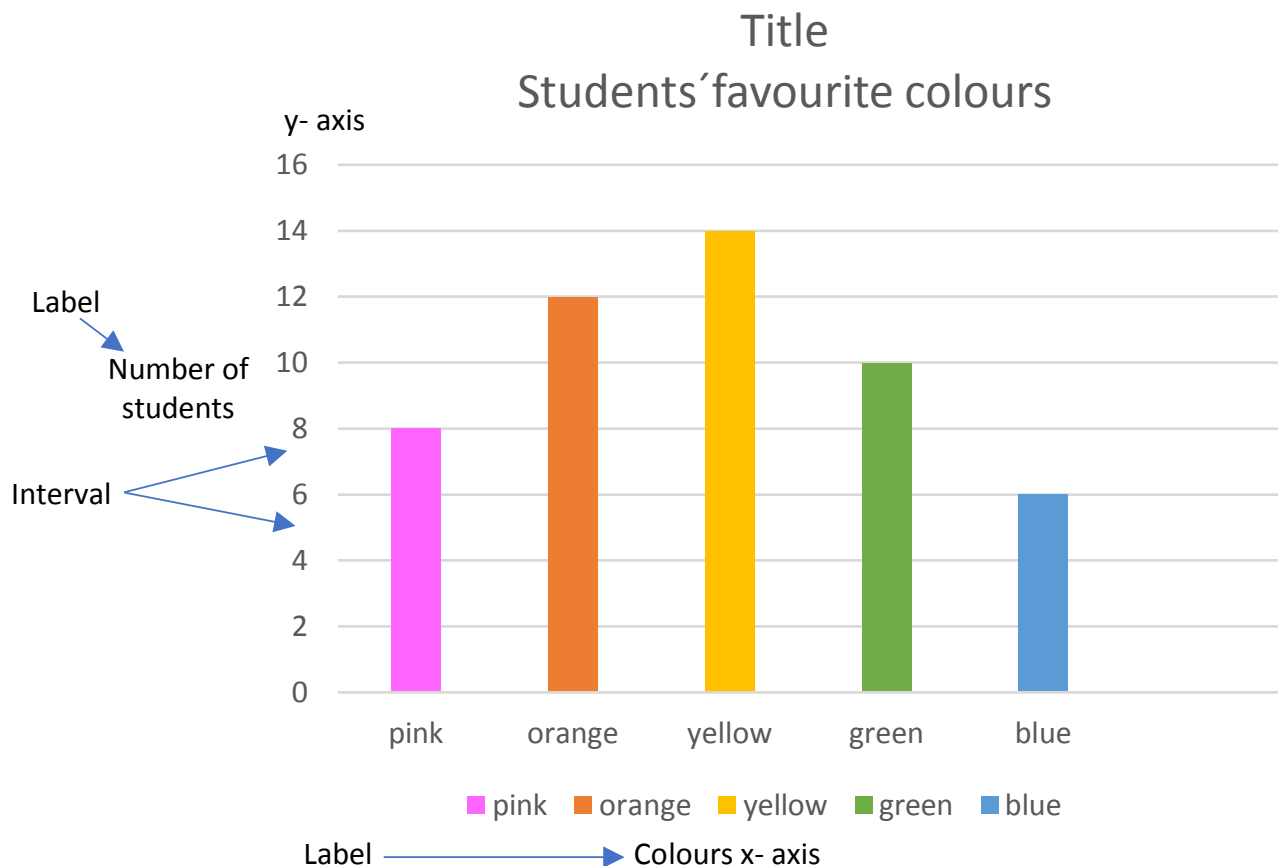
You can draw the bar vertically or horizontally.

There is _____ name for a vertical _____, it is **Line Graph**.

Look, read and talk to a friend about the parts of a graph.

- What does this part show?

Parts of a bar graph

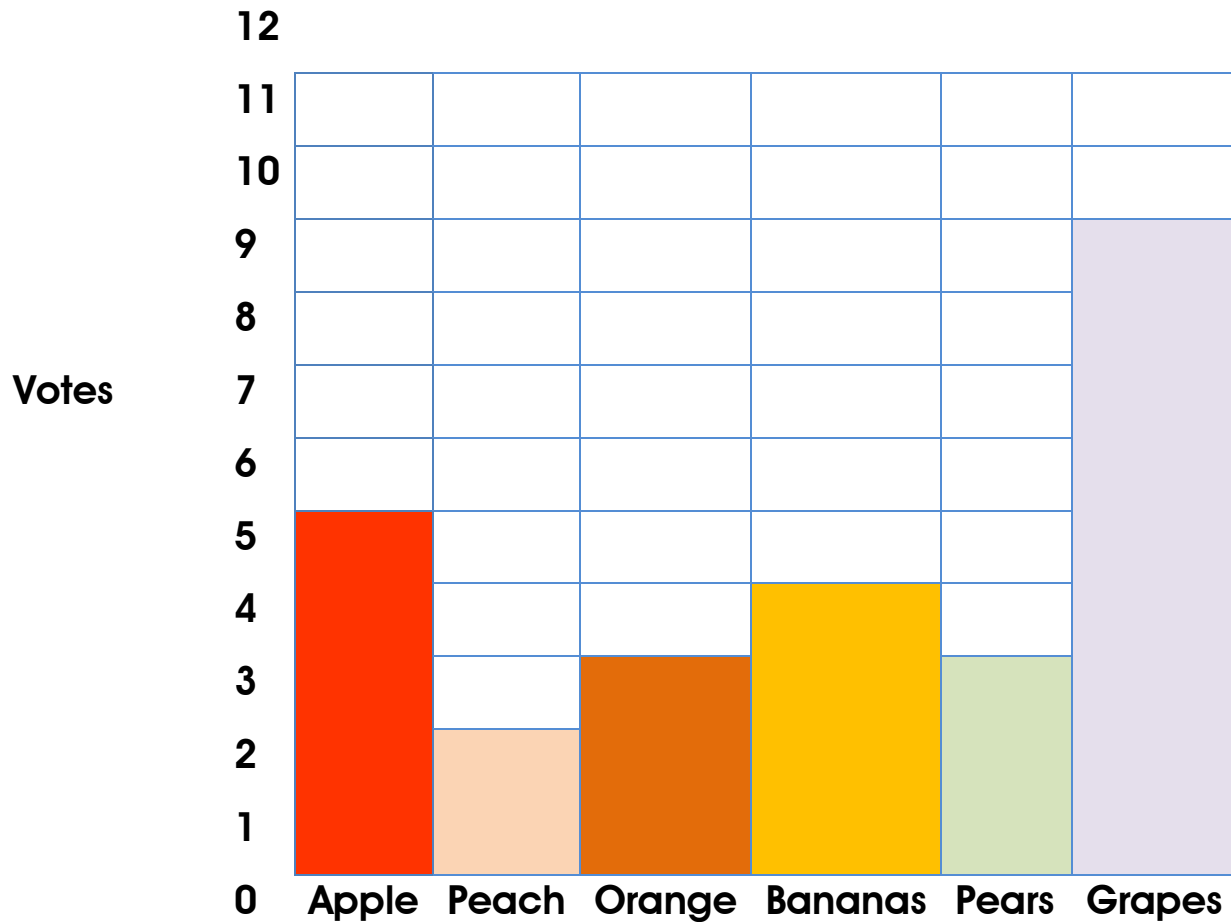




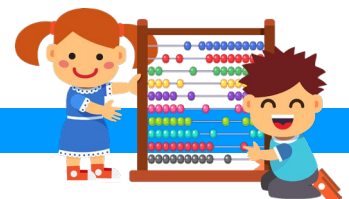
Read and answer the questions.

All the children in 3rd grade voted on the tastiest fruit.

The tastiest fruit



1. How many children voted?
2. Which fruit got the most votes?
3. How many votes did apples get?
4. How many votes did grapes get?
5. How many votes did bananas get?
6. Which fruit got the least votes?

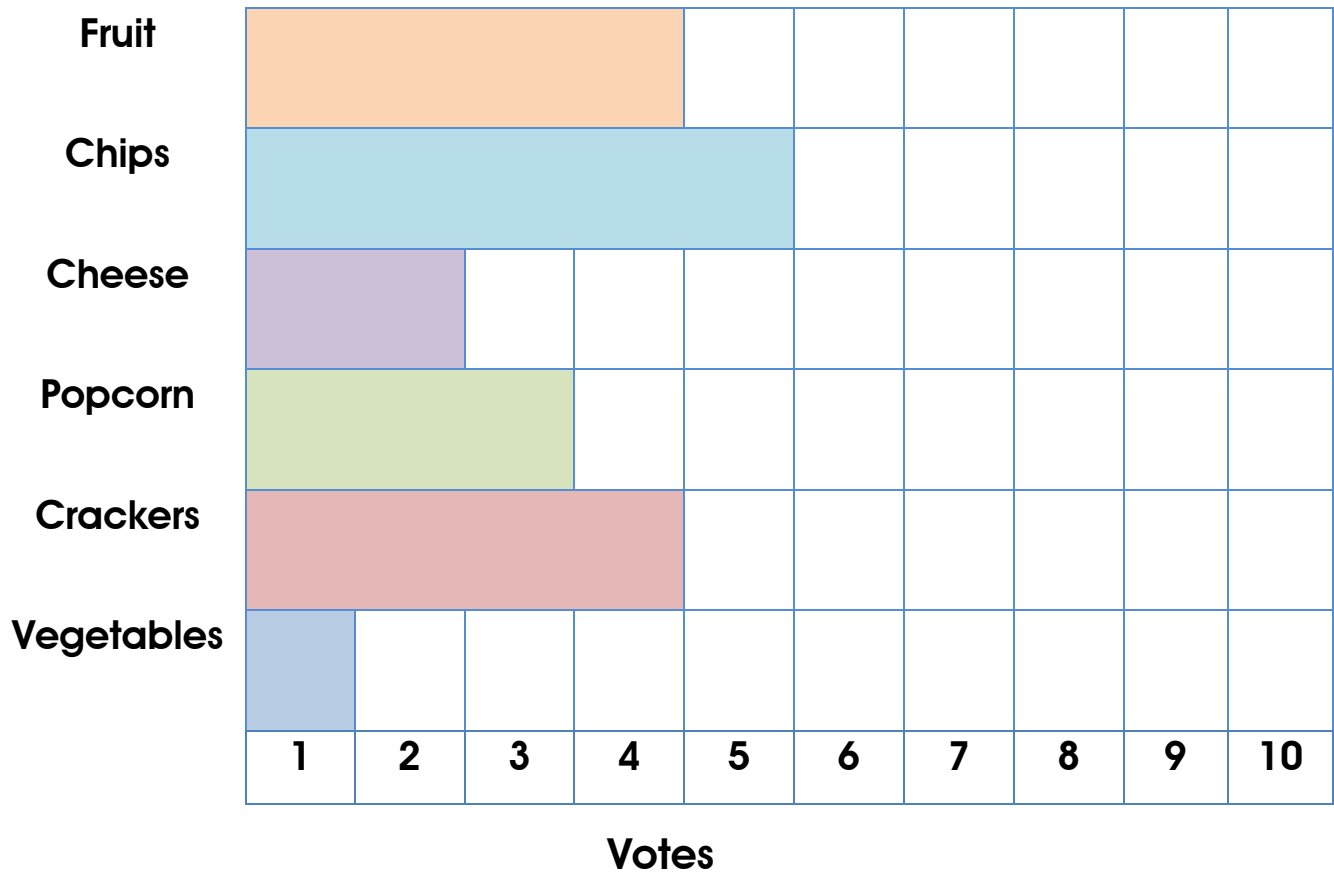




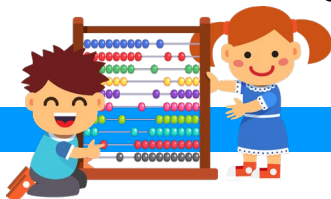
Read and answer the questions.

All the students in 3rd grade voted on their favourite snacks.

Favourite snacks



1. How many students voted? _____
2. Which snack got the most votes? _____
3. How many votes did cheese get? _____
4. How many votes did vegetables get? _____
5. How many votes did chips get? _____
6. Which snack got the least votes? _____



[illegible]



UNIT 3 Addition and subtraction



TAKE THE CHALLENGE



Use the digits to make the largest numbers.
Then explain the rule for always making the largest number.

a) 4 7 9
2 8 6

b) 5 8 3
7 1 0

c) 3 7 6
8 2 5

The rule is: _____

_____.

Colour the boxes to match.

H	T	U
24	9	125
Units	Hundreds	Tens

Read and write. Then do the math!!!

a) What is 235 added to 412?

b) What is 259 added to 134?

This is the process for the first question a).

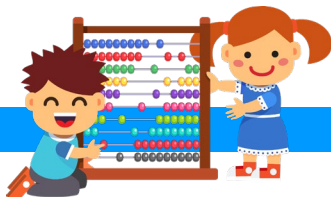
Step 1.

	H	T	U	
	2	3	5	
+	4	1	2	

Step 2.

	H	T	U	
	2	3	5	
+	4	1	2	

			7	





Step 3.

	H	T	U	
	2	3	5	
+	4	1	2	

		4	7	

Step 4.

	H	T	U	
	2	3	5	
+	4	1	2	

	6	4	7	

Answer:

So 235 added to 412 is 674.

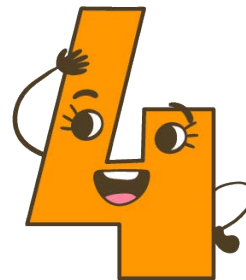
Try the same process for the second question.

This is the process for question b).

Answer:

So _____ added to _____ is _____.

	H	T	U	
+				



Read and answer the questions.

Your mom notices you need a new pair of shoes and a new pair of sneakers.

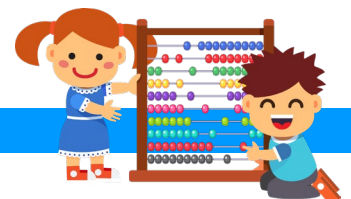
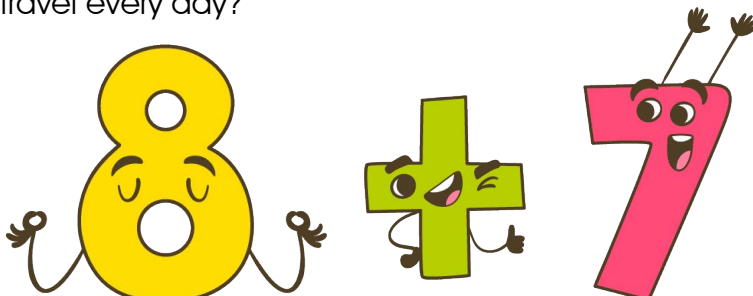
The pair of shoes costs \$348 and the pair of sneakers costs \$ 639.

How much money does your mum need?



A school bus travels 340 km to collect all the kids from their homes in the morning.

In the afternoon, the school bus travels 485 km to drop kids at their homes. How many kilometres does the bus travel every day?





Read and complete.

Look at these numbers. Notice that they have four or five digits. The process for adding numbers this big is the same; just continue until you have no more numbers to add.

1172

1460

1537

16306

13169

a) What is 1460 added to 1172?

So _____ added to
_____ is _____.

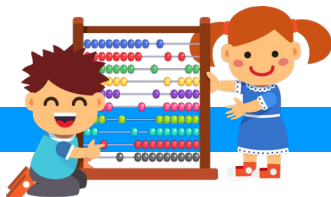
b) What is 16306 added to 13169?

So _____ added to
_____ is _____.

Read and answer the questions.

The following chart shows information about candy that some kids have helped to sell. The money will be used to provide shelter for abandoned dogs.

Candy	Betty	Sally	Peter	Emma	George	Totals
Lollipops	35	69	24	38	15	
Packs of biscuits	25	64	12	36	21	
Bars of chocolate	26	58	6	24	20	
Candy canes	12	24	24	26	14	
Packs of gummy bears	57	26	8	26	12	
Total of candy each kid sold						





How many kids participated in the activity?

How many different candies were sold?

How many **Lollipops** were sold?

How many **Packs of biscuits** were sold?

How many **Bars of chocolate** were sold?

How many **Candy canes** were sold?

How many **Packs of gummy bears** were sold?

What is the total number of candies that each kid sold?

Betty: _____

Sally: _____

Peter: _____

Emma: _____

George: _____

What is the total number of candies sold?

Read and answer the questions.

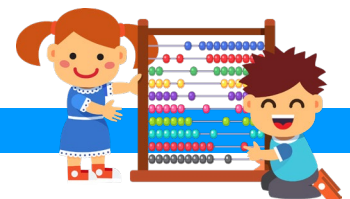
Draw lines of 3 numbers that together add 10. There are nine different totals of 10 to find. The lines can be horizontal, vertical or diagonal.

How many totals of 10 did you find?

What is the largest total of 3 numbers in a line?

What is the lowest total of 3 numbers in a line?

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





Find the pair of numbers that add up to:

3781 – colour them blue.

6044 – colour them yellow.

7390 – colour them pink.

1150	2864	9873	3723
3629	2731	2631	1287
2321	3054	3057	4659

Read and circle the numbers that match up to the number in the box.

7 – 3	16 – 6	26 – 11	31 – 20	36 – 18
9 – 4	11 – 8	18 – 3	30 – 14	20 – 11
12 – 9	9 – 6	12 – 9	14 – 7	28 – 18
13 – 8	21 – 19	8 – 4	26 – 19	26 – 16
5	3	15	7	10

Read and answer the question with a friend.

- How is the process of subtracting different from the process of adding?

The process for subtracting is also an easy-peasy one.

a) What is 754 subtract 431?

	H	T	U
	700	50	4
	400	30	1

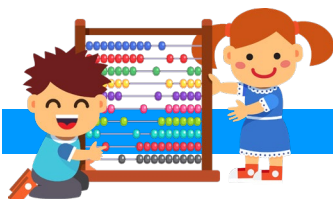
	300	20	3

Put the numbers
together



	H	T	U
	7	5	4
	4	3	1

	3	2	3





Read and answer the questions.

- What is 895 subtract 743?

- What is 928 subtract 617?

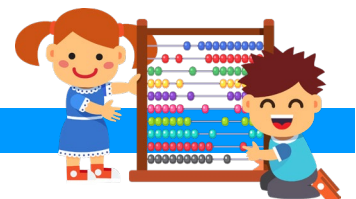
- What is 7483 subtract 5372?

Read and answer the questions with a friend.

-3 9 6 1

1 9 7 2

- What is 3961 subtract 1972?
- How is this operation different from the ones you tried before?



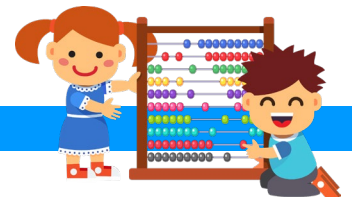


Read and answer the questions.

Kids from different schools are going to participate in this year's marathon. There will be different categories.

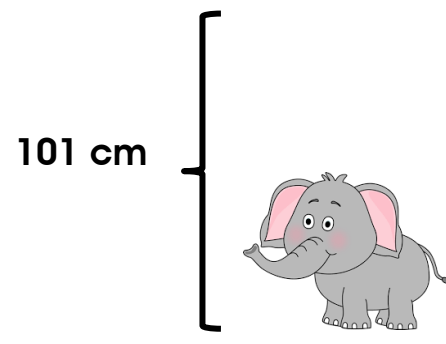
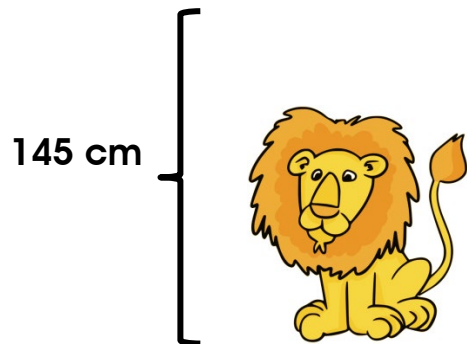
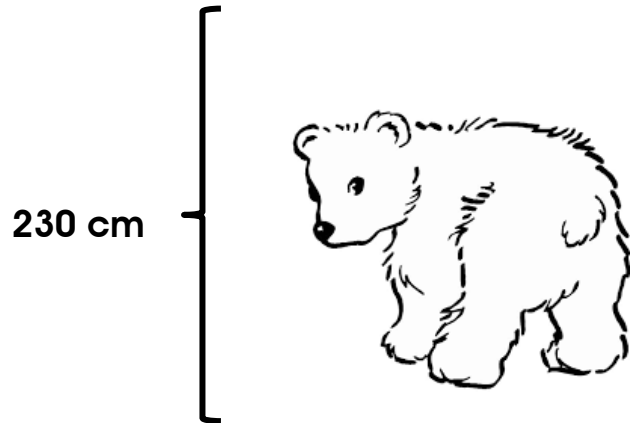
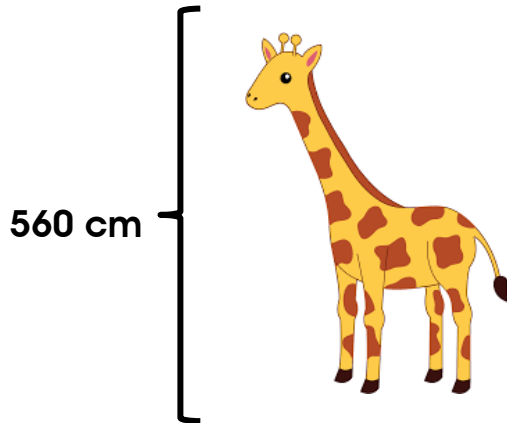
N.	Name of school	Categories / level	Length in Meters
1.	Valley	Basic 1	4250
2.	Sunny Day	Basic 2	4500
3.	Happy Kids	Intermediate	6250
4.	Love for Learning	Advanced	6500
5.	New World	Expert	6750
6.	New Learning	Master	7000

1. What is the difference in length between the Intermediate and Advanced levels? _____.
2. Which category is 2750 m shorter than the Master category?
_____.
3. How much longer is the Expert level than the Intermediate level?
_____.
4. How much shorter is the Basic 2 level than the Expert level?
_____.
5. Which categories have a difference of 500 m?
_____.
6. Which categories have the smallest difference in length?
_____.
7. Which categories have the longest difference in length?
_____.





Look at the height of the different animals and answer the questions.



- a) What is the difference in height between the giraffe
and the polar bear?
- b) How much taller is the polar bear than the baby
elephant?
- c) How much smaller is the elephant than the lion?
- d) How much shorter is the lion than the giraffe?

Look and find the missing numbers.

a)

H	T	U
4		4
- 2	6	0

	3	4

b)

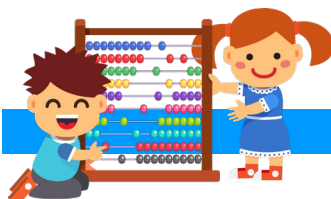
H	T	U
5	3	
- 4		8

1	1	6

c)

H	T	U
9	2	
-		3

2	4	4





d) H T U

$$\begin{array}{r} \\ - \\ \hline \end{array}$$

 2 3 0

e) H T U

$$\begin{array}{r} \\ - \\ \hline \end{array}$$

 2 ___ 4

f) H T U

$$\begin{array}{r} \\ - \\ \hline \end{array}$$

 ___ 6 0

Read and complete. Then answer the questions.

difference

much

take

between

subtract

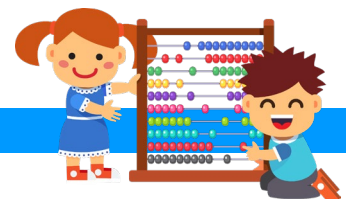
a) What is 8135 7112?

b) What is the between 4757 and 3412?

c) What is 6988 away 2500?

d) How less is 4203 than 5473?

e) What is the difference 3512 and 1010?



Read and complete. Then answer the questions.

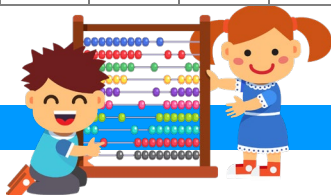
much
How

is
away

Subtract
subtract

from
than

- What _____ the difference between 2769 and 4839?
- What is 1602 less _____ 5571?
- _____ much longer is 9044 cm than 6253 cm?
- What is 6417 _____ 4058?
- How _____ heavier is 8001 kg than 2165 kg?
- Take away 4589 marbles _____ 7236 marbles.
- What is 3960 take _____ 1972?
- _____ 4668 from 6205.

[illegible]



You're up!

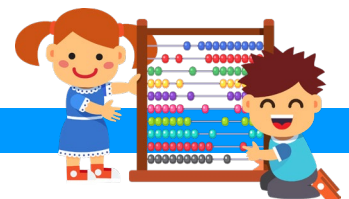
Practice subtracting 1, 10, 100 and 1000 from different numbers.

Number	-1	-10	-100	-1000
8213	8212	8202	8102	7102
7382				
9534				
6839				
	3297			
		4214		

Subtract the numbers. Then use the adding method to check if the result is correct.

Once you have the correct answers, find the operations in the board.

→	7	9	6			6	8	3			6	7	5	3			6	8	1	6	
-	5	2	4		-	4	5	1		-	3	4	1	2		-	4	6	1	2	
	-----					-----					-----						-----				
	2	7	2	✓																	
+	-----																				
→	7	9	6																		





Multiplication and division

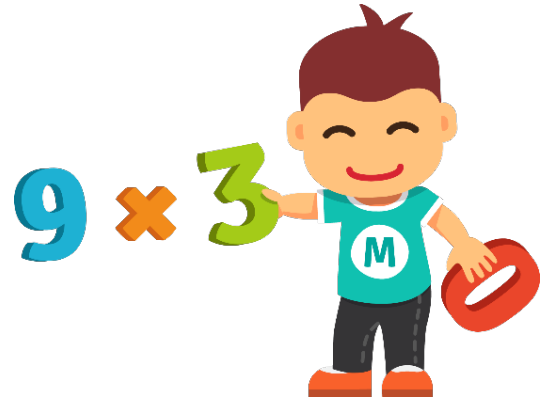


TAKE THE CHALLENGE



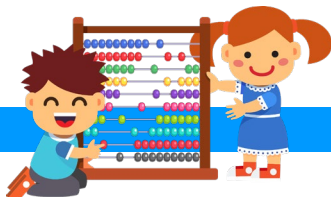
Find the missing numbers to complete the crossnumber puzzle.

2	X		=	6		X	6	=	18
				X		X			
	X	1	=			8	X	2	=
			=			=			
		X	12	=					
	X	7	=			3	X	4	=
X				X		X			
9		4	X		=				
=				=		=			
27				42			X		= 72



Look at the chart and write the missing numbers. You don't need the last column now.

Times	0	1	2	3	4	5	6	7	8	9	10	11	
1	0	1		3		5		7		9	10		
2	0	2	4		8		12		16			22	
3	0		6		12	15		21		27		33	
4	0		8	12									
5	0	5	10		20		30		40		50		
6	0	6		18		30		42		54		66	
7	0		14				42		56		70		
8	0	8		24	32			56		72		88	
9	0	9			36		54					99	
10	0			30		50				90			





Read and answer the questions.

12 kids were invited to Alan's party. Alan's parents offered to take all the kids back to their homes when the party is over.

The problem is that they can take 4 kids at the time in their car.

How many rides will be needed to take all the kids to their homes? _____

Explain what you did to discover the answer.

Alan's mum wants to prepare some goody bags for Alan's friends. She wants to put 2 bars of chocolate, 6 candy canes and 3 cookies in each bag.

How many bars of chocolate, candy canes and cookies will Alan's mum

need? Bars of Chocolate: _____ Candy canes: _____ Cookies: _____

Explain what you did to discover the answer.

Go back to the chart on page 58. Write the number 12 and complete the table. Use it to check the answers for the questions about Alan's party.

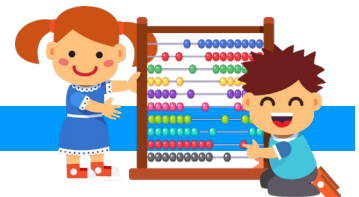
Look and write.

- Can you follow the pattern?

13	26			
----	----	--	--	--

52	65			
----	----	--	--	--

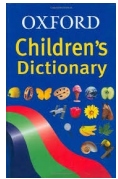
78	91			
----	----	--	--	--





Read and write the total cost for each grade. Then answer the questions.

A school is celebrating that they are participating in a National Spelling Competition. The principal is preparing some bags with gifts for the 6 kids who are participating in the event.



\$ 125



\$ 75



\$ 90



\$ 48



\$ 43



\$ 35

Grade	Gifts				Total cost
1 st	a fanny pack	a cap	a pencil case	a pack of colours	
2 nd	a fanny pack	a cap	a calculator	a pack of colours	
3 rd	a dictionary	a cap	a pencil case	a fanny pack	
4 th	a dictionary	a fanny pack	a calculator	a pack of colours	
5 th	a dictionary	a cap	a fanny pack	a calculator	
6 th	a dictionary	a cap	a fanny pack	a pack of colours	

- How much is she going to spend on...

a) dictionaries?

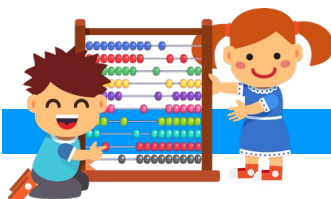
d) pencil cases?

b) caps?

e) calculators?

c) fanny packs?

f) packs of colours?





Read and answer the questions.

Giovanna has invited 5 friends for dinner. Giovanna asked her mum if they could have ice cream for dessert. Giovanna's mum bought 18 scoops of ice cream.

How many scoops will each girl have? _____

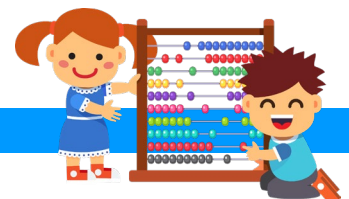
What did you do to find the answer? _____

Pay attention to how multiplication and division are related.

- Multiply 3 by 6. It is _____.



- Divide 18 by 6. It is _____.





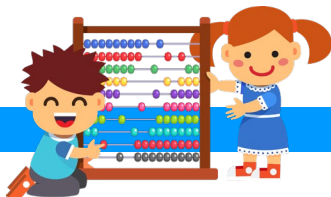
Look, read and complete.

So multiplication and division are inverse operations of each other.

- Change the multiplication into division.
- Change the division into multiplication.

Add one more example.

0.	$10 \div 5 = 2$	means	$2 \times 5 = 10$	and	$5 \times 2 = 10$
1.	$8 \div 4 =$	means		and	
2.	$15 \div 3 =$	means		and	
3.	$80 \div 10 =$	means		and	
0.	$5 \times 9 =$	means	$45 \div 9 = 5$	and	$45 \div 5 = 9$
4.	$2 \times 8 =$	means		and	
5.	$7 \times 4 =$	means		and	
6.	$6 \times 9 =$	means		and	
7.					





Look and complete.

$$36 \div 6 = 6 \quad \text{o r} \quad \begin{array}{r} \times \quad 6 \\ 6 \overline{) 36} \\ \underline{0} \end{array}$$

$$27 \div 9 = 3 \quad \text{o r} \quad \begin{array}{r} \times \\ \hline \end{array}$$

$$54 \div 9 = 6 \quad \text{o r} \quad \begin{array}{r} \times \\ \hline \end{array}$$



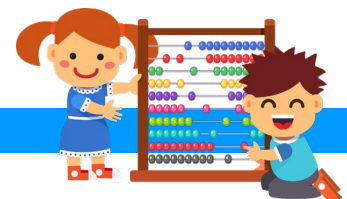
Answer the following division problems. Write the two ways in which you can show the operation.

1. There are 8 children in a soccer team. 32 small bottles of water will be given to the team.
How many small bottles of water will each kid get?

a)									b)								

2. A farmer is going to plant 48 trees. There are 8 rows in the field.
How many trees is he going to plant in each row?

a)									b)								





What happens
when the result is
not 0?

Answer the following
problems. Then come back
and write the answers.



Problem 1: 8 R 6

Problem 2: _____

Mrs Wood sells delicious cookies. She sells them in beautiful boxes. She always puts 8 cookies in each box. At this moment she has 70 cookies.

How many boxes can she sell now? _____

Will there be cookies left? _____

How many cookies will be left? _____

x	8	8
8	$\overline{) 70}$	X 8
	$\underline{-6} $	-----
	0 6	6 4
	↑	+ 6 ←

		7 0

An English teacher has bought 21 pencil cases for her students. She wants to put 12 colours in each pencil case. At this moment she has 251 colours.

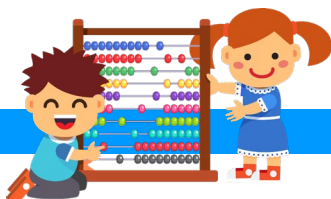
Can she complete all the pencil cases?

Does she have enough colours?

Does she need more colours?

If so, how many?

						X		





You're up!

Read and find the answers. Then tick the box for the problem that is not a multiplication problem.

1. A bus travels for 4 hours at 43 miles per hour. How far has it travelled?

☐

2. A packet of gummy bears holds 35 sweets. How many sweets are in 5 packets?

☐

3. A cellphone can take photos at 24 frames per second. How many frames could it take in 3 seconds?

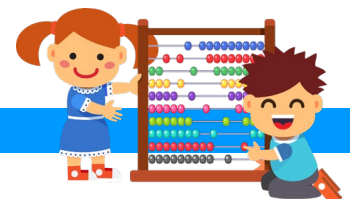
☐

4. A tablecloth is 3 m long. If I cut the table cloth into 6 equal lengths, how long will each piece be?

☐

5. A school orders crayons in packs of 26. How many crayons are in 7 packs?

☐





Time problems



TAKE THE CHALLENGE



Look at the boxes below. Use multiplication and division to fill in the fact boxes.

$$\begin{array}{ccc} & 28 & \\ 7 & \times \div & 4 \end{array}$$

	X		=	
	X		=	
	÷		=	
	÷		=	

$$\begin{array}{ccc} & 30 & \\ 6 & \times \div & 5 \end{array}$$

	X		=	
	X		=	
	÷		=	
	÷		=	

$$\begin{array}{ccc} & 72 & \\ 9 & \times \div & 8 \end{array}$$

	X		=	
	X		=	
	÷		=	
	÷		=	

Read and match the information.

It is ten past two in the afternoon – join the parts using a yellow colour.

It is twenty-five after three in the afternoon – join the parts using a blue colour.

It is twelve to seven in the morning – join the parts using an orange colour.

It is five before nine in the morning – join the parts using a green colour.



3.25

a.m.



6.48

p.m.



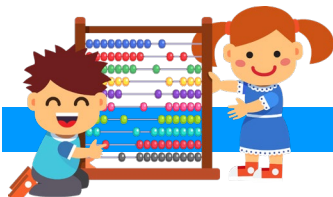
8.55

a.m.



2.10

p.m.





Read and circle the correct option.

You can show the time in the morning by using p.m. / a.m.

You can show the time in the evening by using a.m. / p.m.

Read and show when the events happened on the timeline.

The soccer game started at 5.00 p.m. The halftime show started at 5.50. The game finished at 6.45 p.m. We had burgers at 7.30 p.m. Finally, we got home at 9.00 p.m.

4.00

10.00



My mum always starts cooking at 2.00 p.m. We get home from school at 3.00 p.m. Dad gets home from work at 5.00 p.m. We start eating at 5.30 p.m. We finish cleaning at 6.15 p.m. We watch TV at 7.00 p.m.

1.00

8.00

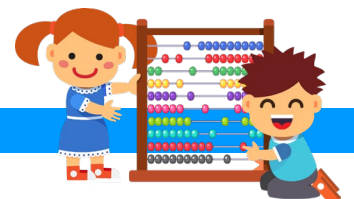


I went to a rock concert last night. It was great. The concert hall opened at 5.00.p.m. The stalls gave 10% discounts on original products at 5:30 p.m. The staff started the sound check at 6:15 p.m. The concert started at 7.00 p.m. It finished 2 hours later. My family and I were so excited that we went to eat burgers at 9:30 p.m.

We got home at 10 p.m. I did not want to go to bed, but an hour later I fell asleep hugging my new T-shirt.

4.00

00.00





Read and write how much time has passed.

1. From 4:00 p.m. to 8:46 p.m.

2. From 4:20 pm. to 8:00 p.m.

3. From 5:20 a.m. to 10:09 a.m.

4. From 8:40 p.m. to 10:02 p.m.

5. From 6:40 a.m. to 8:51 a.m.

Read and think. Then do the math and answer the questions.

Every time you work on math problems, you have to pay attention to all the details.



Some people think it is a difficult activity, but it is not; spotting clues makes it much easier.

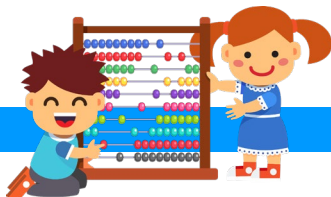
- How much time passes from ...

a) the time you wake up to lunch? _____

b) your first class to the end of your last class? _____

c) the time you leave home to the time you get to school? _____

d) the time you leave school to the time you eat? _____





- 1 Joshua trained for a soccer match. The match started at the time shown and finished 98 minutes later. What time did the soccer match finish?

_____.



- 2 Sandra's sister, Andrea, takes a 45-minute nap every day. If she fell asleep at the time shown on the clock, what time will she wake up?

_____.



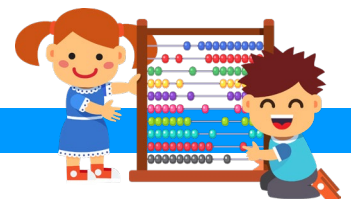
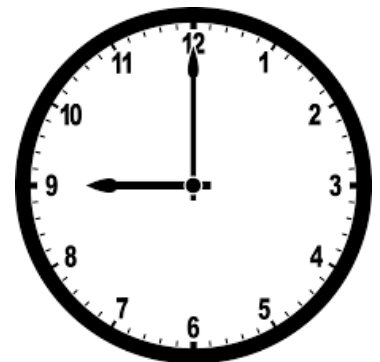
- 3 Miss Florence goes to the sports centre every Saturday for 3 hours and 45 minutes. If she left the sports centre at the time shown, what time did she arrive at the sports centre today?

_____.



- 4 Catherine went to sleep at the time shown. She slept for 7 hours and 25 minutes. What time did she wake up?

_____.





You're up!

Use your class schedule to complete the chart. Then answer the questions below.

How much time do you spend on the following activities?

Daily schedule			
Activity	Time	Activity	Time
Reading	_____	Doing exercise	_____
Writing	_____	Using the computer	_____
Speaking English	_____	Working in teams	_____
Having lunch	_____	Talking to my friends	_____

How much time do you spend on having lunch and talking to your friends - together?

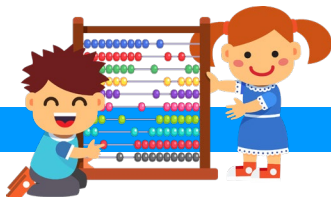
How much time do you spend on reading and writing?

How much time do you spend on doing exercise in 5 days?

How much time of speaking practice do you have a week?

How many hours a month do you spend on using the computer?

How many minutes do you spend on working in teams in three days?





UNIT 4 Quadrilaterals

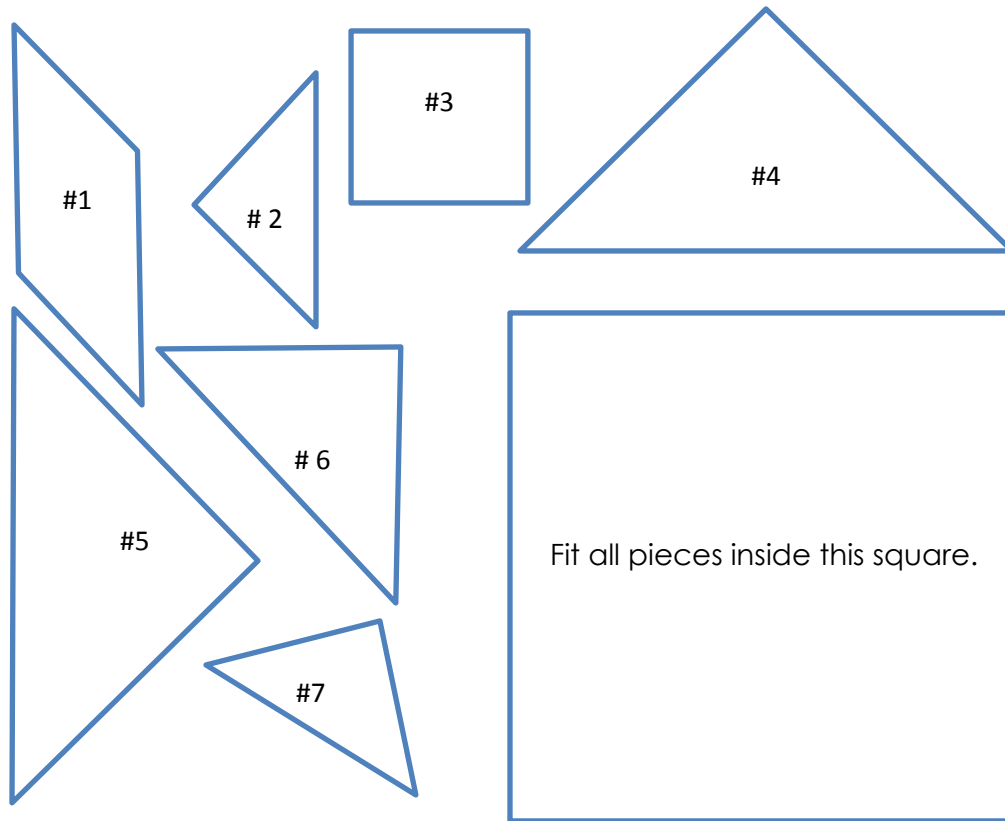


TAKE THE CHALLENGE



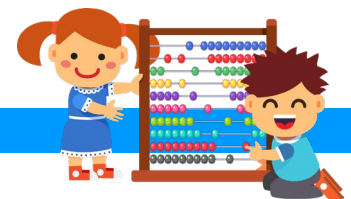
This is an ancient Chinese puzzle called Tangram. The goal is to arrange all seven pieces so they fit inside a perfect square.

Think of how you could make them all fit. Then draw lines to show your arrangement.



Did you know that this type of activity is like exercise for your brain? Yes, shapes are great and fun!

At this point, you may know the basic names of some shapes and how to categorize triangles. So it is time to learn how to categorize quadrilaterals.





What is a quadrilateral?

Quadrilateral just means "**FOUR SIDES.**" So, a quadrilateral has four sides. Here are some characteristics:

- It is a **flat shape**.
- The **lines join**.
- It has **straight sides**.

Here are the characteristics described as properties:

- The four sides are called edges.
- The four corners are the vertices.
- The interior angles add up to 360°



Measure the angles of the quadrilaterals below and answer the question.

Do they all add up to 360° ?



Angles: 1.
2.
3.
4.

Total
 360°

Yes ☐

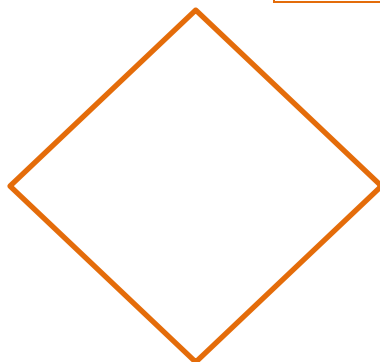
No ☐

Angles: 1.
2.
3.
4.

Total
 360°

Yes ☐

No ☐

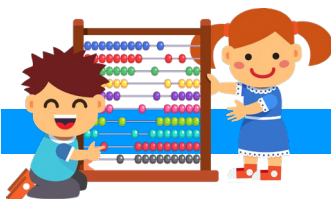


Angles: 1.
2.
3.
4.

Total
 360°

Yes ☐

No ☐





Read, identify, colour and write the names of the quadrilaterals.

A parallelogram is a quadrilateral with two pairs of parallel sides - colour it blue.

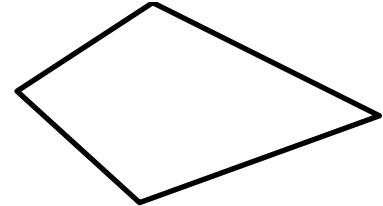
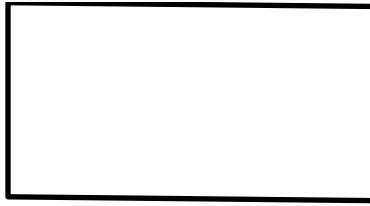
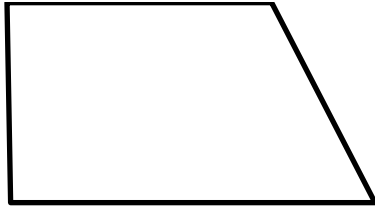
A rhombus is a parallelogram with all sides equal in length - colour it green.

A rectangle is a parallelogram with four right angles – colour it yellow.

A square is a quadrilateral with all sides equal in length – colour it red.

A trapezium is a quadrilateral with one pair of parallel sides – colour it pink.

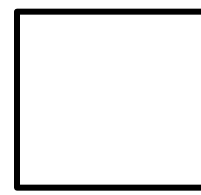
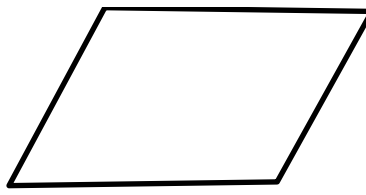
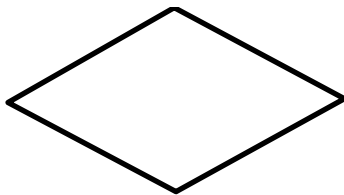
A kite is a quadrilateral with two pairs of equal adjacent sides – colour it orange.



.....

.....

.....



.....

.....

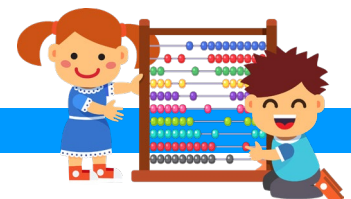
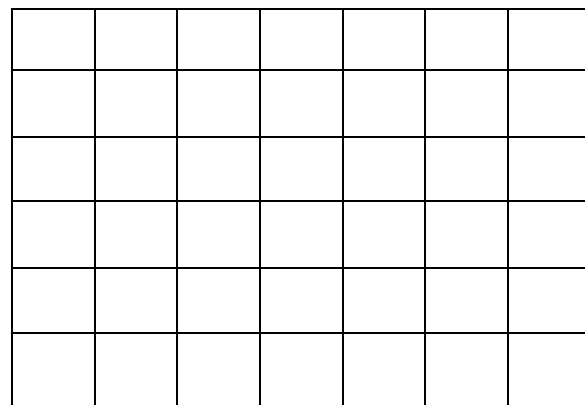
.....

Read and draw the shapes according to the explanation. Use colours to make the details noticeable.

The rectangle

Two points:

- It is a four-sided shape; every angle is a right angle – 90° .
- Opposite sides are parallel and of equal length.

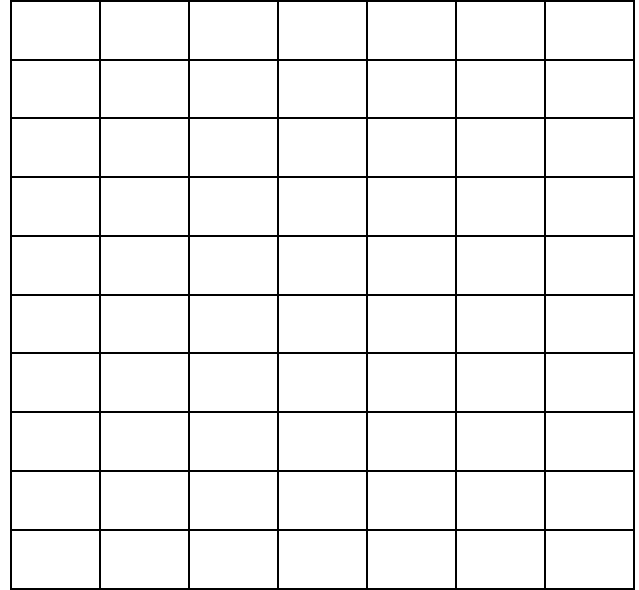




The rhombus

Three points:

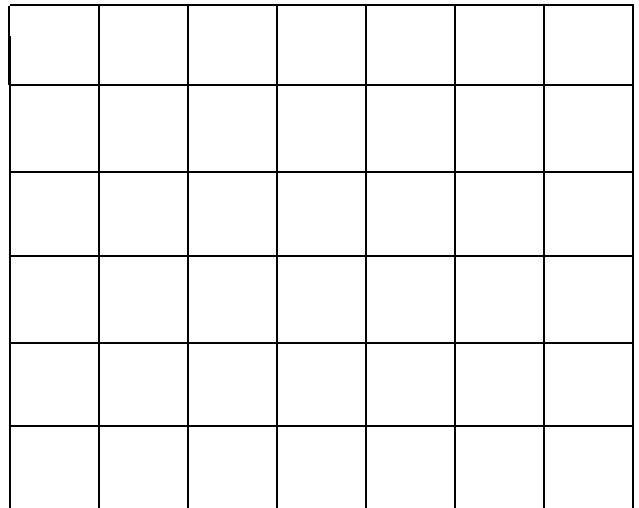
- It is a four-sided shape – all sides have equal length.
- Opposite sides are parallel and opposite angles are equal.
- Lines drawn from side to side meet in the middle – it makes a right angle.



The square

Two points:

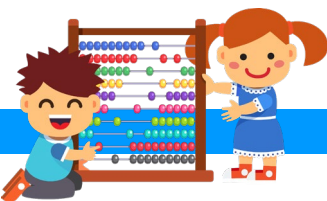
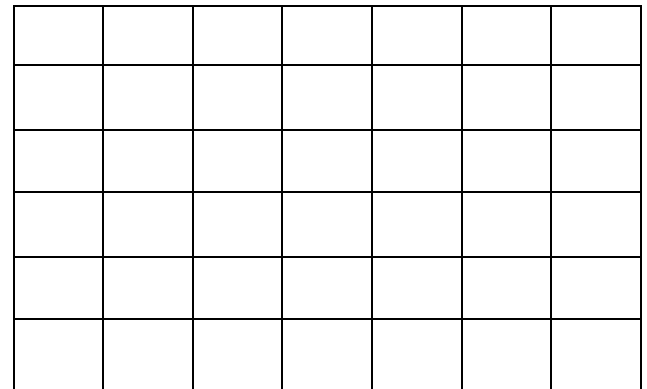
- It has equal sides – every angle is a right angle – 90° .
- Opposite sides are parallel.



The parallelogram

Two points:

- Opposite sides are parallel and equal in length.
- Opposite angles are equal.

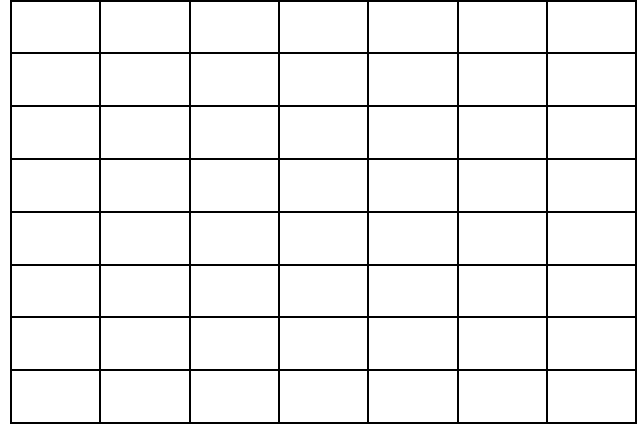




The trapezoid

One point:

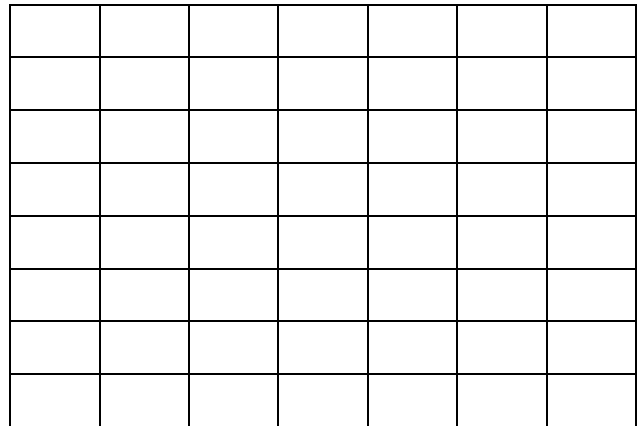
- It has four sides, but none is parallel.



The trapezium

One point:

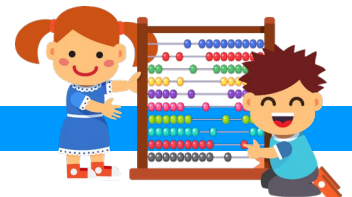
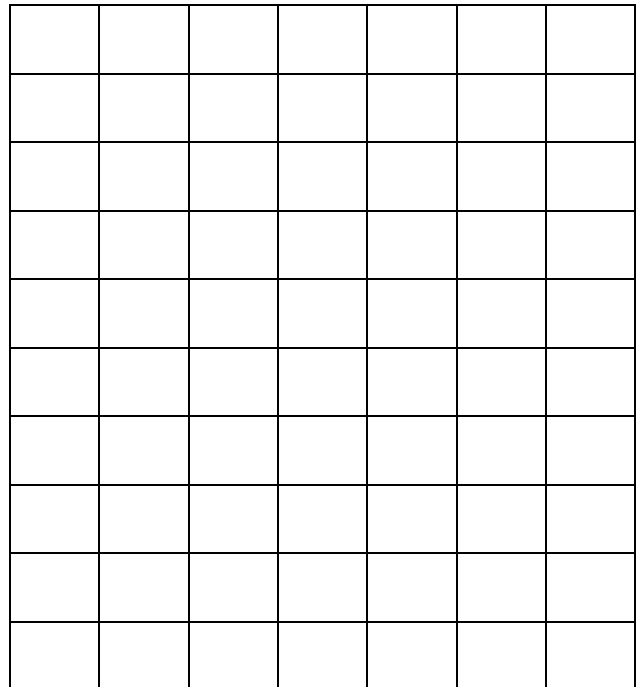
- It has exactly one pair of parallel sides.



The kite

Four points:

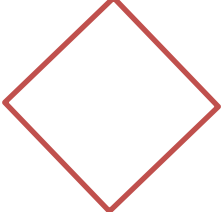
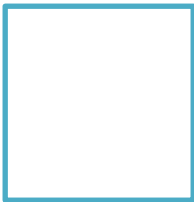
- It actually looks like a kite.
- It has two pairs of sides.
- Each pair is made of adjacent sides that are equal in length – they meet in the middle.
- Where the pairs meet, the angles are equal.

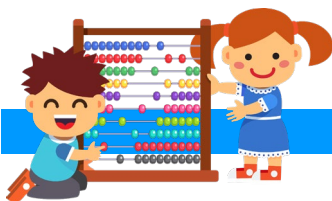




You're up!

Read and colour the boxes to match the information.

	Rectangle with congruent sides	Parallelogram
	Parallelogram with right angles	Rhombus
	Exactly one pair of parallel sides	Trapezoid
	Two pairs of parallel sides	Square
	No parallel sides	Rectangle
	Parallelogram with congruent sides	Trapezium





Time units



TAKE THE CHALLENGE



Write numbers so that the products on the right side and the bottom are correct.

There is one example.

How long did it take you to complete all the puzzles?

9	3
4	8
36	24

27

32

15	48

30

24

14	21

6

49

21	15

9

35

36	24

48

18

42	1

7

6

How many minutes did it take you to complete the puzzles?

Write the number in the box below and multiply it by 60 – you may need a calculator.

If you got numbers like 5 m 15 sec, add the seconds at the end.

minutes

x 60

.....

.....

+

.....

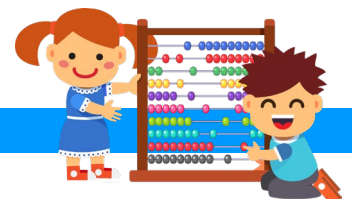
The activity takes about

minutes or seconds.

This operation you just did is called equivalency, which means, for example:

1 minute = 60 seconds

1 week = 7 days





Look and write the words for time units correctly.

1. yda
2. nhotm
3. arey
4. aedced
5. yteucnr

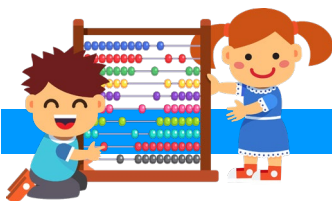


If you want to measure a period of time that is shorter than a day, you must use the following concepts:

1. h _ _ r s
2. m _ n _ t _ s
3. s _ c _ n d s

Look and complete the table. Then answer the questions with a friend.

Time units	has ...	Time units	have ...
1 minute	60 s.....	2 minutes	120 s.....
1 hour	60 m.....	2 hours	120 m.....
1 day	24 h.....	2 days	48 h.....
1 week	7 d.....	2 weeks	14 d.....
1 month	30 / 31 d.....	2 months	60 / 62 d.....
1 year	365 d.....	2 years	730 d.....
1 decade	10 y.....	2 decades	20 y.....
1 century	100 y.....	2 centuries	200 y.....





- How many seconds are you in recess?
- How many hours are you at lunch per week?
- How many minutes are you at school every day?

Look and read. Then colour to match. There is one example.

3 minutes	36 months	3 years	180 seconds
5 weeks	300 years	360 minutes	96 hours
90 / 93 days	4 decades	6 hours	40 years
35 days	4 days	3 months	3 centuries

Read and complete the sentences. They are about the pairing in the chart above.

- 1 minute has 60, so 3 minutes have seconds.
- 1 year has 12, so 3 years have months.
- 1 week has 7, so 5 weeks have days.
- 1 century has 100, so 3 centuries have years.
- 1 hour has 60, so 6 hours have minutes.
- 1 day has 24, so 4 days have hours.
- 1 month has 30 / 31, so 3 months have / days.
- 1 decade has 10, so 4 decades have years.

Read and do the math to answer the questions.

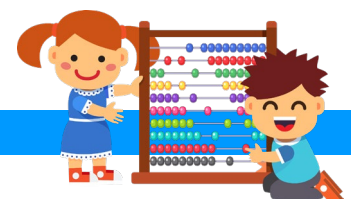
Sally and George are friends and they both love music. Sally likes singing and she practises 2 hours every day. George likes playing the piano and he practises 3 hours every day.

How many minutes does Sally practise each day?

How many minutes does George practise each day?

Sally

George





Jenny went to see the doctor because she had a backache. The doctor recommended some exercise, but Jenny cannot do it during the week. This is what the doctor said:

Run 1 hour and 45 minutes on Saturdays.

Run 2 hours and 15 minutes on Sundays.

How many minutes does Jenny have to run on Saturdays?

How many minutes does she have to run on Sundays?

Saturdays

Sundays

Maria is an English teacher. She is working with Lynn because there will be a spelling contest next month.

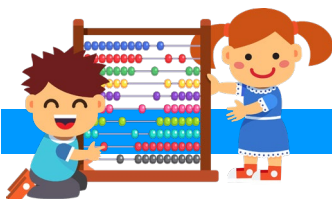
They work from Monday to Thursday after school. Today's lesson got longer. They worked for 95 minutes.

How many hours did they work today?

Today

Daniela's mum gave her a new mp3 player for her birthday. She downloaded all her favourite songs and she has been dancing to the songs on her mp3 player all the time. Yesterday, she danced to all the songs – without stops. Her mp3 player has 200 minutes and 180 seconds of music.

How many hours did she dance?





You're up!

Read and draw lines to match.

- | | | |
|----------------------|---|--------------------|
| 1 minute | • | • 30 minutes |
| a quarter of an hour | • | • 24 hours |
| a half an hour | • | • 60 seconds |
| one hour | • | • 7 days |
| one day | • | • 60 minutes |
| one week | • | • 28/29/30/31 days |
| one month | • | • 15 minutes |

Read and choose a word to complete each sentence.

months

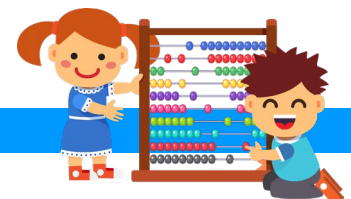
minutes

years

days

minutes

- a) It took Erika 3 _____ to take off her boots.
- b) Anthony has been learning to play the guitar for 2 _____.
- c) The spring season is about 3 _____.
- d) January has 31 _____.
- e) Yolanda played volleyball for about 30 _____.





Arithmetic and geometric sequences



TAKE THE CHALLENGE



Look at the shapes below and find the value of each. Then do the math to check if the values are correct.

=	=	=	=
17	15	17	17

=	16
=	14
=	16
=	20

	=	
	=	
	=	

Do you know what a sequence is? It is a set of numbers, called terms, arranged in some particular order.

In this unit, we are going to learn about two types of sequences:

- Arithmetic sequences
- Geometric sequences



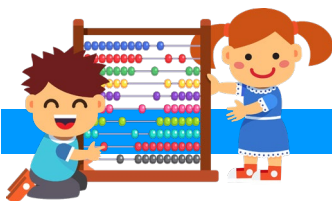
An **arithmetic sequence** goes from one term to the next by adding or subtracting the same number.

Example 1

- Add three at each step.

2, __, 8, 11, __, 17, 20, 23, __, __, 32, __, 38, __, ...

The number **added** at each step is called "**common difference**."





Example 2

- **Add five at each step.**

5, __, 15, 20, __, 30, 35, 40, __, __, 55, __, 65, __, ...

The number _____ at each step is called "_____."

Example 3

- **Subtract three at each step.**

28, __, 22, 19, __, 13, 10, 7, __, __, -2, -__, -8, -__, ...

The number **subtracted** at each step is called "**common difference**."

Example 4

- **Subtract four at each step.**

40, __, 32, 28, __, 20, 16, 12, __, __, 0, -__, -8, ...

The number _____ at each step is called "_____."

Look and complete the sequences. Then write the common difference.

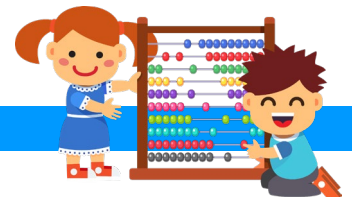
7, 12, 17, 22, __, __, The common difference is ____.

5, 8, 11, 14, __, __, The common difference is ____.

16, 13, 10, 7, __, __, The common difference is ____.

15, 9, 3, -3, __, __, The common difference is ____.

-3, __, 5, __, 13, __, The common difference is ____.





A **geometric sequence** goes from one term to the next by multiplying or dividing by the same value.

Example 1

- **Multiply by two at each step.**

1, _____, 4, 8, _____, 32, _____, 128...

The number **multiplied** at each step is called “**common ratio.**”



Example 2

- **Multiply by three at each step. You can use a calculator.**

1, _____, 9, 27, _____, 243, _____, 2187...

The number _____ at each step is called “_____.”

Example 3

- **Divide by three at each step. You can use a calculator.**

2187, _____, 243, 81, _____, 9, _____, 1...

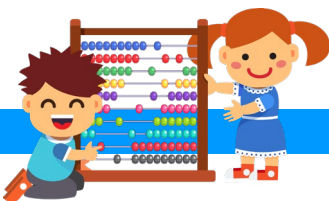
The number **divided** at each step is called “**common ratio.**”

Example 4

- **Divide by 2 at each step. You can use a calculator.**

3200, 1600, _____, 400, 200, _____, 50, _____...

The number _____ at each step is called “_____.”



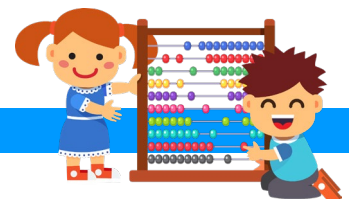


Look and complete the sequences. Then write the common ratio.

- 1, 5 ___, 125, ___, 3125... The common ratio is ____.
- 486, ___, ___, 18, 6, ___... The common ratio is ____.
- 5, 10, ___, 40, ___, ___... The common ratio is ____.
- 972, 324, ___, 36, 12, ___... The common ratio is ____.
- 7, 21, ___, 189, ___, 1701... The common ratio is ____.

Read and write the next two terms of each sequence. Then write A if it is an arithmetic sequence or G if it is a geometric sequence. Write CD for the common difference or CR for the common ratio.

Sequence						Type	
2,	4,	6,	8,	10,	12,	A	CD 2
20,	24,	28,	32,				
1,	10,	100,	1000,				
486,	162,	54,	18,				
88,	85,	82,	79,				
-6,	-4,	-2,	0,				



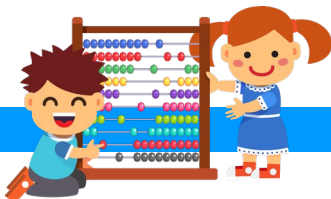


You're up!

There are two arithmetic sequences and two geometric ones. Look and find the next three numbers in each sequence. Colour the circles the same colour and write the numbers on the lines. There are some options you don't need.

2,	6,	10,	_____	_____	_____
35,	29,	23,	_____	_____	_____
1,	2,	4,	_____	_____	_____
64,	32,	16,	_____	_____	_____

17	4	1	18
8	14	7	16
3	8	11	6
22	32	2	5



Maths 4U



Congratulations

Certificate of achievement proudly presented to:

For having completed the **EnglisHouse Maths**
course at **Third Grade**. For your effort and
outstanding results, but most importantly,
for smiling and for being you...

Such an amazing kid!

