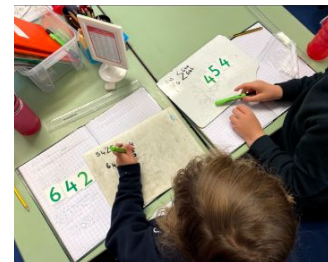
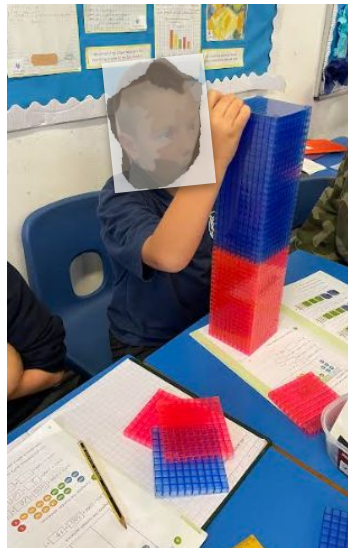
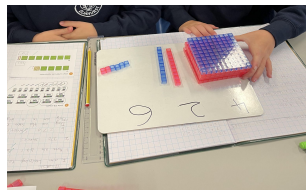
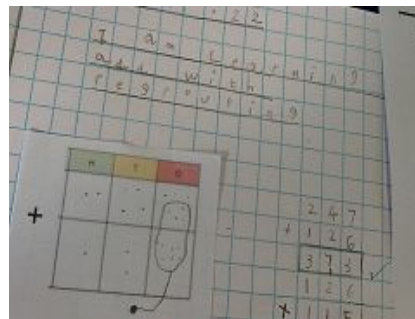
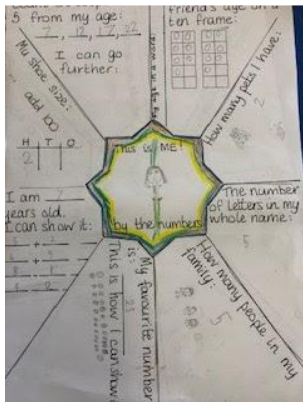
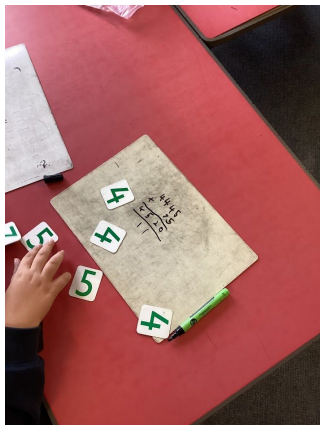


# Year 3 Maths



Autumn


# Year 3 Maths



**Multiplication – equal groups**


1 Complete the sentences to describe the groups.

a)



There are 4 plates.  
Each plate has 2 cakes.  
There are 11 equal groups of 2.

b)




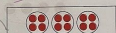
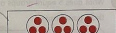

There are 4 bags.  
Each bag has 5 apples.  
There are 4 equal groups of 5.

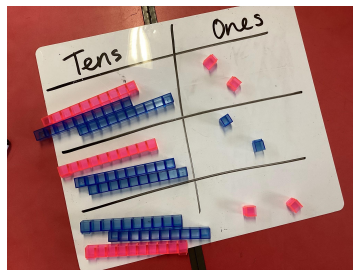
2 Kim has 6 equal groups of 5

a) Use cubes to show this.  
b) Draw your cubes.

What could the cubes represent?  
Talk about it with a partner.

3 Match the statements to the pictures.

3 equal groups of 4	
3 equal groups of 3	
4 equal groups of 3	
4 equal groups of 4	

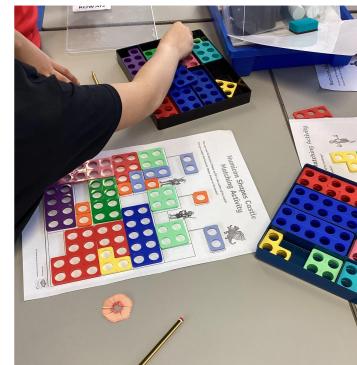


1 Work out the divisions.


a)  $93 \div 3 = \boxed{31}$  ✓ b)  $82 \div 2 = \boxed{41}$  ✓

$96 \div 3 = \boxed{32}$  ✓  $84 \div 2 = \boxed{42}$  ✓

$99 \div 3 = \boxed{33}$  ✓  $86 \div 2 = \boxed{43}$  ✓



1 Here is Huat's sunflower.

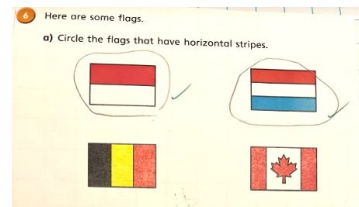
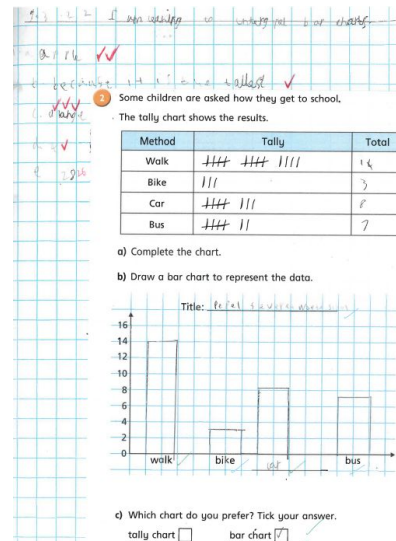
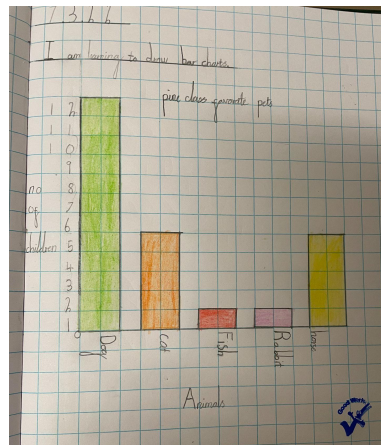
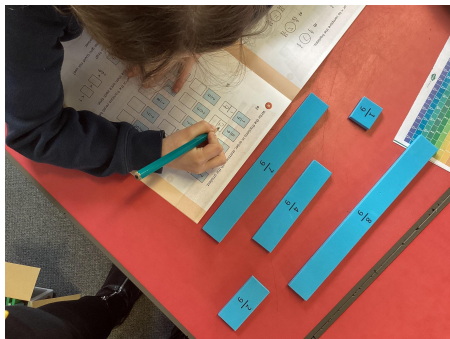


Dani's sunflower is 2 m and 30 cm.  
The height of Tom's sunflower is exactly halfway between the heights of Huat's and Dani's sunflowers.  
How tall is Tom's sunflower?  
Write your answer in metres and centimetres.

   m and    cm

Spring

# Year 3 Maths



Summer



# Year 4 Maths

3 Complete the calculations.

a) 

H	T	O
3	2	7
-	1	1
9		
2	0	8

 ✓

b) 

Th	H	T	O
7	6	5	3
-	1	3	4
7			
5	3	9	

 ✓

c) 

Th	H	T	O
9	8	4	5
-	6	2	1
6			
3	0	2	9

 ✓

d) 

Th	H	T	O
3	1	5	1
-	1	0	2
9			
2	1	2	2

 ✓

4 Complete the calculations.

a) 

H	T	O
3	2	7
-	1	3
9		
1	9	5

 ✓

b) 

Th	H	T	O
7	6	7	3
-	2	8	1
9			
5	3	9	2

 ✓

c) 

Th	H	T	O
9	8	4	5
-	2	3	6
9			
7	4	8	5

 ✓

d) 

Th	H	T	O
3	1	5	1
-	1	0	9
9			
2	0	6	1

 ✓

Partition numbers to 10,000

1 Complete the number sentences.

a)  $2,156 = 2,000 + 100 + 50 + 6$  ✓

b)  $3,421 = 3,000 + 400 + 20 + 1$  ✓

c)  $4,285 = 4,000 + 200 + 80 + 5$  ✓

2 Complete the number sentences.

a)  $5,308 = 5,000 + 300 + 8$  ✓

b)  $6,420 = 6,000 + 400 + 20$  ✓

3 Complete the part-whole models.

a)  $2,500 = 2,000 + 500$  ✓

b)  $7,039 = 7,000 + 30 + 9$  ✓

Make shapes

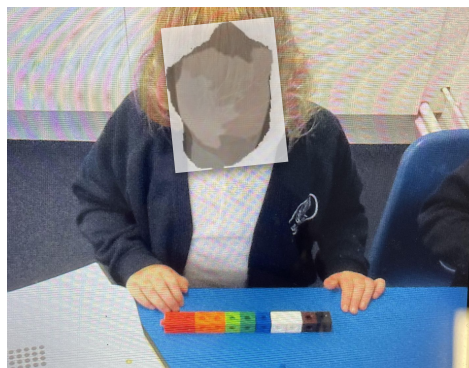
1 Draw a shape with the given area.

a) area = 7 squares ✓

b) area = 13 squares ✓

2 Draw two different shapes, each with an area of 8 squares.

3 Shade more squares to make the area 11 squares.



7 times-table and division facts

1 a) Draw boxes around the dots to represent the multiplications.

$2 \times 7 = 14$  ✓

$4 \times 7 = 28$  ✓

b) Use your answers to complete these fact families.

$2 \times 7 = 14$  ✓

$7 \times 2 = 14$  ✓

$14 \div 2 = 7$  ✓

$14 \div 7 = 2$  ✓

2 Complete the calculations.

a)  $3 \times 7 = 21$  ✓

b)  $6 \times 7 = 42$  ✓

c)  $7 \times 10 = 70$  ✓

d)  $7 \times 4 = 28$  ✓

e)  $1 \times 1 = 1$  ✓

f)  $7 \times 5 = 35$  ✓

3 Here is a hundred square.

a) Shade all the numbers that are in the 7 times table.

b) Use the hundred square to work out the calculations.

$11 \times 7 = 77$  ✓

$7 \times 13 = 91$  ✓

$84 \div 7 = 12$  ✓

$14 \div 7 = 2$  ✓

c) What patterns do you notice? Talk about them with a partner.

Autumn



# Year 4 Maths

**Multiply by 100**

1 Use the base 10 to complete the calculations.

4 × 1 hundred = 400 hundreds.  
4 × 100 = 400

2 Work out the multiplications.

a)  $2 \times 100 = 200$  d)  $5 \times 100 = 500$   
b)  $4 \times 100 = 400$  e)  $100 \times 10 = 1000$   
c)  $100 \times 8 = 800$  f)  $2000 \div 20 = 100$

3 There are 7 boxes of 100 crayons.

Tick the calculations that work out the total number of crayons.

☒  $100 \times 7$  ☒  $7 \times 100$  ☐  $7 \times 10$  ☐  $7 \times 1000$

4 Match the pieces to the multiplications. Complete the multiplications.

$3 \times 100 = 300$   
 $6 \times 100 = 600$   
 $12 \times 100 = 1200$

5 Work out the multiplications.

a)  $5 \times 1 = 5$  b)  $1 \times 1 = 1$   
 $5 \times 10 = 50$  c)  $1 \times 10 = 10$   
 $50 \times 10 = 500$  d)  $10 \times 10 = 100$   
 $5 \times 100 = 500$  e)  $1 \times 100 = 100$

What do you notice?

**Perimeter of rectilinear shapes**

1 A rectilinear shape is drawn on a squared grid.

a) Label the side lengths on the shape.

b) How many side lengths do you need to add together to find the perimeter of the shape?  
How do you know? 1 cm

c) What is the perimeter of the shape? 12 cm

2 Work out the perimeters of the shapes.

a) 22 cm b) 24 cm

Why is the number of sides important?  
to know how many sides to add

**Perimeter on a grid**

The width of a rectangle is 1 cm less than its length. The perimeter of the rectangle is between 20 cm and 30 cm. What could the dimensions of the rectangle be? How many possible rectangles can you find?

Width = 6 cm  
Length = 8 cm  
Perimeter = 28 cm ✓

Width = 4 cm  
Length = 6 cm  
Perimeter = 20 cm ✓

Width = 1 cm  
Length = 12 cm  
Perimeter = 26 cm ✓

**Divide a 1- or 2-digit number by 100**

1 a) Draw counters to show 8 on the place value chart.

b) Complete the division.  
 $8 \div 10 = 0.8$

c) Draw counters to show your answer on the place value chart.

d) Divide your answer by 10 again.

e) Complete the division.  
 $28 \div 10 = 2.8$

f) Complete the division.  
 $8 \div 100 = 8 \div 10 \div 10$   
 $8 \div 100 = 0.08$

2 Complete the sentence.  
To divide a number by 100, you move the counters 2 places to the right.

3 Complete the calculations.

a)  $3 \times 100 = 300$  d)  $100 \div 100 = 1$   
b)  $90 \div 100 = 0.9$  e)  $150 \div 100 = 1.5$   
c)  $0.05 \times 100 = 5$  f)  $0.02 \times 100 = 2$

4 Tiny is working out  $48 \div 100$  using a place value chart.

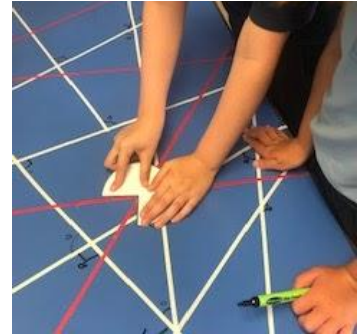
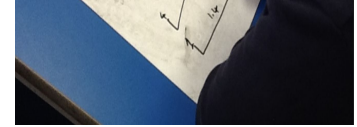
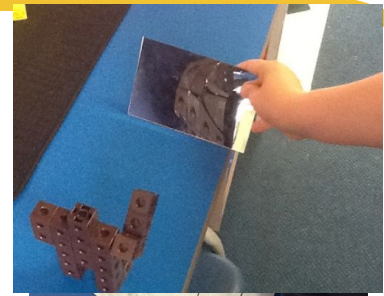
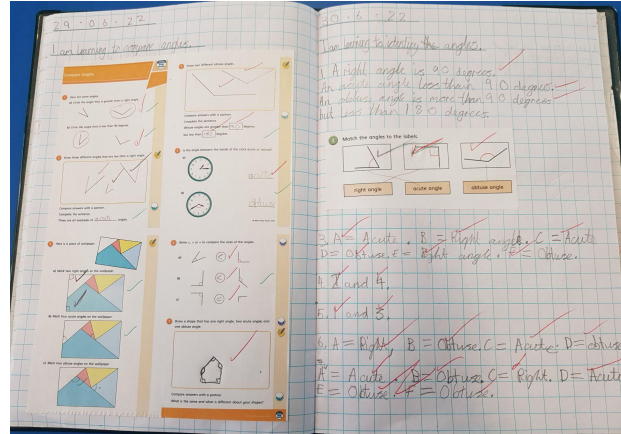
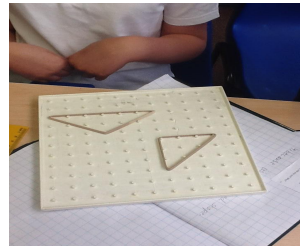
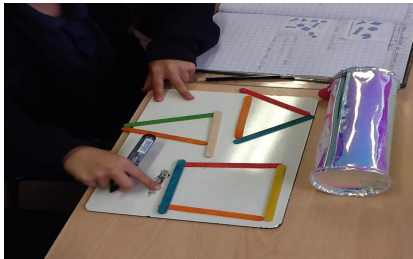
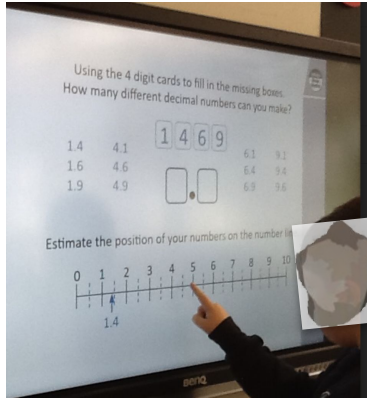
To divide by 100, you move two places to the right.  
so  $48 \div 100 = 4800$

a) Explain the mistake that Tiny has made.  
he forgot to move the 40

b) Complete the division.  
 $48 \div 100 = 0.48$

Spring

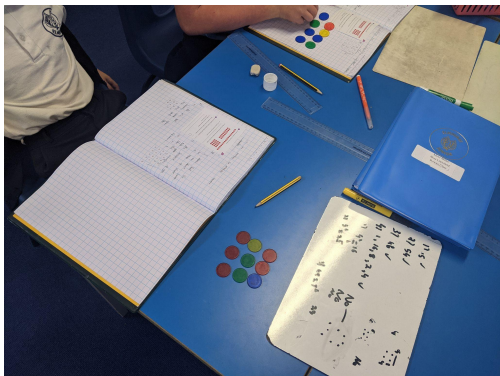
# Year 4 Maths



Summer



# Year 5 Maths



$\frac{1}{2}$  of the children in a class have brown hair.  
 $\frac{2}{3}$  have blonde hair.  
 15% have ginger hair.  
 How many children have black hair?

I cannot work out how many children have black hair because I do not know how many children are in the class altogether.

Do you agree with Tiny? No  
 Explain your answer.

No because you don't need to to work out the all the because persons is out of 100

1	$4631 + 150$	4,781	✓	$\begin{array}{r} 4631 \\ + 150 \\ \hline 4781 \end{array}$
2	$8289 - 482$	7807	✓	$\begin{array}{r} 8289 \\ - 482 \\ \hline 7807 \end{array}$
3	$122 = 35 + \underline{\quad}$	87	✓	$\begin{array}{r} 122 \\ - 35 \\ \hline 87 \end{array}$
4	$68 - \underline{\quad} = 9$	59	✓	$\begin{array}{r} 68 \\ - 9 \\ \hline 59 \end{array}$
5	$200 \times 30$	6000	✓	$\begin{array}{r} 200 \\ \times 30 \\ \hline 6000 \end{array}$
6	$\frac{4}{12} + \frac{4}{12}$	$\frac{8}{12}$	✓	$\begin{array}{r} \frac{4}{12} \\ + \frac{4}{12} \\ \hline \frac{8}{12} \end{array}$
7	$4.2 \div 100$	0.042	✓	$\begin{array}{r} 4.2 \\ \div 100 \\ \hline 0.042 \end{array}$
8	$9^2$	81	✓	$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$
9	$0.2 + 0.7$	0.9	✓	$\begin{array}{r} 0.2 \\ + 0.7 \\ \hline 0.9 \end{array}$
10	$695 \times 2$	1390	✓	$\begin{array}{r} 695 \\ \times 2 \\ \hline 1390 \end{array}$
11	$3120 \div 8$	390	✓	$\begin{array}{r} 3120 \\ \div 8 \\ \hline 390 \end{array}$
12	$0.15 - 0.02$	0.13	✓	$\begin{array}{r} 0.15 \\ - 0.02 \\ \hline 0.13 \end{array}$
13	$\frac{9}{12} - \frac{8}{12}$	$\frac{1}{12}$	✓	$\begin{array}{r} \frac{9}{12} \\ - \frac{8}{12} \\ \hline \frac{1}{12} \end{array}$
14	$139 \times 80$	1040	✓	$\begin{array}{r} 139 \\ \times 80 \\ \hline 1040 \end{array}$
15	$731 \times 84$	61404	✓	$\begin{array}{r} 731 \\ \times 84 \\ \hline 5824 \\ + 58240 \\ \hline 61404 \end{array}$
16	$\frac{2}{3} - \frac{4}{10}$	$3/6$	✓	$\begin{array}{r} \frac{2}{3} \\ - \frac{4}{10} \\ \hline \frac{3}{6} \end{array}$
17	$3.8 \times 4.8$	18.24	✓	$\begin{array}{r} 3.8 \\ \times 4.8 \\ \hline 18.24 \end{array}$
18	$972,932 - 537,863$	435,069	✓	$\begin{array}{r} 972932 \\ - 537863 \\ \hline 435069 \end{array}$

## Autumn



# Year 5 Maths

5 a) Prove that  $\frac{1}{10}$  is equal to 10%.

You may use the hundred square to help you.

$\frac{1}{10}$  is equal to 10% because 10 is 10% of 100.

b) Use the fact that  $\frac{1}{10}$  is equal to 10% to complete the equivalents.

$\frac{3}{10} = \frac{30}{100} \checkmark$   $\frac{9}{10} = 90\% \checkmark$

$\frac{7}{10} = \frac{70}{100} \checkmark$   $\frac{5}{10} = 50\% \checkmark$

6 a) Prove that  $\frac{1}{5}$  is equal to 20%.

You may use the hundred square to help you.

$\frac{1}{5}$  is equal to 20% because 20 is 20% of 100.

b) Use the fact that  $\frac{1}{5}$  is equal to 20% to complete the equivalents.

$\frac{2}{5} = \frac{40}{100} \checkmark$   $\frac{3}{5} = 60\% \checkmark$

$\frac{4}{5} = \frac{80}{100} \checkmark$   $\frac{5}{5} = 100\% \checkmark$

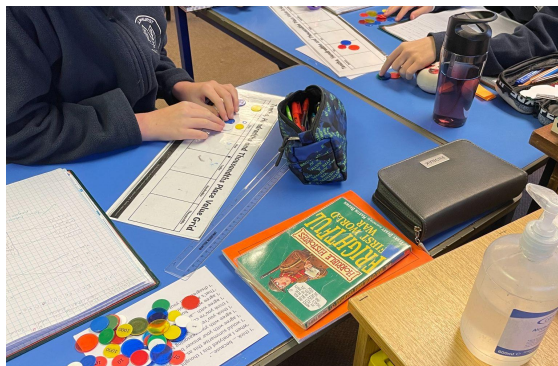
6 How many different rectangles can you draw that have an area of 24 cm<sup>2</sup>?

Label the lengths. Your drawings do not have to be exact.

Compare answers with a partner.

9cm 1cm ✓

8cm 3cm ✓



0.3 = 30/100

To convert a fraction to a percentage, you just need to put a per cent sign next to the numerator.

Is this correct? Explain your answer.

No because  $\frac{1}{5}$  does not equal 1%

4 = adults

4 = girls

10 = boys

At a cinema,  $\frac{1}{5}$  of the audience are adults.

The rest of the audience is made up of boys and girls.

There are twice as many girls as boys.

What percentage of the audience are girls?

10

Use the models to complete the statements.

100%

0.1 = 10% = 10/100

0.8 = 80% = 80/100

0.8 = 80% = 80/100

Dora has used place value counters and a bar model to show that 0.01 is equivalent to 1%.

10%

Use Dora's fact to complete the statements.

0.01 = 1% = 1/100

0.05 = 5% = 5/100

0.1 = 10% = 10/100

0.8 = 80% = 80/100

0.01 = 1% = 1/100

0.05 = 5% = 5/100

0.1 = 10% = 10/100

0.8 = 80% = 80/100

4 The table shows the time for sunrise and sunset in a town on the first day of each month.

	Jan	Feb	Mar	Apr	May	Jun
Sunrise	8:00	7:30	6:30	6:00	5:30	5:00
Sunset	16:00	16:30	17:30	19:30	20:30	21:00

	Jul	Aug	Sep	Oct	Nov	Dec
Sunrise	4:30	5:00	6:00	7:00	7:30	8:00
Sunset	21:30	20:30	19:30	18:30	16:30	16:00

Plot the information into one line graph with two lines.

Spring

# Year 5 Maths

4.2.3

Use the clues to label the diagram.

- Ron is standing in the middle of his bedroom.
- He is facing his bed.
- He turns  $180^\circ$  and is facing the door.
- He then makes a  $90^\circ$  turn clockwise and is facing his laptop.
- He turns another  $90^\circ$  clockwise, and then makes a  $\frac{3}{4}$  turn anticlockwise. He is now facing the mirror.

Compare diagrams with a partner.

His toy chest is between the bed and the mirror.

Describe the turn from the bed to the toy chest.

5.2.3

I am having to separate the percent symbol and what it means.

1. Complete the table.

Visual representation	Percentage
	10%
	20%
	30%

2. Shade one of the hundred squares and write 25% of the hundred squares shaded.

Small percentage of the hundred squares is shaded.

6.2.3

Here is a number.

Ones	Tenths	Hundredths
1	2	5

What is 3 tenths less than this number? 0.25

What is 0.02 more than this number? 0.27

Max uses known facts to complete the subtraction.

$86 - 24 = 62$ , so  $0.86 - 0.24 = 0.62$

Use known facts to work out the calculations.

$0.89 - 0.41 = 0.48$ ,  $0.45 - 0.27 = 0.18$

37 hundredths more than 14 hundredths 51

72 hundredths - 19 hundredths 53

Mo and Dora are working out  $0.76 - 0.3$

Mo:  $0.76 - 0.3 = 0.46$

Dora:  $0.76 - 0.3 = 0.46$

Who is correct? Dora

How do you know? Dora because if you add 0.3 to 0.46 you get 0.76 which is 0.76

$$0.777 = 0.225$$

$$0.45 = 0.55$$

$$0.178 = 0.822$$

$$0.98 = 0.02$$

Summer



# Year 6 Maths

a) Draw lines on the bar model to show that  $\frac{9}{12}$  is equal to  $\frac{3}{4}$

b) Complete each bar model and calculation.

$\frac{1}{7} = \frac{3}{21}$

$\frac{1}{7} = \frac{5}{35}$

Simplify the fractions.

a)  $\frac{4}{12} = \frac{1}{3}$  ✓ b)  $\frac{8}{12} = \frac{2}{3}$  ✓ c)  $\frac{40}{120} = \frac{1}{3}$  ✓ d)  $\frac{12}{4} = \frac{3}{1}$  ✓

$\frac{4}{16} = \frac{1}{4}$  ✓  $\frac{8}{16} = \frac{1}{2}$  ✓  $\frac{2}{4} = \frac{1}{2}$  ✓  $\frac{120}{4} = \frac{30}{1}$  ✓

$\frac{4}{20} = \frac{1}{5}$  ✓  $\frac{8}{20} = \frac{2}{5}$  ✓  $\frac{4}{200} = \frac{1}{50}$  ✓  $\frac{12}{200} = \frac{3}{50}$  ✓

Describe and explain any patterns that you notice.

14  
28  
42  
56  
70

032  
14148  
-421  
028

Read and write numbers to 10,000,000

1. Complete the place value charts and write the numbers in words.

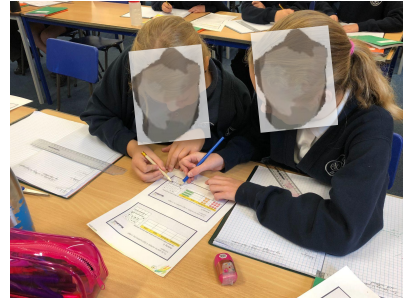
a)  $2,345,678$

b)  $9,876,543$

Write the number represented in numerals.

Write the number represented in words.

2. Write the numbers in the place value charts to represent the number (one hundred and fifty thousand, four hundred and seventeen).



1. I am trying to write 3 digit numbers by 6 digit numbers.

2. I am trying to write 3 digit numbers by 6 digit numbers.

3. I am trying to write 3 digit numbers by 6 digit numbers.

4. I am trying to write 3 digit numbers by 6 digit numbers.

5. I am trying to write 3 digit numbers by 6 digit numbers.

6. I am trying to write 3 digit numbers by 6 digit numbers.

7. I am trying to write 3 digit numbers by 6 digit numbers.

8. I am trying to write 3 digit numbers by 6 digit numbers.

9. I am trying to write 3 digit numbers by 6 digit numbers.

10. I am trying to write 3 digit numbers by 6 digit numbers.

Long division with remainders

1. Complete the number track with the multiples of 15

15 30 45 60 75 90 105 120 135 150

Use the multiples of 15 to complete the divisions.

2. I am trying to complete this using long division, but it doesn't seem to help.

Look at Dexter's working.

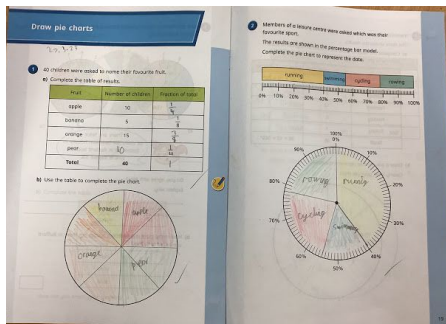
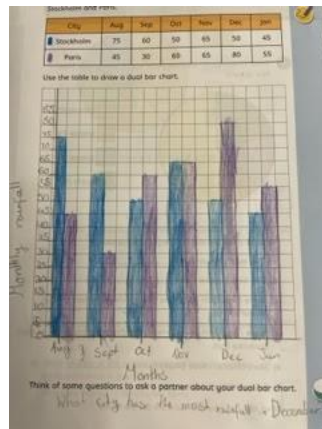
What problem is he facing? Talk about it with a partner.

Autumn





# Year 6 Maths



$$3\left(\frac{3}{4} - \frac{2}{5}\right) \times 2 =$$

$$3\left(\frac{15}{20} - \frac{8}{20}\right) \times 2 =$$

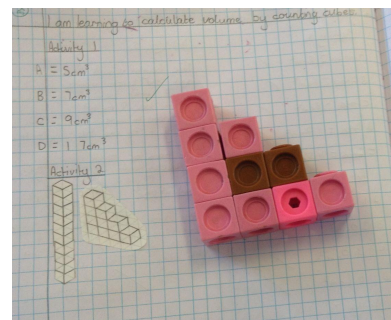
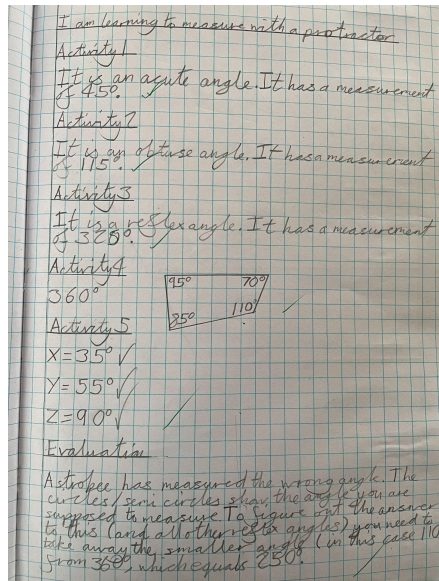
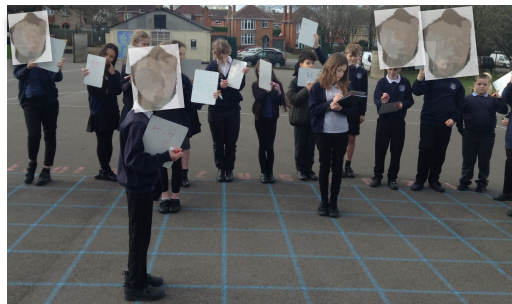
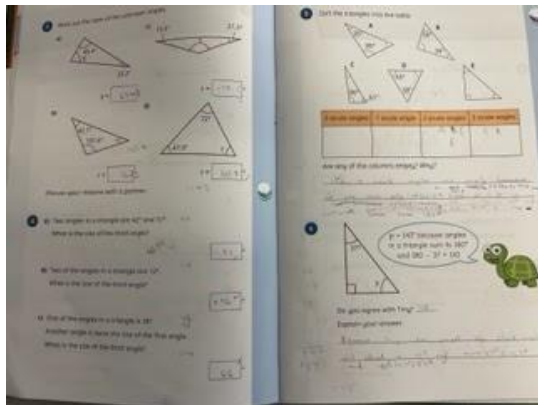
$$\frac{1}{2} \times 3 = \frac{3}{2}$$

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

## Spring



# Year 6 Maths



Summer