Friday 26th June

Hello Year 6,

How are you? We both hope that things are okay at home and that you are able to spend time completing your home-learning but also finding time to relax and have fun with your families.

Here are the activities for this week for you to follow and complete. In Maths we're consolidating our work on position and direction then moving on to explore line graphs. There's a number puzzle to finish the week off! You worked so hard in the last English unit that we decided to have a little break from writing and have put together lots of SPaG puzzles that we think you'll enjoy. There's PSHE, PE, Outdoor Learning and Art sprinkled in there too!!

As always, use today to catch up with any unfinished work from this week.

If you have some spare time or want to do some extra learning, you could visit https://www.bbc.co.uk/bitesize or https://www.thenational.academy/online-classroom where there are lots of lessons and activities to choose from.

As always, try to read for at least 20 minutes a day and take Accelerated Reader quizzes from home by using this link Howley Grange Renaissance at home and logging on as usual using your username and password. To check that the book you are reading has a quiz, you can check it using on Accelerated Reader Bookfinder.

Take care and keep smiling,

We do miss you,

Mrs Graham and Mrs North

Use the steps below and ideas on the next slide to create your own word art. Be as imaginative as you can in your word choice and illustrations. Take care with your colouring too!

Illustration Exercise

Shape Up

Many graphics and logos contain letters that are drawn to form the shape of an object or an idea. There is freedom to drawing these types of words because there are no rules—the letters can simply morph into whatever you want them to be. On the opposite page, follow the steps below to try your hand at drawing an object-shaped word.
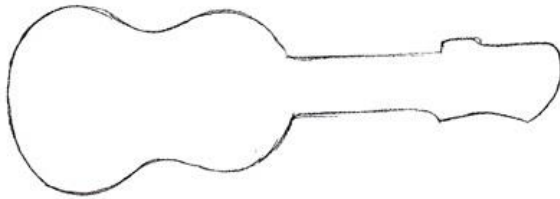
Step 1 Draw a faint, simple outline of your object.
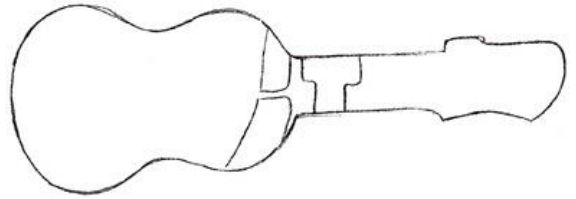
Step 2 Draw the middle letter(s) of the word in the center of the outline to establish spacing.
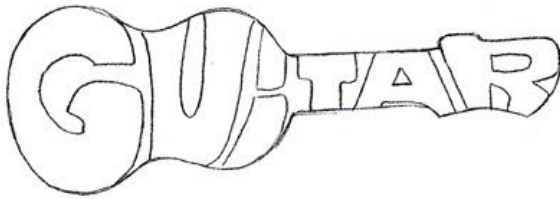
Step 3 Add the rest of the letters.

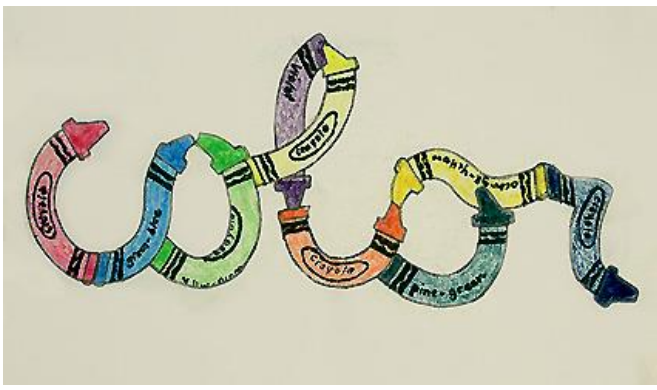**Step 4** Erase your pencil outline and ink the letters.

Step 5 Add color!

More examples:

COLOR

SWAN

TANK

BUN

jungle

PENGUIN

TURTLE

DRIP

Images sourced from Google

Maths Activity 5a – Ten in ten

1. $42 \times 2 =$
2. $616 + 742 =$
3. $6 \times 4 =$
4. $302 - 8 =$
5. $3^2 =$
6. $40{,}000 - 600 =$
7. $80 \times \underline{\hspace{1cm}} = 1600$
8. $4{,}200 \div 60 =$
9. 0.5 as a fraction in its simplest form is?
10. $29{,}346 + 64{,}210 =$

Challenge
11. $1{,}778 \div 7 =$
12. $18\% = \dfrac{?}{100}$
13. $2\dfrac{1}{3} + \dfrac{1}{2} =$
14. $498 \times 56 =$

Maths Activity 5b – Magic Squares

Today's activity is based on Magic Squares – where the values in each row, column and diagonal in a square add up to the same total.

There is a short explanation before 5 challenges to try. They do become harder so complete as many as you can.

There is a slide to help your grown up with the activity if needed.

Magic Squares

This is a magic square:

8	3	4
1	5	9
6	7	2

It uses the consecutive digits 1 to 9 once only and each row, column and diagonal add up to the same 'magic number'.

For this magic square, the 'magic number' is 15,

e.g.   8 + 3 + 4 = 15

3 + 5 + 7 = 15

6 + 5 + 4 = 15

and so on.

What else do you notice about this magic square?

Complete these magic squares (their magic number is also 15):

	1	
		7
		2

		6
9		
	3	

Challenge 1

- Do you still get a magic square if you add 2 to every number? Use this blank grid to find out:

8	3	4
1	5	9
6	7	2

- Do you still get a magic square if you double every number? Use this blank grid to find out:

8	3	4
1	5	9
6	7	2

Challenge 2

This magic square uses the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10. Can you complete it?

3		
	6	
		9

Lancashire Mathematics Team (2020)

Challenge 3

Make your own magic square that has a 'magic number' of 27. You can't use the same number twice!

Challenge 4

Make your own magic square that uses nine consecutive numbers that are greater than 10.

Challenge 5

1)   The sum is 10.

	-4	-3	
	5		2
3	1		6
		9	-5

2)   The sum is 17.

3½			7
1	6½	4	
8		5	
	3		2

ANSWERS Maths Activity 5a – Ten in ten

1. $42 \times 2 = 84$
2. $616 + 742 = 1358$
3. $6 \times 4 = 24$
4. $302 - 8 = 294$
5. $3^2 = 9$
6. $40,000 - 600 = 39,400$
7. $80 \times 20 = 1600$
8. $4,200 \div 60 = 70$
9. 0.5 as a fraction in its simplest form is $\frac{1}{2}$
10. $29,346 + 64,210 = 93,557$

Challenge
11. $1,778 \div 7 = 254$
12. $18\% = \frac{18}{100}$
13. $2\frac{1}{3} + \frac{1}{2} = 2\frac{5}{6}$
14. $498 \times 56 = 27,888$

Support for Parents and Carers

It might help to provide your child with digits on pieces of card or paper that they can move around the grid to help them find a solution before writing the numbers into the grid.

Magic squares have the following patterns in them, look at some of these patterns together if your child is struggling to find a solution.

8	3	4
1	5	9
6	7	2

- All rows, columns and diagonals have the same total (in this example 15).

8 + 3 + 4 = 15	1 + 5 + 9 = 15	6 + 7 + 2 = 15
8 + 1 + 6 = 15	3 + 5 + 7 = 15	4 + 9 + 2 = 15
8 + 5 + 2 = 15	6 + 5 + 4 = 15	

The key to finding the 'magic number; is to list the nine consecutive numbers in order, in this case 1, 2, 3, 4, 5, 6, 7, 8, 9. The consecutive numbers don't have to be increasing in ones, they could be, for example, the 9 times table, as long as no numbers were missed, so 9, 18, 27, 36 etc.

- Add them up then divide by three to find the number you get when you add the three numbers in a row, column or diagonal (1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 = 45 and 45 ÷3 = 15).

- The very middle number in the consecutive number list, also known as the median, is the number that goes in the middle square. In this case, the median is the number five (1, 2, 3, 4, **5**, 6, 7, 8, 9).

- The 'magic number' is always three times the middle number, i.e. 3 × 5 = 15

- The sum of the two numbers on opposite sides of the centre (horizontally, vertically and diagonally) is double the middle number,
  i.e. 8 + 2 = 10   6 + 4 = 10   1 + 9 = 10   3 + 7 = 10

- The sum of the four corner numbers equals the sum of the four numbers in the middle of each side,
  i.e. 8 + 4 + 6 + 2 = 20   3 + 1 + 9 + 7 = 20

- A magic square always has a 'Z shape' of five numbers. The numbers will be increasing by the same amount (in the examples below the numbers are increasing in ones). Sometimes the 'Z shape' may be 'on its side' or 'back to front' e.g.

8	3	4
1	5	9
6	7	2

4	9	2
3	5	7
8	1	6

6	7	2
1	5	9
8	3	4

8	1	6
3	5	7
4	9	2

2	7	6
9	5	1
4	3	8

Challenge 1 Solution

You still get a magic square if you add 2 to every number. The 'magic number' is 21.

10	5	6
3	7	11
8	9	4

You still get a magic square if you double every number. The 'magic number' is 30.

16	6	8
2	10	18
12	14	4

Challenge 2 Solution

These magic squares use the consecutive numbers 2 to 10.

3	8	7
10	6	2
5	4	9

3	10	5
8	6	4
7	2	9

Challenge 3

For a 'magic number' of 27, the numbers 5, 6, 7, 8, 9, 10, 11, 12, 13 should be used, e.g.

12	7	8
5	9	13
10	11	6

6	11	10
13	9	5
8	7	12

8	7	12
13	9	5
6	11	10

10	11	6
5	9	13
12	7	8

There are other possibilities but 9 will always be the middle number.

There are many possible magic squares that use nine consecutive numbers that are greater than 10, e.g.

18	13	14
11	15	19
16	17	12

Challenge 4

Challenge 5

1)   The sum is 10.

10	-4	-3	7
-1	5	4	2
3	1	0	6
-2	8	9	-5

2)   The sum is 17.

3½	6	½	7
1	6½	4	5½
8	1½	5	2½
4½	3	7½	2