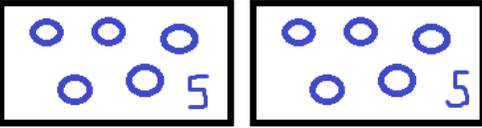


Year 2 Melissa's Maths Learning Letter – w/b Monday 1st June 2020

Hello Year 2! Below shows your Maths for the week. For further explanations, you will need to go to Google Classroom. Remember that you can complete your tasks on paper if you want. We would love to see what you have done so try to upload any work that you do. Good luck! **This week we are focusing on multiplication.**

	LQ	Teaching and Models	Task and expected outcomes
1)	<p>I understand what the word 'equal' means.</p> <p>I can add and make equal groups.</p> <p>I can write multiplication number sentences to go with pictures.</p>	<p>Focus: Equal groups and writing multiplication number sentences.</p> <p>This week we are going to be focusing on multiplication. To help us understand what multiplication is, it is useful to look at the word 'equal' and how to make and add equal groups. Look at the example. Here we can clearly see that in the first representation these are not equal. In the second representation they are equal.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Not Equal</p>  </div> <div style="text-align: center;"> <p>Equal</p>  </div> </div> <p style="text-align: center; color: green;">$3 + 3 = 6$ 2 equal groups with 3 in each</p> <p>We can represent equal groups in many ways. Look at all the representations of 2 equal groups of 5 we can make:</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <div style="border: 1px solid black; padding: 2px;">Two 5s</div>  <div style="border: 1px solid black; padding: 2px;">$5 + 5$</div>  </div> <p>Go to task 1 and task 2.</p> <p>If we were to represent this as a multiplication number sentence we could write it as:</p> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 20px;"> <p>$2 \times 5 = 10$</p> <p>2 groups of 5 = 10</p> <p>2 lots of 5 = 10</p> <p>2 multiplied by 5 = 10</p> </div> <div style="text-align: center;">  </div> </div>	<p>Task 1: Make equal groups</p> <p style="color: green;">Draw 5 equal groups with 2 in each group. Draw 3 equal groups of 5 in each group. Draw 10 equal groups of 4 in each group.</p> <div style="border: 2px solid yellow; padding: 5px; margin: 10px 0;"> <p>Extra: Can you write the addition number sentences to go with each diagram?</p> </div> <p>Task 2: Complete the statements to show how to add equal groups.</p> <p style="color: green;">There are ____ equal groups with ____ in each. There are ____ 3's. ____ + ____ = 6</p> <div style="text-align: right;">  </div> <p>Repeat for this representation:</p> <div style="text-align: center;">  </div> <p>Task 3: Complete the multiplication number sentences</p> <div style="text-align: center;">  </div> <p style="text-align: center;"> ____ \times ____ = ____ ____ lots of 3 = ____ ____ multiplied by ____ = 12 </p> <p>Repeat for this representation:</p> <div style="text-align: center;">  </div> <p><i>Pirate challenge:</i> This lesson the pirates would like you to practice your 2 times tables!</p> <div style="text-align: right;">  </div>

2)

I can write multiplication number sentences to go with an array.

I can write repeated addition number sentences.

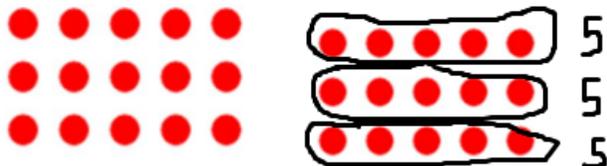
I can draw arrays to find the answer to multiplication problems.

Focus: Arrays for multiplication

This lesson we are focusing on using arrays for multiplication. Look at the examples below.

This array represents $3 \times 5 = 15$ or $5 + 5 + 5 = 15$

I have grouped the dots into 3 groups of 5.



Remember we can represent multiplication in word sentences too:

$3 \times 5 = 15$

3 lots of 5 = 15

3 multiplied by 5 = 15

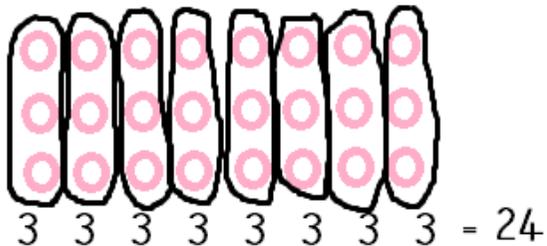
Go to task 1.

Now we are going to look at how we can draw arrays to find the answers to multiplication problems. For example, if I wanted to find out the answer to...

$8 \times 3 = ?$

Steps to success:

1. Make 8 rows or columns
2. Make 3 rows or columns
3. Group them into a number you can count by (so 3 not 8!)
4. Count in 3's to find the answer



Task 1: Write the multiplication number sentence and the repeated addition number sentence to go with each array:



Task 2: Draw an array to find the answer to each problem.

1. $4 \times 3 =$
2. $5 + 5 + 5 + 5 =$
3. Ten multiplied by 8 =
4. 12 lots of 2 =
5. $9 \times 3 =$

Pirate challenge

Now that you are experts on using arrays to solve multiplication problems. Can you help the pirates with their homework?

Izzy:

"I need to choose < > or = to complete the problem"

4 lots of 3

 = 1 x

Cubby: "I need to complete the table"

Picture	Multiplication	Sentence
	$4 \times 10 = 40$	4 lots of 10 is equal to 40
	$35 = 7 \times 5$	
		6 lots of 3 is equal to 18

3)

I can solve problems involving my 2 times tables.

I can solve problems involving my 5 times tables.

I can solve problems involving my 10 times tables.

Pirate challenge

I can solve problems involving my 3 times tables.

Focus: Practice 2, 5, 10 and 3 times tables.

We could use arrays to help us find the answers (previous lesson) or more efficiently...

To help us with our 2 times tables we can use counting in 2's.
If I wanted to find the answer to 4×2 I would count in 2's 4 times.

There are 4 pairs of eyes.
There are 2 eyes in each pair.
 $4 \times 2 = 8$



Go to task 1.

To help us with our 5 times tables we can use counting in 5's.
If I wanted to find the answer to 6×5 I would count in 5's 6 times.

There are 6 dice in total.
There are 5 dots on each dice.
 $6 \times 5 = 30$



Go to task 2.

To help us with our 10 times tables we can use counting in 10's.
If I wanted to find the answer to 12×10 I would count in 10's 12 times.



There are 12 packs of crayons.
There are 10 crayons in each box.
 $12 \times 10 = 120$

Go to task 3.

Task 1: 2 times tables

- How many wheels are there on 5 bikes?
- If there are 14 wheels, how many bikes are there?
- If there are 18 wheels, how many bikes are there?



Fill the gaps:
 $3 \times \underline{\quad} = 6$
 $\underline{\quad} \times 2 = 20$
 $\underline{\quad} = 8 \times 2$

Task 2: 5 times tables

- Write the calculation to show how many petals there are altogether.
- If there were 55 petals how many flowers would there be?



Fill the gaps using < > or =
 2×5 ○ 5×2
 3×2 ○ 4×5
 10×5 ○ 5×5

Task 3: 10 times tables. Complete the table below:

2×10		9×10	0×10		2×10
smallest	greatest		smallest	greatest	
	1×10	6×10		5×10	
smallest	greatest		smallest	greatest	

Pirate challenge: This lesson the pirates would like you to practice your 3 times tables! Listen to a song or play a game or simply say them out loud!

4)

I can use a multiplication grid to solve problems.

I can multiply a 1-digit number by multiples of 10.

I can use my knowledge of place value to help me.

Focus: Multiplying a 1-digit number by multiples of 10.

****Note****This is new learning! We have not done this in class yet so if you find it a little tricky then don't worry.

Multiplication Square												
X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

This is a multiplication grid and you can use it to find the answer to any of your times tables.

For example, if you would like to find the answer to 5 x 6. Find the first number at the top and the second number at the side. Where they meet is your answer.

5 x 6 = 30

Go to task 1.

To multiply a 1-digit number by multiples of 10 we can use the multiplication facts we know with our knowledge of place value to help us.

For example, we know that 3 x 5 = 15.

We can use that to help us find the answer to 3 x 50 =

Here is how:

Move the answer one space to the ← left on the place value chart

3 x 5 = 15

3 x 50 = 150

H	T	O
	1	5

H	T	O
1	5	0

MOVE TO THE LEFT AND ADD A 0 TO THE ONES COLUMN.

Task 1: Use the multiplication grid to help you find the answer to these problems.

5 x 5 =

10 x 9 =

12 x 3 =

11 x 5 =

7 x 7 =

Task 2: Multiply the 1-digit number by the multiples of 10 using the method. Use the multiplication grid if you need to use it but do try and do it without!

2 x 3 = _____ so 2 x 30 = _____

2 x 8 = _____ so 2 x 80 = _____

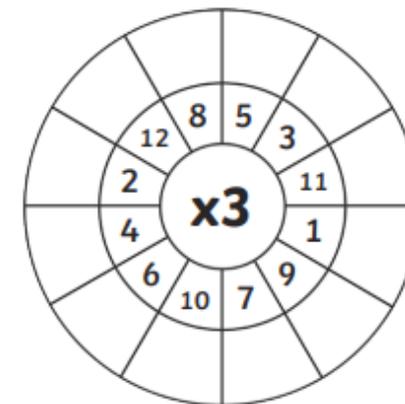
5 x 70 =

4 x 50 =

H	T	O

Pirate challenge

Can you help Izzy the pirate with her 3 times tables?



5)

Steps to success

I can write out the calculation correctly, making sure to write the tens and ones in the right place.

I can partition the 2-digit number into tens and ones.

I can multiply the 1 digit-number by the ones.

I can multiply the 1-digit number by the tens.

I can add the two calculations together (recombining).

Focus: This lesson I'm going to guide you through the steps we would take to multiply a 2-digit number by a 1-digit number.

Example: $17 \times 3 =$

It is helpful to remember that this means "17 lots of 3"

Step 1: Write out your calculation in the squares like this:

					1	7	
					x	3	

Make sure you write the numbers in the correct place! **3 needs to be under the ones column.**

Step 2: Partition. The number 17 is partitioned into 7 (ones) and 10 (tens). We are going to multiply the 1-digit number by the tens and then by the ones.

$17 \times 3 = \underline{\quad}$

						1	7	
						x	3	
					7	x	3	
					=			
					1	0	x	3
					=			

Step 3: Multiply the 1 digit number by the ones in the 2-digit number.

Step 4: Multiply the 1 digit number by the tens in the 2-digit number

So... now it should look like this:

						1	7	
						x	3	
					7	x	3	
					=	2	1	
					1	0	x	3
					=	3	0	
						5	1	

Step 5: Recombine by adding the first calculation to the second calculation.

Add the ones first and then the tens. $17 \times 3 = 51$

Complete all tasks.

Task 1: Use the partitioning and recombining method to help you find the answer to these problems.

Complete the calculation:

						1	5	
						x	3	
					5	x	3	
					=			
					1	0	x	3
					=			

$6 \times 12 =$

$3 \times 15 =$

$4 \times 13 =$

$5 \times 17 =$

Task 2:

Izzy says that the answer to $33 \times 3 =$ is greater than the answer to $5 \times 12 =$.

True or false? Prove it.



Pirate challenge

Jack is making cards.



Help pirate Jake with his word problem.

One sheet of paper makes 15 cards.

Jack uses 5 sheets of paper.

How many cards does he make?

Multiplication Square

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144