## Year 2 Maths Workshop 3.10.18/ 11.10.18

## Maths in Year 2

Welcome to the Year 2 Maths workshop. Thank you for coming!

Please begin by having a look at the general information here as well as some of the resources your children us in class.

Then please make your way around the hall looking at the 4 calculation stations; (addition, subtraction, multiplication and division)

Mr Fisher and Mrs Turner are available if you would like anything explaining in more detail, demonstrating or if have any questions.

## What children learn in Maths in Y2

Autumn Term	Spring Term	Summer Term
Place Value	Multiplication	Time
Addition and Subtraction	Statistics	Mass, Capacity and Temperature
Money	Fractions	Position and Direction
Properties of shape	Length and Height	Additional Problem solving

## Aim of today

In Y2 the children will be introduced to some new approaches to solving written calculations.

Today will hopefully help you to understand how your child is learning maths and allow you to support your child at home in a way which is consistent with how they are learning at school.

## Maths language

#### Hundreds, tens and ones

This makes up the place value of a number. We refer to these as columns.

#### Digit

All numbers are made up of the digits 0-9.

#### Value

What is the digit worth- this will depend on which column the digit is in.

#### Partition

To partition a number means to split it into Hundreds, tens and ones.

#### 1 digit number/ 2 digit number

A 1 digit number only has a digit in the ones column, a 2 digit number has digits in the tens and ones columns.

#### Crossing the ten/ regrouping

A term for moving between 10 ones and 1 ten- this is used in addition and subtraction.

## Steps of learning

For each type of calculation the children will go through a sequence of learning.

They begin by solving the calculation practically using equipment, models and images.

• They will then move on to using a pictorial representation.

• After that they will use a formal recording method.

• The final stage would be to use knowledge of number bonds and facts to calculate mentally.

## **Equipment- Cubes and counters**



## **Equipment-** Place value counters



## **Equipment- Number lines**



## Equipment- Dienes/ base ten



## **Equipment-Numicon**



## Equipment- Cuisenaire rods



## Equipment- Models/ Pictures

#### Place value frames

#### Part part whole models





+

### 2 digit + 1 digit

Children may begin by using a hundred square or practical resources to add a 2 digit and a 1 digit number.

	2	,2	+	5	11	3	7		
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	83	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

#### 2 digit + 1 digit

We would then encourage them to use their knowledge of number bonds to solve this type of calculation mentally.



#### 2 digit + 2 digit

To begin the children will use a hundred square to add the tens (by jumping down) and then the ones (by counting along.)

	3		+	2	7	[]	5	8	
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

#### 2 digit + 2 digit

They will then move onto making both numbers using dienes and count how many they have in total.





#### Crossing the ten





### 2 digit + 2 digit

Once the children are secure doing this practically then will begin to 'draw dienes' to represent the numbers.

```
42 + 26 = 68
```

Crossing the ten



### 2 digit + 2 digit

If the children are secure with adding multiples of ten (i.e. 20 + 30) they will then move onto partitioning to add.

42 + 26 = 6840 + 20 = 602 + 6 = 8(60 + 8 = 68) Crossing the ten 57 + 28 = 85 50 + 20 = 70 7 + 8 = 15(70 + 15 = 85)

Watch out for ch. forgetting to add this extra ten.

#### 2 digit + 2 digit

Your turn...

52 + 35 =

Crossing the ten 65 + 27 =

Children may move onto be able to add two 2-digit numbers mentally but should be also able to use a formal method when asked to show their working out or to check their answer.

In year 2 the children mainly focus on adding 2-digit numbers. It is important for children to have a solid understanding of adding 2-digit numbers before moving onto 3 digit numbers.



### 2 digit - 1 digit

Children may begin by usinga hundred square or practicalresources to subtract a1 digit from a 2 digit number.

38 - 5 = 33											
1	2	3	4	5	6	7	8	9	10		
11	12	13	14	15	16	17	18	19	20		
21	22	23	24	25	26	27	28	29	30		
31	32	33	34	35	36	37	38	39	40		
41	42	43	44	45	46	47	48	49	50		
51	52	53	54	55	56	57	58	59	60		
61	62	63	64	65	66	67	68	69	70		
71	72	73	74	75	76	77	78	79	80		
81	82	83	84	85	86	87	88	89	90		
91	92	93	94	95	96	97	98	99	100		

#### 2 digit - 1 digit

We would then encourage them to use their knowledge of number bonds to solve this type of calculation mentally.



### 2 digit – 2 digit

Similarly to addition, the children will begin by using a hundred square. They subtract the tens (by jumping up) and then the ones (by counting back.)

	37-14 = 23											
	1	2	3	4	5	6	7	8	9	10		
	11	12	13	14	15	16	17	18	19	20	No. of the second	
	21	22	23	24	25	26	27	28	29	30		
	31	32	33	34	35	36	37	38	39	40		
	41	42	43	44	45	46	47	48	49	50		
	51	52	53	54	55	56	57	58	59	60		
	61	62	63	64	65	66	67	68	69	70		
	71	72	73	74	75	76	77	78	79	80		
-	81	82	83	84	85	86	87	88	89	90		
-	91	92	93	94	95	96	97	98	99	100		

### 2 digit – 2 digit

They will then move onto making the larger number using dienes and physically taking the smaller amount away.







43 - 15 =

(Note: if crossing the ten they will have to exchange 1 ten for 10 ones.)



### 2 digit – 2 digit

Again like addition, once the children are secure doing this practically then will begin to 'draw dienes' to represent the numbers.

Crossing the ten

58 - 23 = **35** 

63 - 26 = <mark>37</mark>

### 2 digit – 2 digit

If the children are secure with subtracting multiples of ten from a 2- digit number (i.e. 56 - 30) they will then move onto partitioning to subtract.

- 58 23 = **35**
- 58 20 = 38
- 38 3 = 35

Crossing the ten

63 - 26 = <mark>85</mark>

$$63 - 20 = 43$$

43-6=37



Ch. may need to draw a number line to support this part..

#### 2 digit – 2 digit

Your turn... 69 - 35 = Crossing the ten 53 - 28 =

Children may move onto be able to subtract two 2-digit numbers mentally but should be also able to use a formal method when asked to show their working out or to check their answer.

In year 2 the children mainly focus on subtracting 2-digit numbers. It is important for children to have a solid understanding of subtracting 2-digit numbers before moving onto 3 digit numbers.



A key skill we practice regularly in class in counting in steps of 2,3, 5 and 10.

This is essential to supporting the children's understanding of multiplication.



# To multiply children begin by being able to recognise and make equal groups.



They then move onto seeing multiplication as repeated addition.



The children then move onto reading and writing multiplication statements.

5 x 3 We would read this as 5, 3 times.

To work out a multiplication the children would begin by practically making the correct number of equal groups.



They would then move onto drawing an **array** to work out the answer. This is a pictorial representation.

5 x 3 = **15** ••••5 •••10 •••15 Ch. have worked mainly on multiplying g by 2, 5 and 10 but can apply this to multiplying by other numbers.

Ch. are encouraged to recognise that multiplications can be done in any order.

If children are able to recall multiplication facts they wouldn't need to show any formal recording unless asked.

Some children will be able to do this when multiplying by 2, 5 or 10.

Your turn...

6 x 5 =

8 x 2 =

Children are shown that division can be done by sharing or grouping.

Children should be aware of both but may have a method they prefer.

# To begin, children are shown division practically and use objects to share or group.

Sharing

Grouping



There are 4 in each group.



There are 4 groups.

They then move onto using a pictorial representation to divide.

Sharing Grouping  $20 \div 5 = 4$  $20 \div 5 = 4$ 0 There are 4 groups. There are 4 in each group.

Some children may move onto calculations with remainders.

Grouping Sharing  $23 \div 5 = 4r3$  $23 \div 5 = 4r3$ 

There are 4 in each group and 3 left over.

There are 4 groups and 3 left over.

If children are able to recall division facts they wouldn't need to show any formal recording unless asked.

Some children will be able to do this when dividing by 2, 5 or 10.

Your turn...

#### Sharing

#### Grouping

35 ÷ 5 =

35 ÷ 5 =