Year 2 Maths Workshop

Monday 22nd November 2021

Miss Amor and Mrs Walker-Lancum

Questions

- How do you feel about Maths?
- What were your experiences and confidence levels in Maths at school?
- What are your experiences and confidence levels in Maths now?
- Are you presenting Maths in a positive way?
- Do you encourage Maths to take place at home?
- Do you promote its importance and explain why it is important?

Areas of Mathematics

- Number
- Calculation
- Measurement
- Fractions
- Geometry

Whilst all 5 areas of Maths are equally important with regards to SATs; number and calculation form the key foundational knowledge and skills which underpin every other area in Maths.

Concrete and Abstract

Concrete

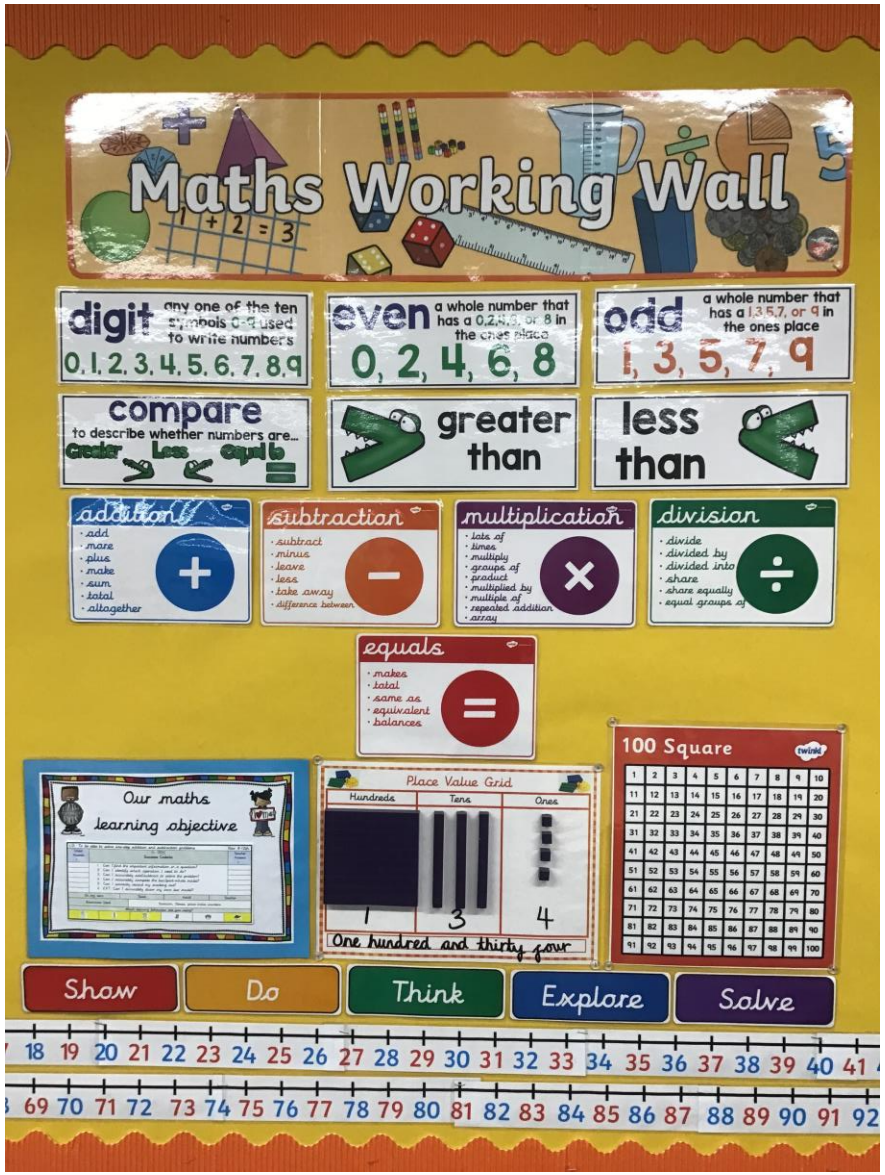
- Physically counting and manipulating objects or equipment to see, understand and work with numbers.

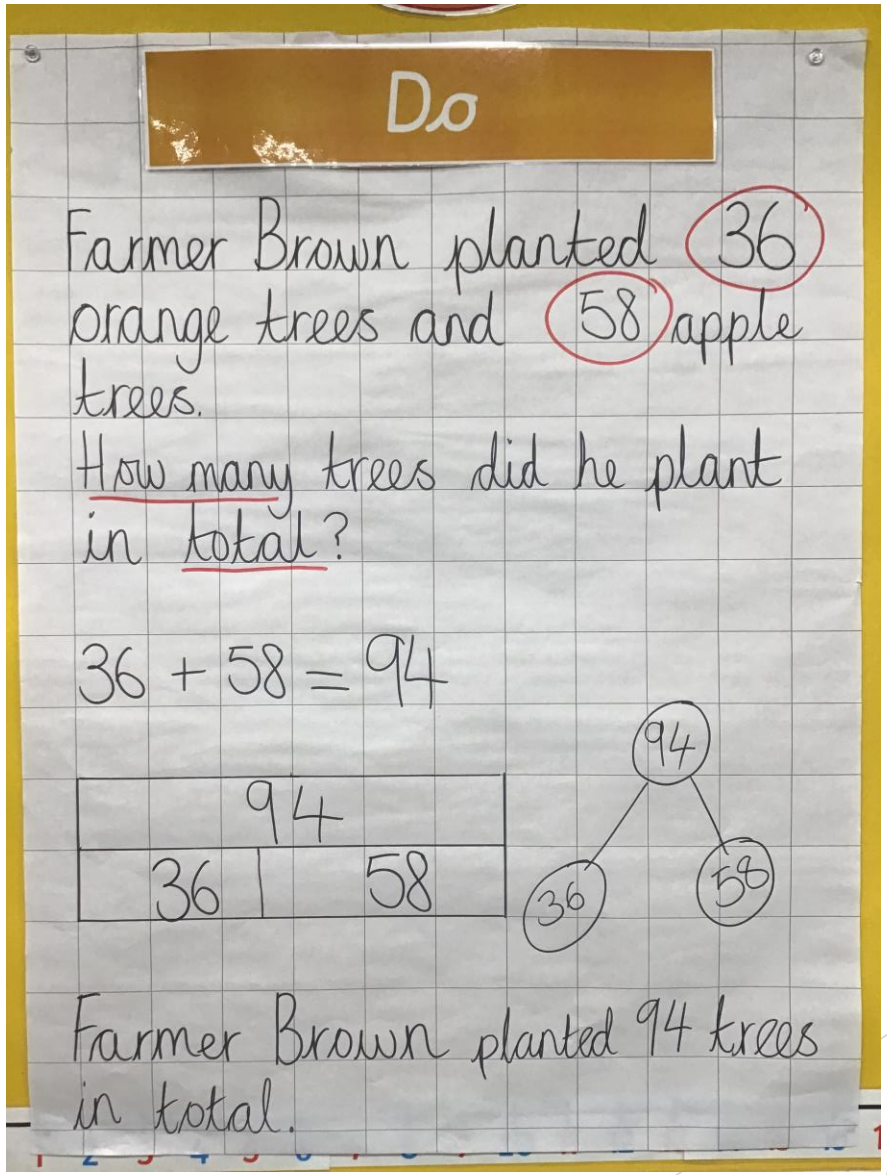
Abstract

- Working with numbers mentally or as written numerals on a page. Understanding the context of a number without the need for a physical representation.

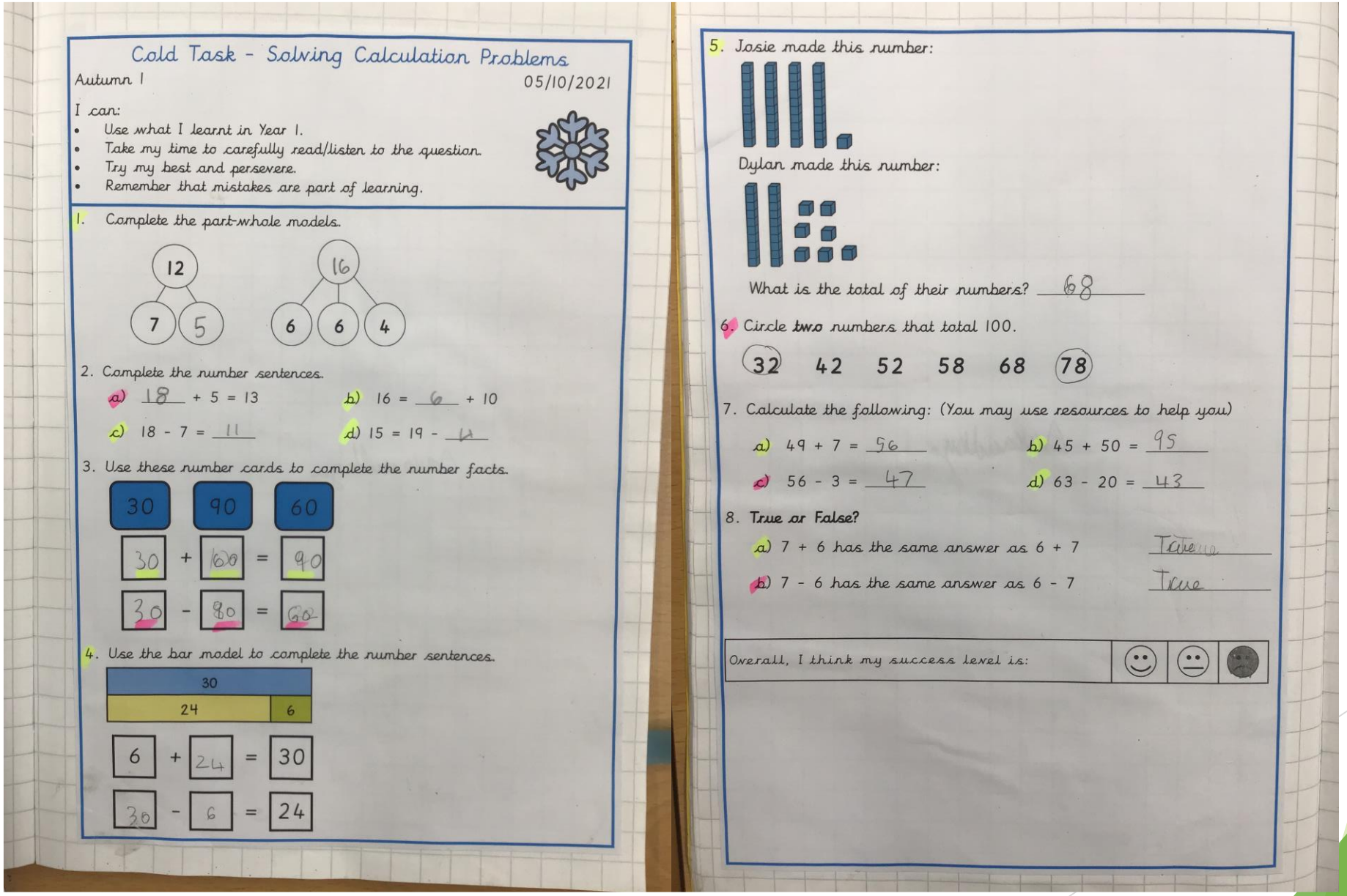
Important things to remember:

- Always start with the concrete
- Don’t try and rush to abstract
- It’s not cheating to use resources – it’s the first set in our Maths scheme of work
- Working with written numbers is abstract


Maths Working Wall
digit
any one of the ten symbols that is used to write numbers
0, 1, 2, 3, 4, 5, 6, 7, 8, 9
even
a whole number that has a 0, 2, 4, 6, or 8 in the ones place
0, 2, 4, 6, 8
odd
a whole number that has a 1, 3, 5, 7, or 9 in the ones place
1, 3, 5, 7, 9
compare
to describe whether numbers are...
greater
less
equal
greater than
less than
addition
· add
· more
· plus
· make
· sum
· total
· altogether
subtraction
· subtract
· minus
· leave
· less
· take away
· difference between
multiplication
· lots of
· times
· multiply
· groups of
· product
· multiplied by
· multiple of
· repeated addition
· array
division
· divide
· divided by
· divided into
· share
· share equally
· equal groups of
equals
· makes
· total
· same as
· equivalent
· balances
Our maths learning objective
Place Value Grid
Hundreds
Tens
Ones
One hundred and thirty four
100 Square
Show
Do
Think
Explore
Solve


Do
Farmer Brown planted 36 orange trees and 58 apple trees.
How many trees did he plant in total?
36 + 58 = 94
94
36
58
Farmer Brown planted 94 trees in total.

Maths Scheme of Work



Cold Task - Solving Calculation Problems

Autumn 1 05/10/2021

I can:

- Use what I learnt in Year 1.
- Take my time to carefully read/listen to the question.
- Try my best and persevere.
- Remember that mistakes are part of learning.

1. Complete the part-whole models.

2. Complete the number sentences.

a) 18 + 5 = 13 b) 16 = 6 + 10

c) 18 - 7 = 11 d) 15 = 19 - 4

3. Use these number cards to complete the number facts.

30 90 60

30 + 60 = 90

30 - 90 = 60

4. Use the bar model to complete the number sentences.

6 + 24 = 30

30 - 6 = 24

5. Josie made this number:

Dylan made this number:

What is the total of their numbers? 68

6. Circle **two** numbers that total 100.

32 42 52 58 68 78

7. Calculate the following: (You may use resources to help you)

a) 49 + 7 = 56 b) 45 + 50 = 95

c) 56 - 3 = 47 d) 63 - 20 = 43

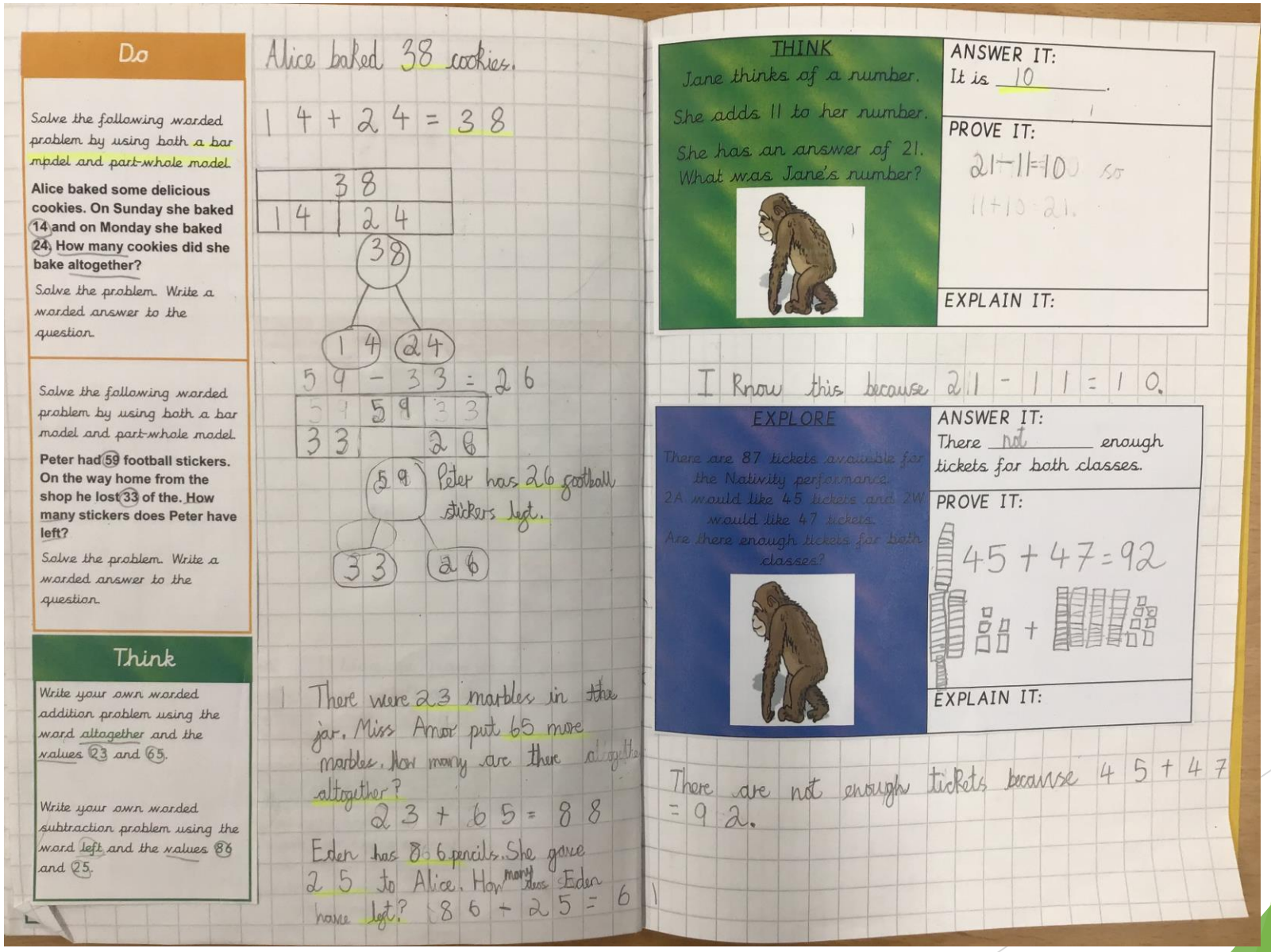
8. True or False?

a) 7 + 6 has the same answer as 6 + 7 True

b) 7 - 6 has the same answer as 6 - 7 True

Overall, I think my success level is:

Maths Scheme of Work



Do

Solve the following worded problem by using both a bar model and part-whole model.

Alice baked some delicious cookies. On Sunday she baked 14 and on Monday she baked 24. How many cookies did she bake altogether?

Solve the problem. Write a worded answer to the question.

Solve the following worded problem by using both a bar model and part-whole model.

Peter had 59 football stickers. On the way home from the shop he lost 33 of the. How many stickers does Peter have left?

Solve the problem. Write a worded answer to the question.

Think

Write your own worded addition problem using the word altogether and the values 23 and 65.

Write your own worded subtraction problem using the word left and the values 86 and 25.

Alice baked 38 cookies.

14 + 24 = 38

38 | 14 | 24

59 − 33 = 26

59 | 33 | 26

Peter has 26 football stickers left.

There were 23 marbles in the jar. Miss Amor put 65 more marbles. How many are there altogether altogether?

23 + 65 = 88

Eden has 86 pencils. She gave 25 to Alice. How many does Eden have left? 86 + 25 = 61

THINK

Jane thinks of a number.

She adds 11 to her number.

She has an answer of 21.

What was Jane's number?

ANSWER IT: It is 10.

PROVE IT: 21 − 11 = 10 so 11 + 10 = 21.

EXPLAIN IT:

I know this because 21 − 11 = 10.

EXPLORE

There are 87 tickets available for the Nativity performance.

2A would like 45 tickets and 2W would like 47 tickets.

Are there enough tickets for both classes?

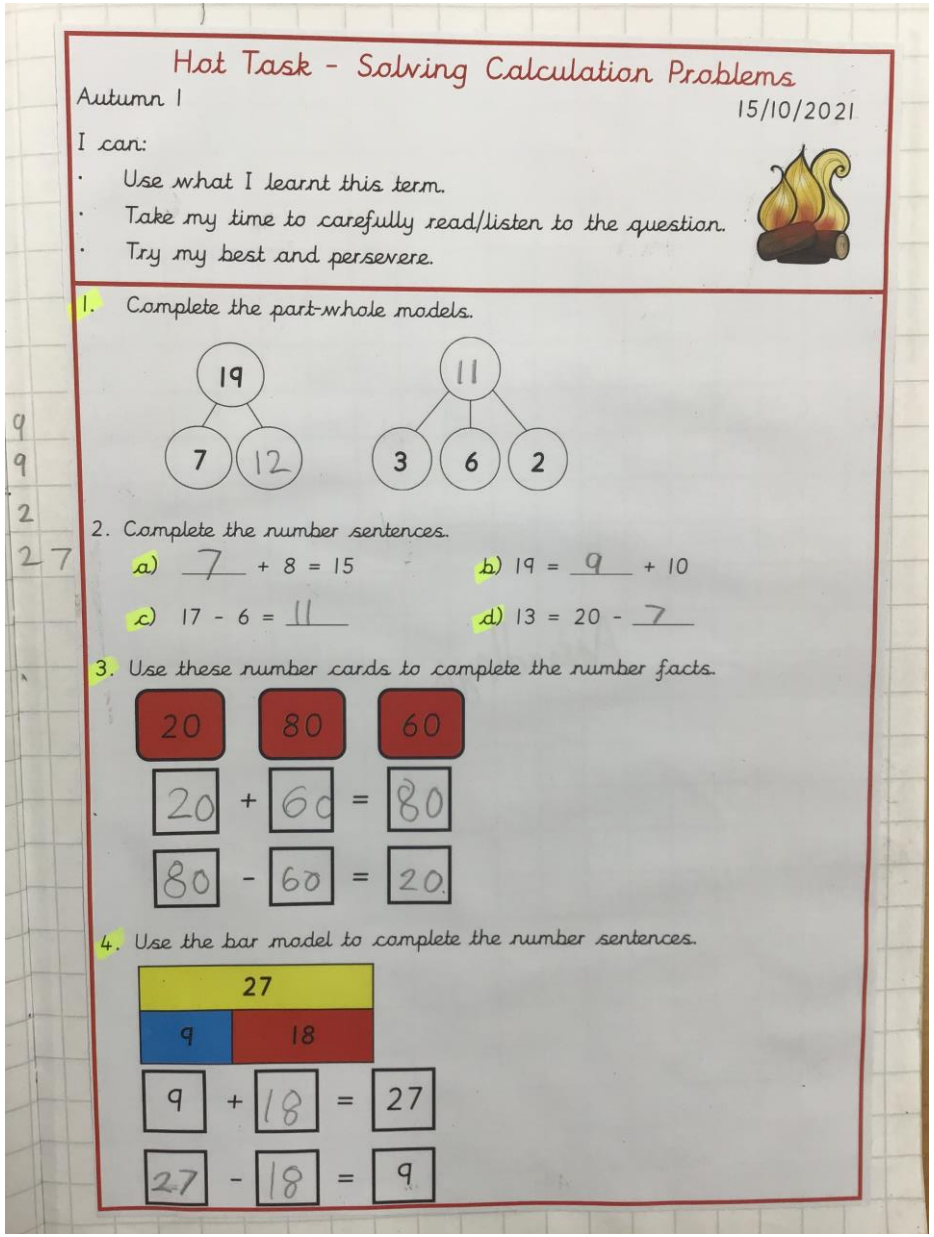
ANSWER IT: There not enough tickets for both classes.

PROVE IT: 45 + 47 = 92

EXPLAIN IT:

There are not enough tickets because 45 + 47 = 92.

Maths Scheme of Work



Hot Task - Solving Calculation Problems

Autumn 1

15/10/2021

I can:

- Use what I learnt this term.
- Take my time to carefully read/listen to the question.
- Try my best and persevere.

1. Complete the part-whole models.

2. Complete the number sentences.

a) 7 + 8 = 15

b) 19 = 9 + 10

c) 17 - 6 = 11

d) 13 = 20 - 7

3. Use these number cards to complete the number facts.

20 80 60

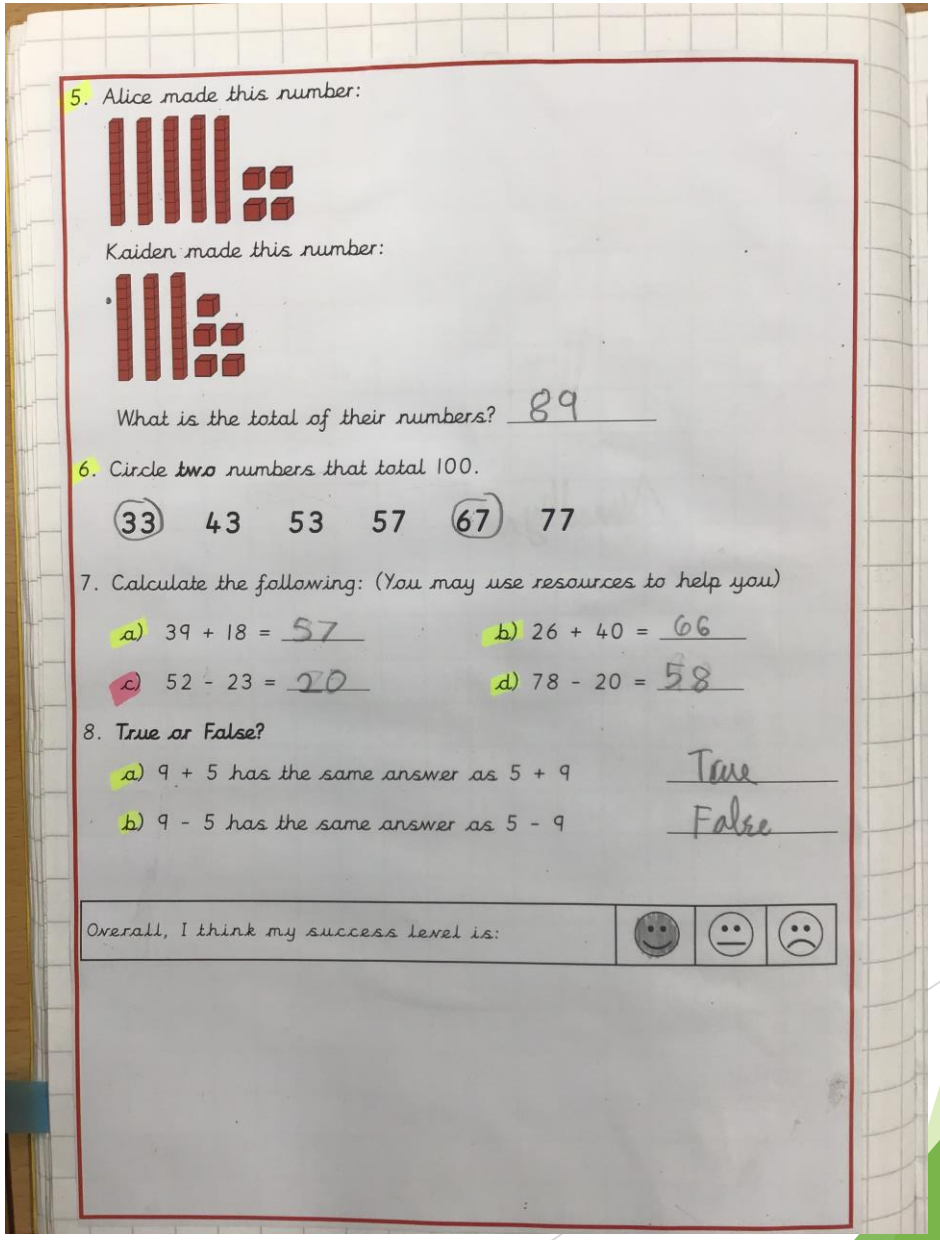
20 + 60 = 80

80 - 60 = 20

4. Use the bar model to complete the number sentences.

9 + 18 = 27

27 - 18 = 9



5. Alice made this number:

Kaiden made this number:

What is the total of their numbers? 89

6. Circle **two** numbers that total 100.

(33) 43 53 57 (67) 77

7. Calculate the following: (You may use resources to help you)

a) 39 + 18 = 57

b) 26 + 40 = 66

c) 52 - 23 = 29

d) 78 - 20 = 58

8. True or False?

a) 9 + 5 has the same answer as 5 + 9 — True

b) 9 - 5 has the same answer as 5 - 9 — False

Overall, I think my success level is:

End of Year 2 National Curriculum Expectations

- Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency.

- They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand zero as a place holder.

Place Value and Problem Solving

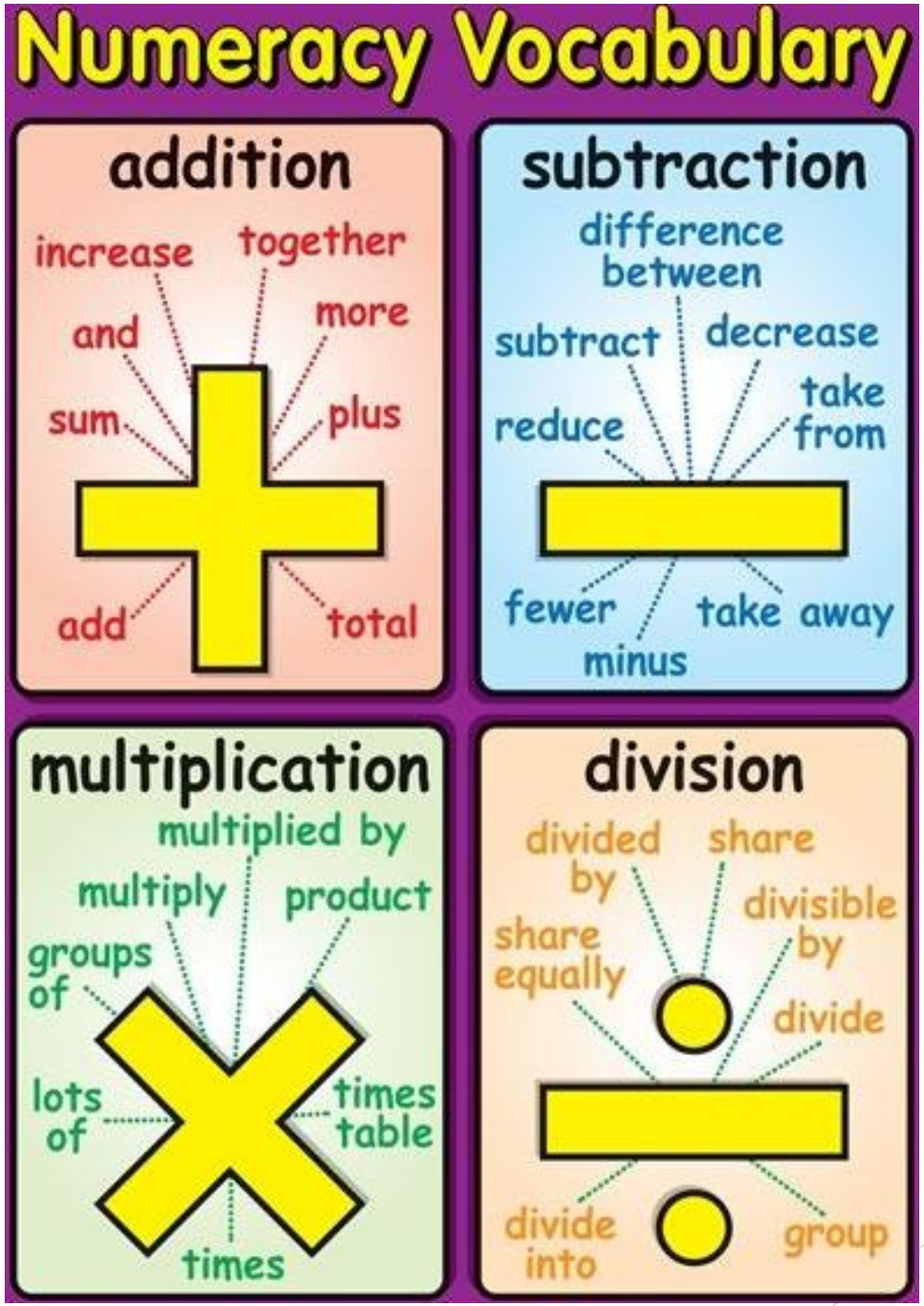
- In Year 2 children gain a solid understanding of place value. It underpins almost every Mathematical concept.
- In order to be able to compare numbers, the children must know and understand the value of each numeral.
- We mainly use Dienes and Numicon counters to demonstrate and represent place value. This year we have introduced the children to place value counters too. When working in the abstract, we work with the *tens* and *ones/units* columns.

How can this be achieved at home?

- Question your children often about the value of numbers that they see in the real world.
- Place this into real life contexts. Money is especially useful when discussing place value. Perhaps you can discuss your shopping total and how you will pay.

Maths Language

- Use a range of language for each operation to get your child used to associating the symbols with all the key words/phrases associated with each operation.
  - This is particularly useful when they are completing worded problems. We teach them to first identify the key information (including the numbers involved) before attempting to solve the problem.


Numeracy Vocabulary
addition
increase
together
and
more
sum
plus
add
total
subtraction
difference between
subtract
decrease
reduce
take from
fewer
take away
minus
multiplication
multiplied by
multiply
product
groups of
lots of
times table
times
division
divided by
share
share equally
divisible by
divide
divide into
group

Addition and Subtraction

- Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using:

  3 + 7 = 10; 10 – 7 = 3 and 7 = 10 – 3 to calculate
  30 + 70 = 100; 100 – 70 = 30 and 70 = 100 – 30.

- They check their calculations using the inverse operation.

  The inverse of addition is subtraction and the inverse of, multiplication is division. This establishes the commutativity and associativity of addition.

  Example: 5 + 7 = 7 + 5 and 1 + 3 + 5 = 3 + 5 + 1

- Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers and using the column method to calculate both addition and subtraction problems.

How can this be achieved at home?

Addition and Subtraction at home

- Practise addition by counting on from a given number. Hold the biggest number in your head and count on. Children often find it hard to count on from the number.
- Practise subtraction by counting backwards from a given number. Children often become confused and begin counting forwards. To overcome this, ask your child to use their fingers (concrete).
- Move on to adding/subtracting tens and ones/units separately. At first we would do this with the Numicon, then Dienes. Most children then learn to do it mentally (abstract) for calculations not crossing tens.
- Practise number bonds to 20 as much as possible at home. Start with the concrete and move to the abstract. Write them out in order to show children the pattern. Use the number bonds cards.
- Remind them of how the number bonds to 10 can be related to number bonds to 100. Ask them to explain the value of the numerals to you.

Multiplication and Division

- They practise to become fluent in the 2, 3, 5 and 10 multiplication tables. They begin recall multiplication facts and use related division facts to perform written and mental calculations.
- Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing, to arrays and to repeated addition.
- They begin to relate these to fractions and measures (for example, 40 ÷ 2 = 20, 20 is a half of 40).
- They use commutativity and inverse relations to develop multiplicative reasoning (for example, 4 × 5 = 20 and 20 ÷ 5 = 4).

How can this be achieved at home?

Counting in Multiples

- In Year 2 children begin to count in multiples of 2, 3, 5, and 10.

- Counting in multiples of 3 is usually the most difficult and takes the longest to learn.

How can this be achieved at home?

- Ask your child to count in multiples as often as you can. This will help them with addition and other contexts such as time (where we often count in 5s).

Multiplication and Division Facts

- By the end of Year 2 your child should know and be able to write the multiplication and related division facts for the 2, 5 and 10 times tables.
- They should be able to explain to you that multiplication can be done in any order (commutative), but division cannot.
- Use the language of double/halve. This vocabulary also relates to fractions.

Solving Problems

How to help at home

- Play card and board games.
- Play strategy games.
- Encourage children to handle money at the shop.
- Help them talk about time and ask them to read it.
- Ask them to share/divide real life objects/food.
- Ask them to explain their thinking. The more they talk about their thinking, the easier it becomes to express themselves. Please make sure that they use the correct vocabulary.

Resources

Internet resources-(that are free)

- http://www.bbc.co.uk/bitesize/ks1/maths/
- http://topicbox.net/mathematics/
- http://www.nationalnumeracy.org.uk
- http://nrich.maths.org/primary-lower
- http://www.topmarks.co.uk/Interactive.aspx?cat=8 -Great for practising number stories.

Book for your child

- KS1 Maths Targeted Study & Question Book - Year 2 (for the New Curriculum) by CGP Books.

Books for you

- Mathematics Explained for Primary Teachers by Derek Haylock
- Maths for Mums and Dads by Rob Eastway and Mike Askew