

Maths no problem!

MATHS NO PROBLEM! 

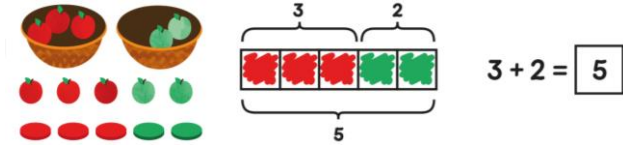
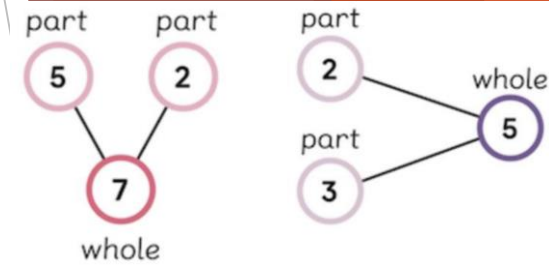
Key session aims:

- What is 'Maths no problem?'
- Why are we implementing MNP at Bushbury Lane Academy?
- What is included in our school subscription?
- The structure of a Maths no problem maths lesson.
- The structure of a Maths no problem chapter.
- Yearly overviews.

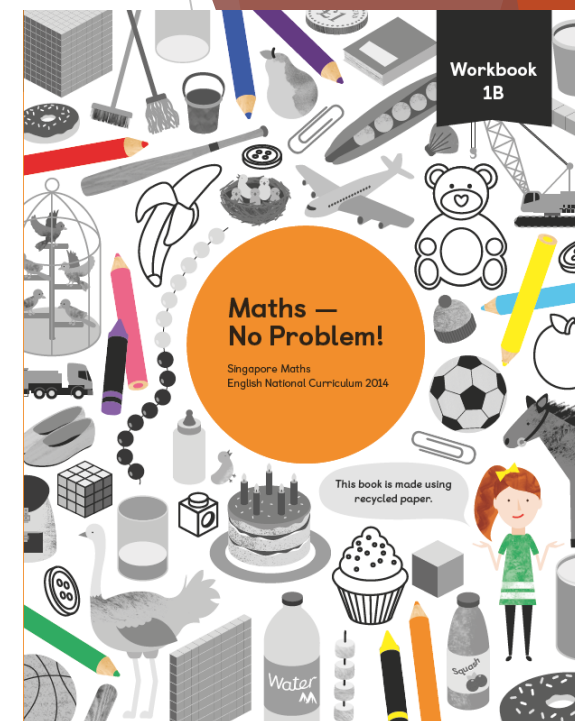
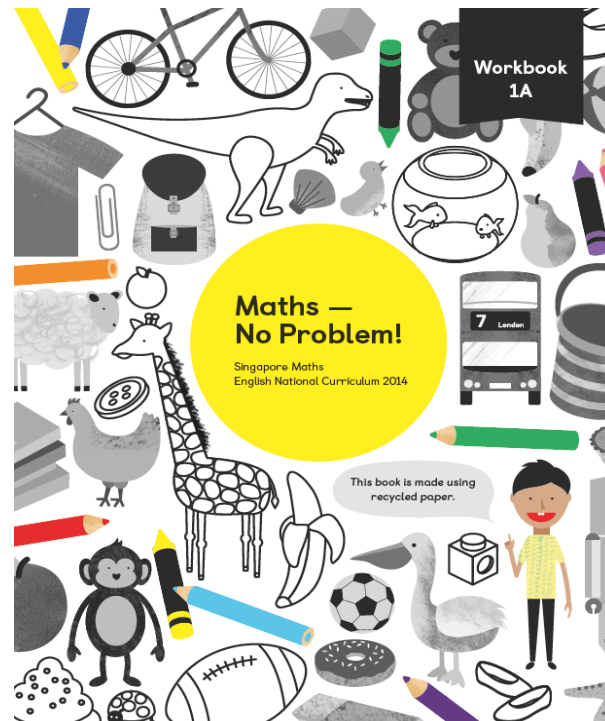
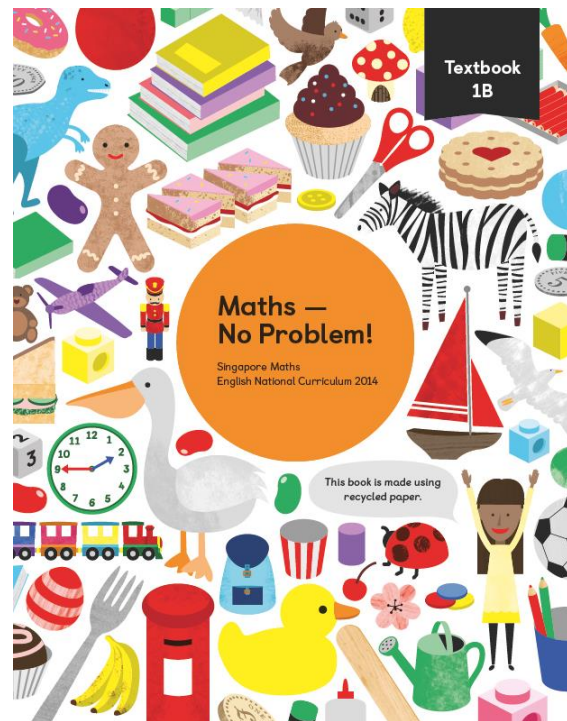


What is 'Maths no problem'?

- ▶ Maths – No Problem, is an approach to teaching maths for Year 1 to Year 6 developed in Singapore and fully aligned with the National Curriculum.
- ▶ It builds students' mathematical fluency without the need for rote learning. Pupils learn to think mathematically as opposed to reciting formulas they don't understand. Teaches children mental strategies to solve problems.
- ▶ Clear progression from Year 1 to Year 6.
- ▶ Concrete, pictorial and abstract approach.



What is included in our school subscription?



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- Teacher guides- Step by step lesson guides.

The structure of a Maths no problem lesson

There are three parts to a Maths no problem lesson.



- ▶ In Focus
- ▶ Guided practice
- ▶ Independent Practice

Bushbury Lane Academy's Math's lesson structure using MNP.



- Starter activity
- L.O, S.C and Key Vocabulary explained and discussed
- In Focus
- Teaching and explicit modelling by the Teacher/TA
- Guided Practice
- Independent Practice- 4 levels of challenge
- Plenary

Starter activity

- ▶ Must be purposeful and have a L.O.
- ▶ Recap and consolidate previous learning or prepare the children for what they are going to be learning in the main part of the lesson.
- ▶ A quick, engaging activity e.g. whiteboard work, practical activity on tables.
- ▶ Evidence of starters do not need to be recorded in maths books.



Starter

L.O: To be able to identify the number bonds to 20.

Teacher notes

What are number bonds?

Can you think of an example of 2 numbers that add together to make 20?

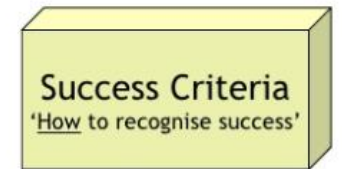
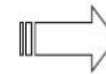
T model the activity to the children and discuss what strategies they can use to help them.

Children work in pairs with cards 0- 20. They must work together to match the cards up to make the number bonds to 20.

What patterns do you notice?

L.O, S.C and Key Vocabulary explained and discussed

- ▶ L.O explains what the children are going to have learnt at the end of the lesson.
- ▶ S.C explains to the children what step they will need to take in order to be successful in completing the L.O.
- ▶ L.O and S.C need to be child friendly.
- ▶ Key vocabulary box evident for every lesson and discussed with the children. Encourage children to use the vocabulary.
- ▶ Vocabulary on the WW needs to be current and reflect the learning.



8.11.20

L.O: To understand the **value** of each **digit** in a 2-digit number.

S.C: I can **partition** a 2-digit number in more than one way.

Key vocabulary

digits

partition

split

value

number bond

In Focus

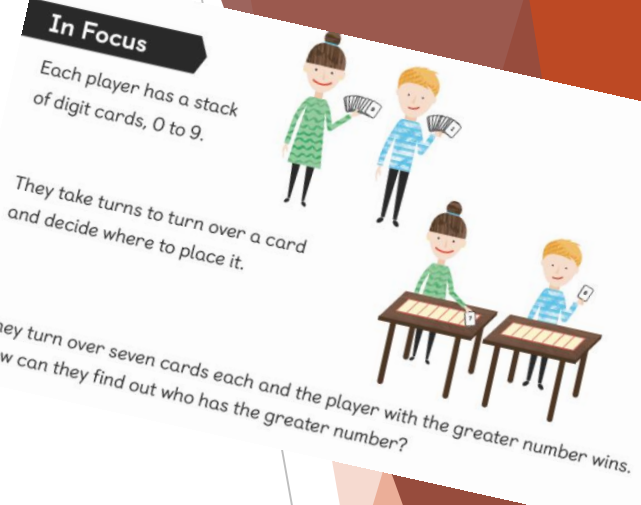
- ▶ A real life problem is presented to the class
- ▶ Read through the problem as a class and dissect it
- ▶ Questioning is key
- ▶ Allow time for the children to solve the problem in pairs or groups- recourses, whiteboards, talk partners.
- ▶ Feedback as class and look at the different way the problem was solved.

In Focus

Each player has a stack of digit cards, 0 to 9.

They take turns to turn over a card and decide where to place it.

They turn over seven cards each and the player with the greater number wins.
How can they find out who has the greater number?

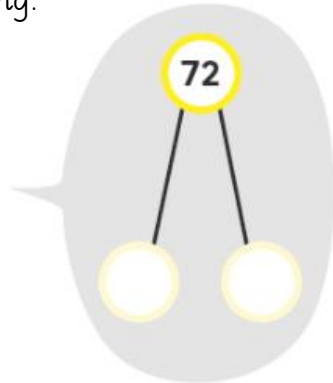
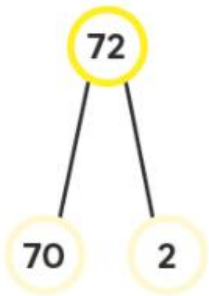




There are 72 cubes.

Amira says that the only way to partition 72 is by separating 70 and 2.

Explain why she is wrong.



$$72 = \square + \square$$

How many different ways can you partition the number 72?

Teacher notes

- Read the question to the children.
- What does the 7 stand for in 70? What does the 2 stand for?
- Model to the children using 72 in base 10 how Amira has partitioned the number into 70 and 2 and display this on a flipchart using a whole part model.
- Provide the children 72 in base 10 and pose the question how many different ways can you partition the number 72 with your partner?
- Encourage the children to record their findings on whiteboards.
- Feedback responses.

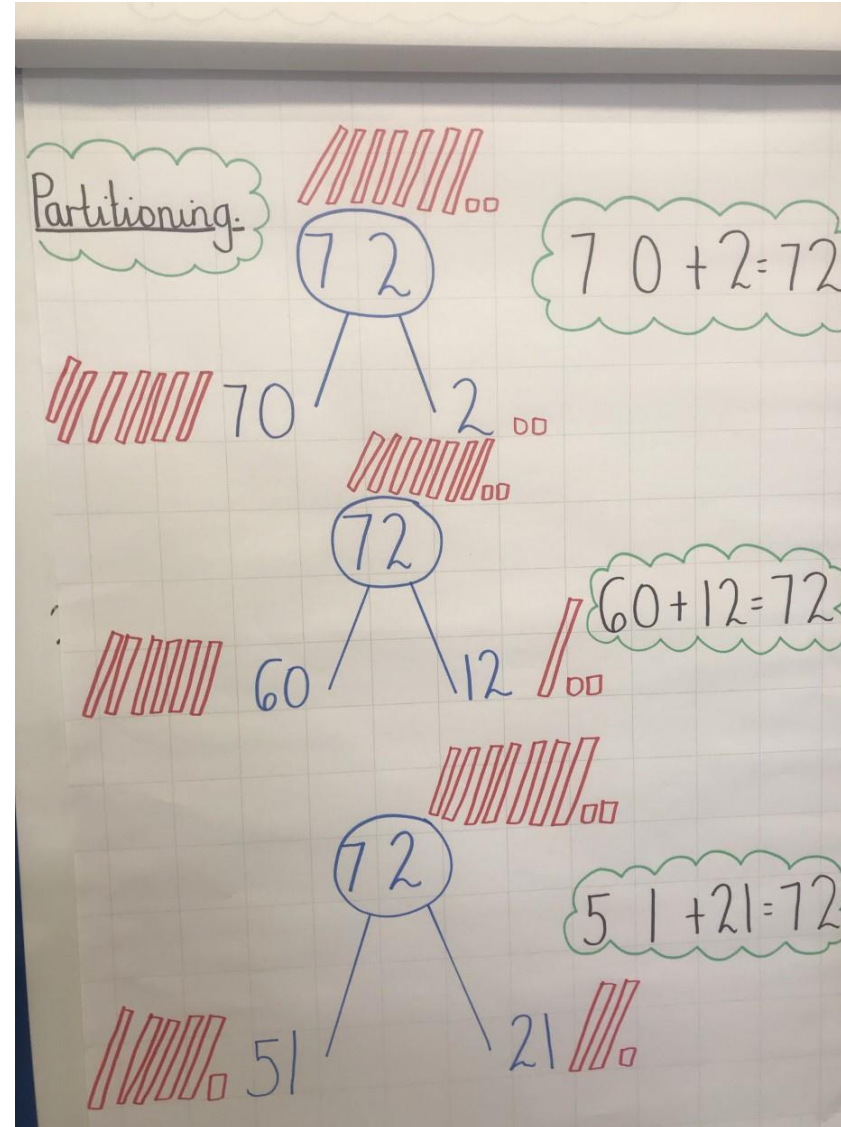
Explicit teaching and modelling

- ▶ Teaching the methods, skills and knowledge in greater detail
- ▶ Let's learn section can support this process
- ▶ Concrete- pictorial- abstract
- ▶ Flipcharts and WWW's used to model the processes
- ▶ Addressing misconceptions and further challenging
- ▶ AFL- Are the children ready for Guided Practice?

Teacher notes

- ▶ Use the base 10 to model to the children how the number can be partitioned in different ways and represent this on a whole part whole diagram and a place value grid on the flipchart.
- ▶ Model the process again to them using a different number.

Example flipchart

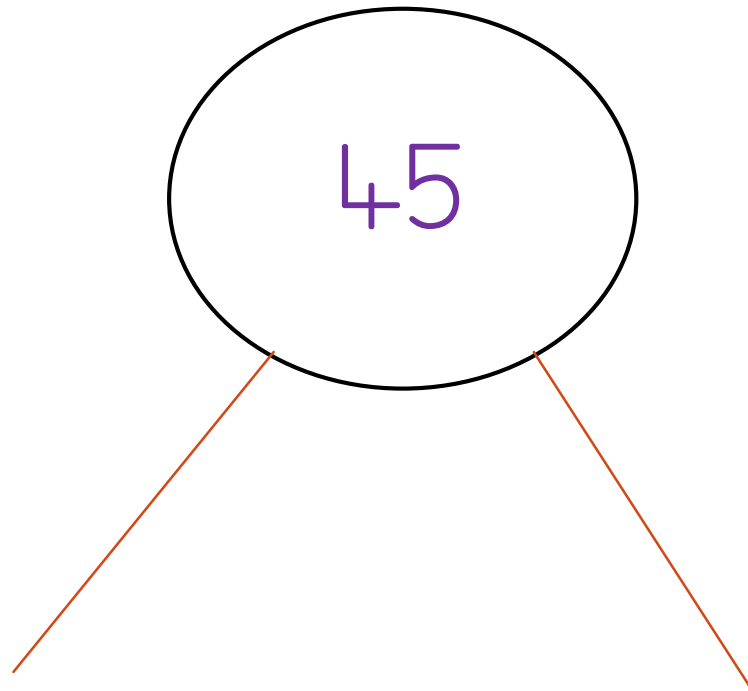


Guided Practice

- ▶ Providing the children with the opportunity to apply their knowledge before independent working.
- ▶ Work in partners, guided groups or independently.
- ▶ Resources
- ▶ Whiteboards- 3,2, I show me.
- ▶ AFL- Address misconceptions, identify learners who need extra support or further challenge or reshape the lesson entirely.

Guided Practice

Can you partition the number below in 2 different ways and show this on a whole part whole model?



Teacher notes

- Children will complete 3 guided practice questions on the WB's using 3,2,1 show me.
- At the end, children will self assess using fans.

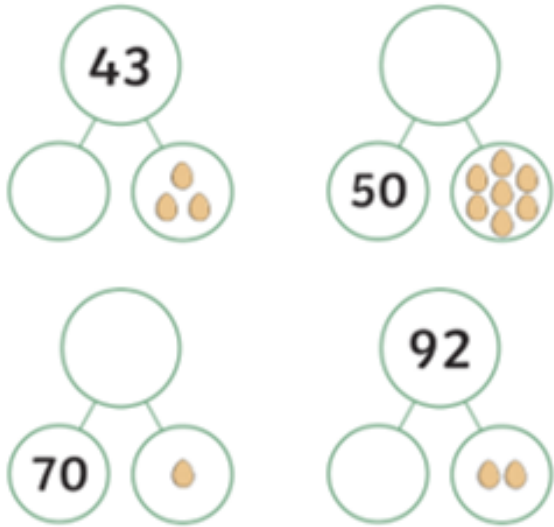


Independent Practice

- ▶ 4 levels of challenge: Practicing, applying, reasoning and greater depth.
- ▶ Embed routines for how the children move through these challenges.
- ▶ Guided or supported groups.
- ▶ Recourses available to support understanding
- ▶ Mini plenaries used to bring the learning back together.

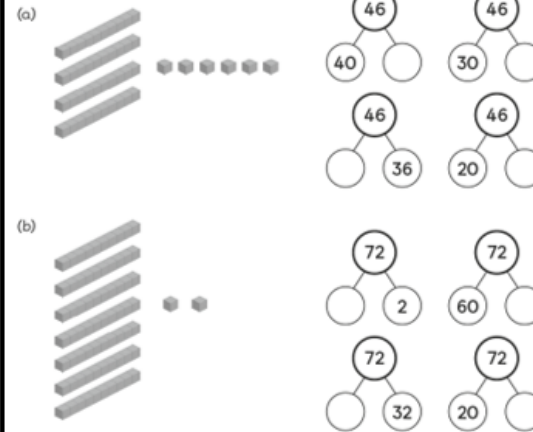
Practicing

Complete the whole part whole models.



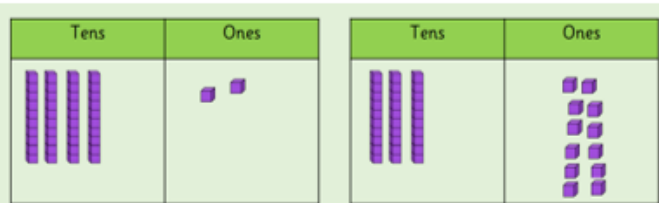
Applying

Complete the number bonds.



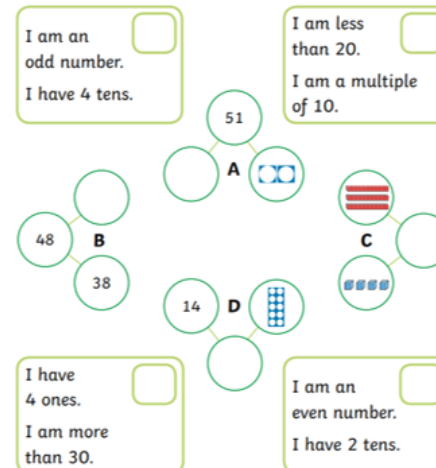
Reasoning

Explain what is the same about these two place value grids and what is different.



Greater depth

Complete the whole part models and match the missing numbers to the clues.



Can you explain how you matched them? Can you choose another number to write some clues about?

Plenary

- ▶ Review the L.O and S.C and consolidate the students' learning
- ▶ Apply understanding and tackle a problem as a class
- ▶ Assessment opportunity

Plenary

15 word challenge!

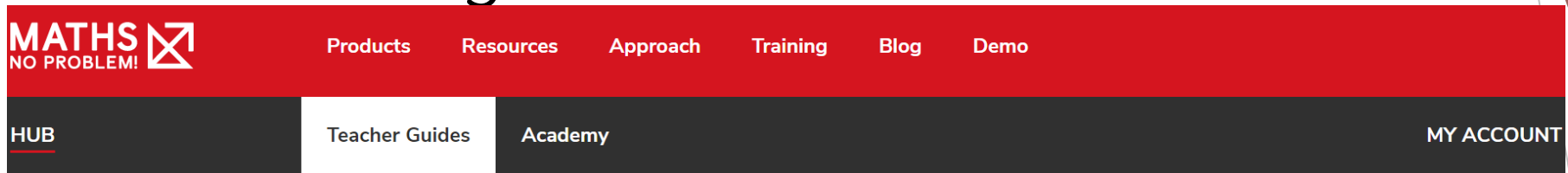
Summarise what you have learnt in today's math's lesson using only 15 words.



Timing

- Starter activity- 2-5 min
 - L.O, S.C and Key Vocabulary explained and discussed
 - In Focus
 - Teaching and explicit modelling by the Teacher/TA
 - Guided Practice- 5 min
 - Independent Practice- 4 levels of challenge- 25 min
 - Plenary- 2-5 min
- 10-15 min

Using the online resources



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Teacher judgement: Adapt as necessary to suit the needs of the learners in your class