



Year 2 Maths Curriculum Meeting

Wednesday 9th October 2024



* We are going to discuss...

- * Maths lesson structure- Primary Star Maths
- * CPA- How children access maths learning
- * Problem solving and reasoning
- * Assessment and intervention
- * Mastering Number
- * Memory Joggers
- * Financial Education Framework
- * Helping at home

Primary Stars Maths

- * We continue to implement Primary Stars Maths as a programme of study across Year 1 and Year 2.
- * It follows White Rose Maths which is in line with National Curriculum targets and objectives.
- * This scheme allows us to follow the mastery approach to teaching, which originates from Singapore. Singapore continues to rank amongst the highest in the world in maths due to this approach.
- * The main positives around this scheme is that it allows and encourages team work, problem solving, reasoning and important discussions around maths.



CPA

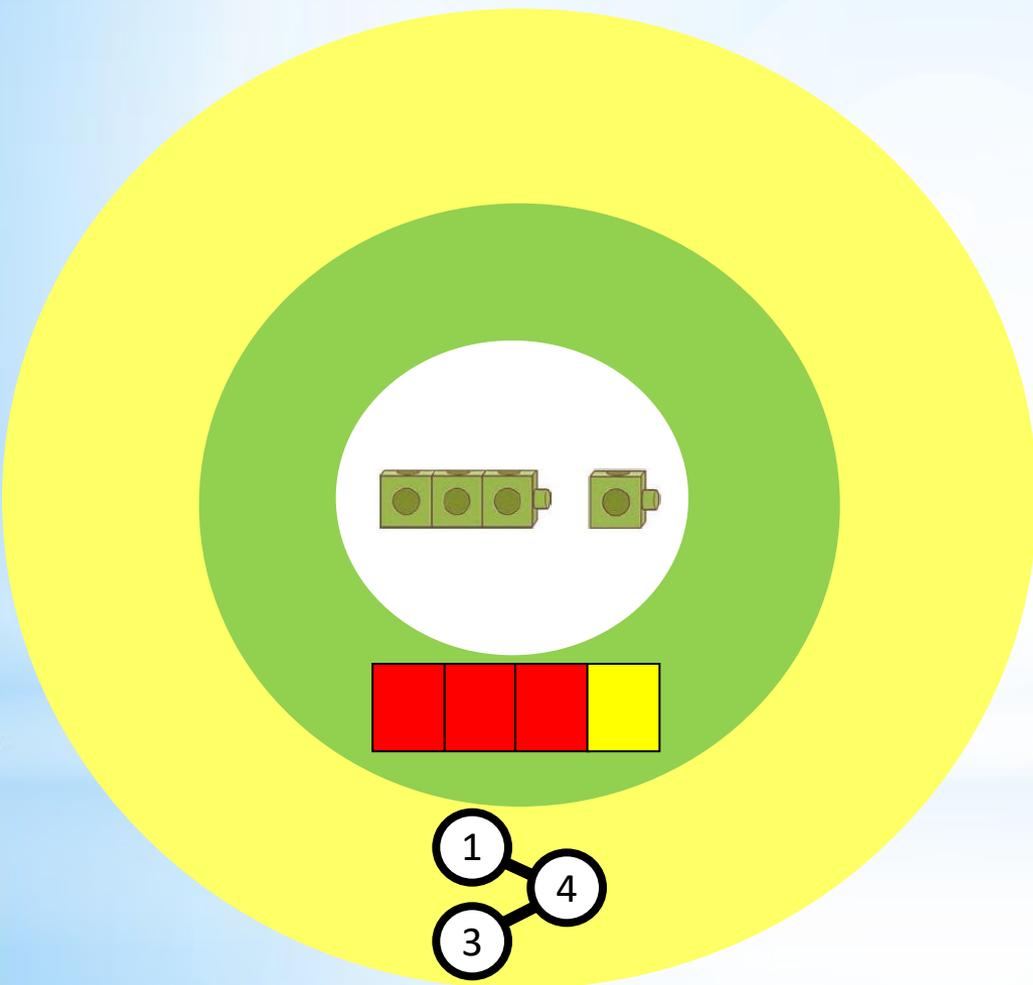
(Concrete, Pictorial and Abstract)

- * Most of all, this mathematics allows us to use CPA within each lesson. It should be recognised that all children have different learning styles.
- * We believe they are all capable of achieving the same learning objectives and understanding within maths as long as they are given the correct tools and resources for them.





* The CPA approach



Concrete:

resources such as cubes, counters and shapes

Pictorial:

pictures, drawings

Abstract:

numbers and symbols

CPA in action



What will my child learn?

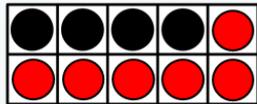
Topic Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value			Number: Addition and Subtraction					Measurement: Money	Number: Multiplication and Division	Consolidation	
Spring	Number: Multiplication and Division				Statistics	Geometry: Properties of Shape	Number: Fractions					
Summer	Measurement: Length and Height	Geometry: Position and Direction		Consolidation and Problem solving		Measurement: Time	Measurement: Mass, Capacity and Temperature					Consolidation

Small steps for each lesson

		Number: Place Value	Number: Addition and Subtraction	Measurement: Money	Number: Multiplication and Division
White Rose Maths Small Steps		<ul style="list-style-type: none"> Count forwards & backwards within 20 Tens and ones within 20 Count forwards & backwards within 50 Tens and ones within 50 Compare numbers within 50 Count objects to 100 and read and write numbers in numerals and words. Represent numbers to 100. Tens and ones with a part whole model. Tens and ones using addition. Use a place value chart. Compare objects. Compare numbers. Order objects and numbers. Count in 2s Count in 5s & 10s Count in 3s. 	<ul style="list-style-type: none"> Fact families – Addition and subtraction bonds to 20. Check calculations. Compare number sentences. Related facts. Bonds to 100 (tens). Add and subtract 1s. 10 more and 10 less. Add and subtract 10s. Add by making 10 Add a 2-digit and 1-digit number – crossing 10. Subtraction – crossing 10 Subtract a 1-digit number from a 2-digit number – crossing 10. Add two 2-digit numbers – not crossing 10 – add ones and add tens. Add two 2-digit numbers – crossing 10 – add ones and add tens. Subtract a 2-digit number from a 2-digit number – not crossing 10. Subtract a 2-digit number from a 2-digit number – crossing 10 – subtract ones and tens. Find and make number bonds Bonds to 100 (tens and ones). Add three 1-digit numbers. 	<ul style="list-style-type: none"> Recognising coins & notes Count money – pence. Count money – pounds (notes and coins). Count money – notes and coins. Select money. Make the same amount. Compare money. Find the total. Find the difference. Find change. Two-step problems. 	<ul style="list-style-type: none"> Make equal groups. Add equal groups. Make arrays
	National Curriculum Link	<ul style="list-style-type: none"> Read and write numbers to at least 100 in numerals and in words. Recognise the place value of each digit in a two digit number (tens, ones) identify, represent and estimate numbers using different representations including the number line. Compare and order numbers from 0 up to 100; use <, > and = signs. Use place value and number facts to solve problems. Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward. 	<ul style="list-style-type: none"> Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers. Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 	<ul style="list-style-type: none"> Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Find different combinations of coins that equal the same amounts of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. 	<ul style="list-style-type: none"> Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) sign. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
TAF Statements 2018 – 2019	W T	<ul style="list-style-type: none"> Read and write numbers in numerals up to 100. Partition a two-digit number into tens and ones and demonstrate and understanding of place value, though they may use structured resources to support them. 	<ul style="list-style-type: none"> Add and subtract (one digit numbers) explaining their method verbally in pictures or using apparatus. Recall at least four of the six number bonds for 10 and reason about associated facts. 	<ul style="list-style-type: none"> Know the value of different coins. 	N/A
	W A	<ul style="list-style-type: none"> Read scales in divisions of ones, twos, fives and tens. Partition two digit numbers into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus. 	<ul style="list-style-type: none"> Recall all the number bonds to and within 10, and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships. 	<ul style="list-style-type: none"> Use different coins to make the same amount. 	<ul style="list-style-type: none"> Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating and understanding of commutativity as necessary.
	G D	<ul style="list-style-type: none"> Read scales where not all numbers on the scale are given and estimate points in between. Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. 	<ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. 	<ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. 	<ul style="list-style-type: none"> Recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts. Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step.

Lesson Structure



There are 4 black counters.

There are 16 red counters.

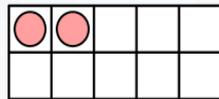
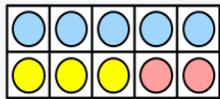
Altogether there are 20 counters.

$$\underline{4} + \underline{16} = \underline{20}$$

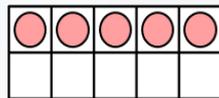
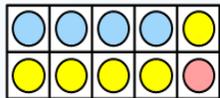
$$\underline{16} + \underline{4} = \underline{20}$$

* Each lesson has a dedicated, child friendly PowerPoint that progressively builds through a concept. This ensures a greater understanding. The children are encouraged to see numbers represented in many different ways.

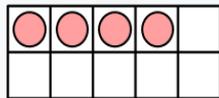
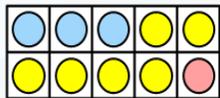
Use the ten frames to answer the addition calculations.



$$5 + 3 + 2 = \underline{12}$$



$$4 + 5 + 6 = \underline{15}$$



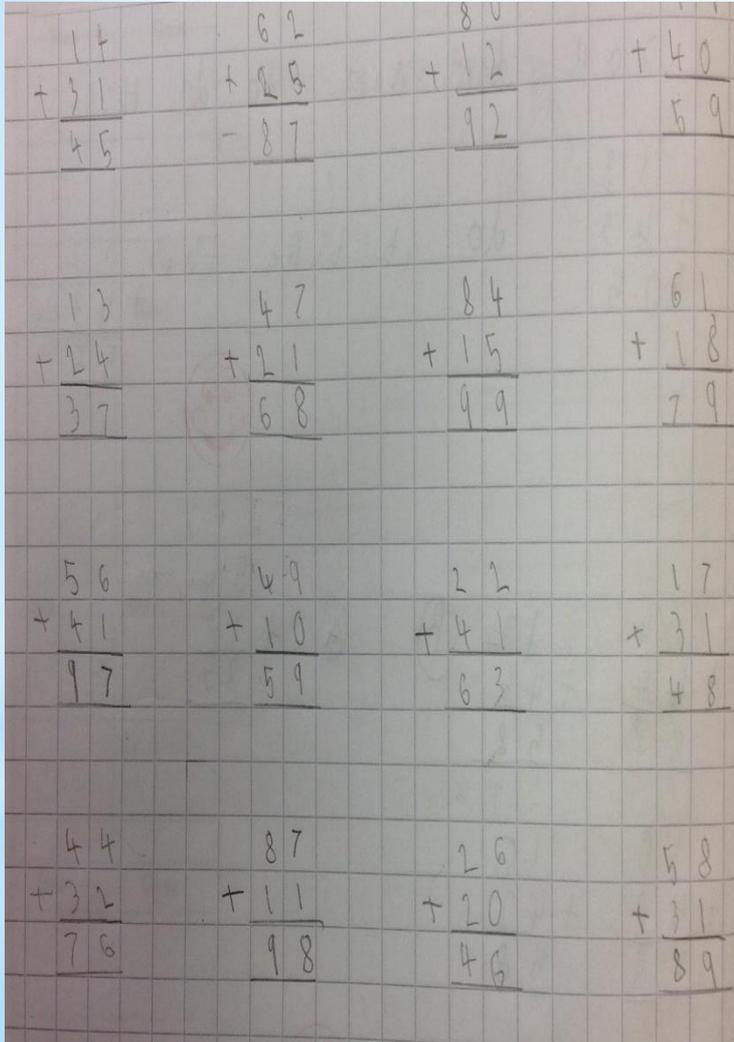
$$3 + 6 + 5 = \underline{14}$$

* The first part of the lesson focuses on basic fluency which is an essential skill for the children to have. This understanding ensures they can then apply their learning when problem solving and reasoning.

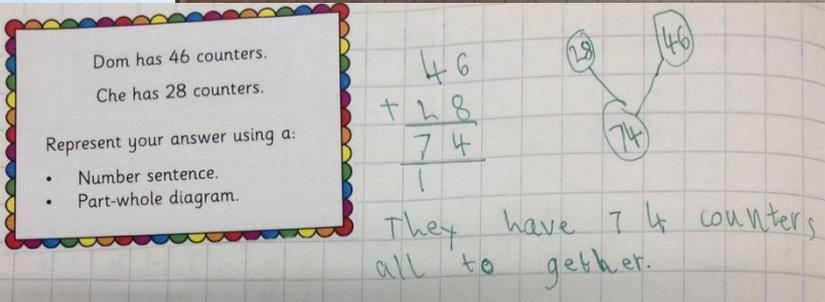
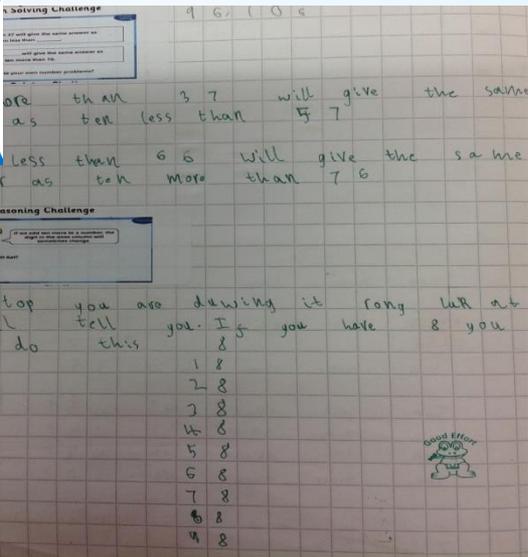
Fluency

Fluency

- * Children will then move to their maths journals to complete a lesson related to the PowerPoint. They will again initially focus on fluency as their task, which can be shown here.
- * Children can access this lesson objective using CPA, as we discussed earlier. Whatever best suits their learning style! They are able to choose on a daily basis how they would like to learn.
- * We have an excellent standard of presentation within school and encourage children to consistently do this, helping with place value in the future, placing numbers in the correct column.
- * Here is an example of a fluency lesson in column addition, where place value understanding is vital to arrive to the correct answer.



Problem solving and reasoning



Throughout the year children will be encouraged to explain WHY and answer in a sentence.

- * If a child excels within the fluency part of the lesson and is confident with the concept they have just learned, we will provide them with a problem solving and reasoning challenge.
- * This allows them to take the concept they have learned and explore it further using different skills and knowledge.
- * They enjoy talking and discussing different possibilities.
- * All children are exposed to these as we use them as a lesson plenary, to ensure that all children in the class are accessing problem solving and reasoning. We clearly discuss different strategies and which one was the most efficient.

Assessment

Year 2 - Autumn – Addition & Subtraction **ASSESSMENT**

Name: _____ Date: _____

1 Complete the subtraction sentence to represent the fact family.

$$\boxed{9} + \boxed{4} = \boxed{13}$$
$$\boxed{} - \boxed{} = \boxed{}$$

1 mark

2 Use $<$, $>$ or $=$ to compare the statements.

$$7 + 6 \quad \boxed{} \quad 5 + 8$$
$$18 - 4 \quad \boxed{} \quad 16 - 3$$

2 marks

3 Complete so that all horizontal and vertical lines equal 90.

 = 40
 = 30
 = 20

2 marks

- * The first block of learning is place value with numbers to 100.
- * Children learn about numbers to 100 on a deeper level and start to understand methods that will help them accomplish trickier maths in the future. They also rely on previous knowledge learned in Year 1, for example, when they know $3+7=10$, they will see the pattern of $30+70=100$ much easier.
- * Children will complete a post teaching assessment to check their understanding. From here we will have a whole class 'pause and stretch' session which will allow those children who have fully grasped all concepts to focus on problem solving, whilst children who need further support will access this during this time.

Assessment Continued...

- * We are extremely fortunate to have a teaching assistant in each class throughout Year 1. They are able to pre-teach concepts, or work through a tricky concept with your child if it is clear they need an extra helping hand.
- * We may show them how to access the learning objective in a different way using concrete objects or pictures, to visually conceptualise a concept.

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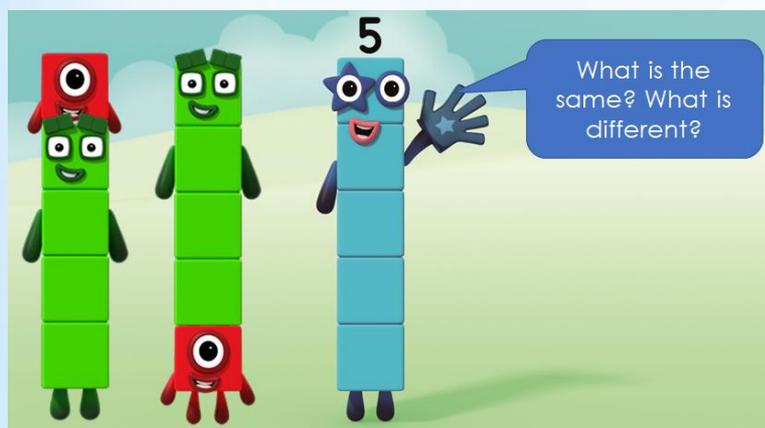
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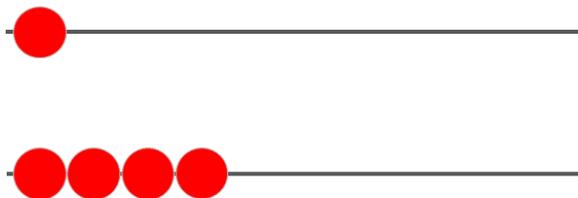
		
		
		

2 marks

- * We have implemented Mastering Number across Reception to Year 2 with great success so far. It is a government and Ofsted recommended program to ensure all children reach their full potential and capability when recalling known facts.



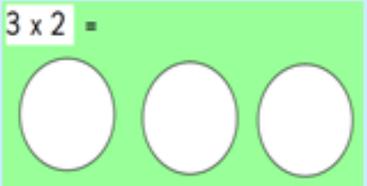
How many on the bottom row to make 5?



___ and ___ make 5.

- * The main aim of the programme is to promote 'automaticity' (automatic recall of simple number facts with fluency).
- * To have good number sense- children will have the ability to apply these facts with confidence to trickier concepts.
- * NO differentiation within programme- all children are entitled to the same experience to develop the understanding of relationships between and within numbers.
- * 'Nervous' mathematicians will be encouraged to have a mathematical mindset to empower them to succeed, they are all at the same point as their peers, using them same equipment.
- * These skills will be practised daily (4 sessions a week) and each session revisits the previous lesson to ensure deepened understanding.

Memory Joggers

Monday	
<p>Yesterday</p> <p>Counting in 2's</p> <p>2 4</p> <p>-----</p>	<p>Last week</p> <p>$3 \times 2 =$</p> 
<p>Different domain</p> <p>$23 +$ </p> <p>____ + ____ = ____</p>	<p>Last year</p> <p> +  =</p> <p> +  =</p>

* A huge focus from both Ofsted and the national curriculum is the 'long term memory'. Children are not expected to retain information if they have only been taught it once. It is important to revisit concepts so they may be embedded in their long term memory, allowing them to build upon each concept and explore it further.

* This is an example of what your children will complete, something they have learned in Year 1, something they learned yesterday, something they learned last week and finally another topic altogether.

* Financial Education Planning Framework

- * As a school we are educating children on the importance of financial care, such as the need to look after money and how money can be used in different ways.
- * This year we will be hosting a ‘Jumble Sale’ for Year 1 children to practise counting and handling coins in real life.

Understanding the important role money plays in our lives

WHERE MY MONEY COMES FROM

I know my money comes to me in different ways e.g. earning, winning, borrowing, finding, being given.

I can describe where my money comes from.

I understand that money will come to me in other ways in the future e.g. being paid for working.

HOW MONEY DEVELOPED

I know that money has developed in many different forms throughout history e.g. barter, coins, notes, etc.

I can describe the many forms that money comes in today, and the variety of ways in which it can be used to pay for things.

I understand that money will continue to develop in a variety of forms in the future.

Money, money, money



Following financial planning day we have been exploring money in class 10.

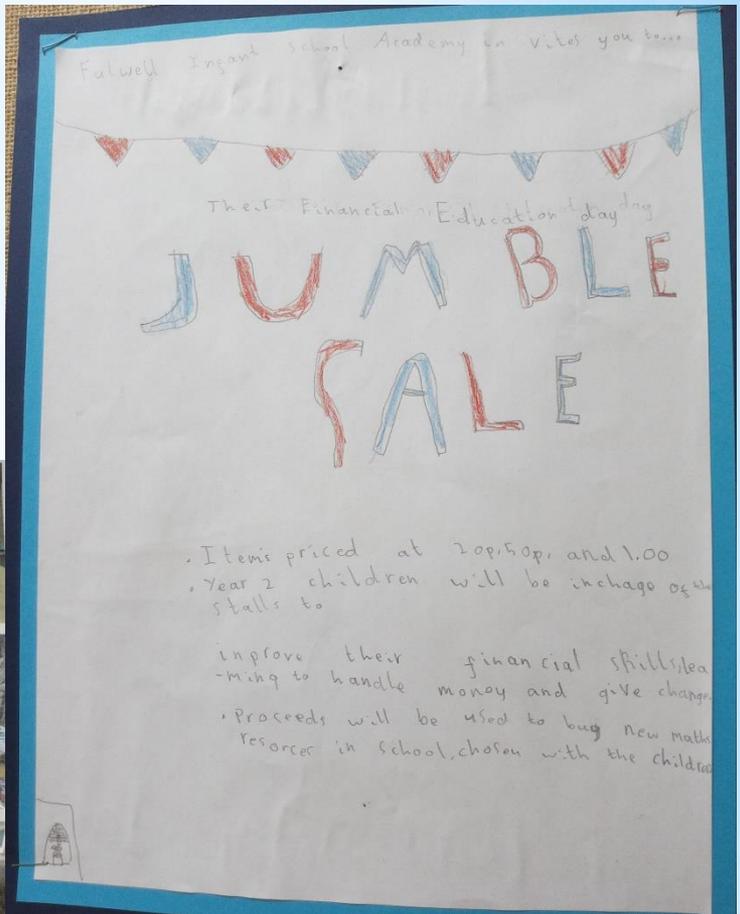


We examined paper money and coins and talked about the different values.



We then set up a shop and used pennies to purchase items.

Jumble sale In action!



Practically using money

Making Posters to promote



I liked the having how I have to give was doing the

I liked the having how I have to give was doing the

Maths Across The Curriculum

What did we find out?

Material	Amount of liquid (ml)
paper	10ml
balloons	18ml
cloth	4ml
tin foil	2ml

I found out that the tin foil was the best material. I also think the balloons were the worst material because it had lots of air in.

* Where possible, we feel the need to link maths across the curriculum is an invaluable experience for children. This way, they can see how subjects are interlinked and have an important connection with one another.

* Here is an example of how maths is used in Science to gather, analyse and compare data.

* A huge link within our Financial Education teaching is to also encourage children about the use of maths throughout different vocations and how these relate to the different subjects they learn.

Our predictions					Our results	
Large Funnel	Small Funnel	Funnel with sponge	Funnel with paper	Funnel with kitchen roll		
14s ✓	2m 35s	1m 30s	1m 35s	1m 32s	1	Large Funnel 14s
	X	X			2	Paper Funnel 1m 35s
					3	Sponge Funnel 30s
					4	Kitchen Funnel 1m 35s
					5	Small Funnel 2m 35s

Which funnel do you think
Which funnel do you think




Example SAT questions

- SAT's will take place in the month of May, usually the two middle weeks. If at all possible, it would be helpful not to book holidays around this time. Children are not told that they are completing 'tests', but more a fun job where they get their own colourful booklet and go to a special room with their friends to complete it. You will often hear them asking if they can complete more 'special jobs'.
- Unfortunately, children are not allowed access to concrete objects in recent years, which is why we are trying to help children become used to represent their work pictorially as we move forward in the year. Children are able to draw pictures, use column strategies and work mentally and we do give them lots of practise in doing so.

Arithmetic Paper

1 $5 + 7 = \square$

4 $17 - 6 = \square$

7 $\square + 5 = 9$

10 $36 + 24 = \square$

14 $2 \times 0 = \square$

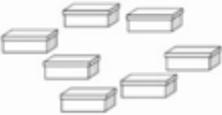
15 $3 \times 3 = \square$

17 $35 \div 5 = \square$

24 $\frac{1}{3}$ of 21 = \square

© SATs 2016

Reasoning Paper

12 

She puts 2 shoes in each of these boxes.
How many shoes are there altogether?

shoes

13 Complete the table.

words	digits
thirty-eight	38
	40
ninety-four	

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If you would like to try some of these questions at home with your child, they are free and available to print from www.satspapers.org.uk



'What is maths?'

Jamie- numbers, working out and counting in 3's

Nancy- counting backwards and forwards

Ezra- making numbers, pattern, colour, shape, measure, time



Pupil Voice



'What if maths is too easy?'
I will do it really quickly, teacher will make it harder! We will get a challenge to extend learning.

'What if maths is too tricky?'
Ezra- Sometimes the first question is so easy! Then it progressively gets more difficult and it makes us think more! We can get support from our teachers, they will explain it in a different way - Jessica.

'Explain CPA' 'Explain Problem Solving'

Sentences to explain how you know it and did it, solving and finding out! Noticing patterns and counting backwards. Working with a friend helps because we all think differently and our brains are better together! I could find $9+1=10$ and Jamie could find $8+2=10$! Ezra.

'I enjoy my maths lessons'
Nancy said she enjoyed counting in 2's, which then led to a discussion about future learning around multiplication. Max said he liked to make number sentences, when asked 'What is a number sentence?' he gave an example of $2+2=4$.



'I know what my next steps in maths are'
Jamie told me that we can make improvements when we do green pen corrections and also that we need to be mindful of children in the class who may not have been as confident as others.

'What have you learned in maths so far this year?'
Children were discussing their maths and engaging in conversations with each other, taking real ownership of their learning.



How can you help at home?

You can help your child by finding and talking about maths in everyday situations.

For example, a shopping trip. Spending money and calculating change.

Counting in 2's, 5's and 10's to later support multiplication.

Asking what comes before and after a given number so children recognise place value in 2-digit numbers.

Toy Shop	
 5p	 7p
 8p	 3p
 6p	 2p
 1p	 4p
 4p	 3p
 5p	 2p



Each child in school has their own individual log in to Numbots. This is an at home program designed to focus on addition and subtraction schools, built in with a fun story line to captivate their attention!

Thank you for attending to understand how your child will access maths in our school. We as a staff appreciate the hard work you do as parents to make your children willing learners and participants! **Any Questions?**