

Five Ways Primary School Year 3 Parent Workshop November 2022

Helping your child improve their maths skills

Purpose of the Workshop

We aim to share ideas and resources that will enable you to support your child at home, developing deeper understanding and confidence in maths.



Key Aims of the National Curriculum

Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.



Maths Overview for Year 3

	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			Number Multiplication and division A					
Spring	Number Multi and d	plicatio	on B	Measure Leng perin	^{ement} th and neter		Number Fract	ions A		Measure Mass and c	ement apacit	y
Summer	Number Fract	ions B	Measure Mone	ement 2 y	Measure Time	ement		Geomet Shap	ry 2	Statis	stics	Consolidation

Mental Maths

- Maths is a subject that constantly builds upon existing skills.
- Fluency requires repetition.
- Practise at home can help tremendously to boosting children's access to, and enjoyment of, maths.
- Maths facts (number bonds to ten, times tables to 12 and so on) and basic mental calculation strategies are the building blocks of later maths.
- Number bonds, including knowledge of related facts then allows children to solve written calculations with larger numbers, e.g. 5 + 3 = 8, therefore 50 + 30 = 80
- Recall should be as automatic and rapid as possible.





Number bonds to ten is one of the earliest maths skills taught. How many ways can you think of that this skill can be applied throughout the primary school years?







How can my child practise?

- Card Games
- Dice games
- Board games
- Online games e.g. hit the button
- Times Table Rockstars/My Maths



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TENS Game

- 1. Turn a single card over at a time.
- 2. Place the cards in three rows of four cards.
- 3. As you turn the cards over, try to spot <u>a pair</u> of cards that would add up to give the total 10.
- 4. If you have a pair of cards that total 10, cover each of them with another card.
- 5. If you turn over 4 Kings, cover each card with another card.
- 6. If you turn over 4 Queens, cover each card with another card.
- 7. If you turn over 4 Jacks, cover each card with another card.
- 8. If you have a 10, Jack, Queen and King <u>in the same suit</u>, you may cover them with another card.

The aim of the game is to put all of your cards down on the table.







<u>The Multiplication</u> <u>Tables Check</u>

- In January 2016, the government announced its intention to introduce a Multiplication Tables Check (MTC) for Key Stage Two pupils. In 2017, it was decided that this check would take place by the end of Year Four, in line with the requirements set out in the national curriculum. The MTC is now statutory for schools to administer.
- The check is designed to test children's fluent and rapid recall of the multiplication tables up to 12 x 12, through a set of twenty five random, timed questions. The test will only test multiplication facts and not the related division facts. Pupils will have six seconds to answer each question with a three second pause between questions.









BEST FOR ONE GREAT PERFORMANCE EACH MONTH.





GARAGE



BEST FOR COMPLETING YOUR HEATMAP.





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Seeing your child's performance

- Click on your child's rockstar name in the top right corner of the screen.
- View <u>stats</u>
- Effort calendar
- Fluency heat map

 10×
 2×
 5×
 3×
 4×
 8×
 6×
 7×
 9×
 11×
 12×

 2.7s
 3.1s
 3.6s
 3.9s
 8.7s
 5.0s
 5.4s
 5.5s
 4.6s
 4.9s
 9.6s

How quickly Charlie correctly answers each table. Measured in seconds per question. Under 3s/q is considered to be automatic recall

_ Heatmap

Average per Table

How quickly Charlie correctly answers each individual question. The greener the faster.

2-12×	2-20× leatmap as of 03 Oct 2022							<u>+</u>			
	10	2	5	3	4	8	6	7	9	11	12
10	10 × 10	10 × 2	10 × 5	10 × 3	10 × 4	10 × 8	10 × 6	10 × 7	10 × 9	10 × 11	10 × 12
2	2 × 10	2 × 2	2 × 5	2 × 3	2 × 4	2 × 8	2 × 6	2×7	2×9	2 × 11	2×12
5	5 × 10	5×2	5×5	5×3	5 × 4	5×8	5×6	5×7	5×9	5 × 11	5×12
3	3 × 10	3 × 2	3 × 5	3 × 3	3 × 4	3 × 8	3 × 6	3 × 7	3 × 9	3 × 11	3 × 12
4	4 × 10	4 × 2	4 × 5	4 × 3	4 × 4	4 × 8	4 × 6	4 × 7	4 × 9	4 × 11	4 × 12
8	8 × 10	8 × 2	8 × 5	8 × 3	8 × 4	8 × 8	8×6	8 × 7	8 × 9	8 × 11	8×12
6	6 × 10	6 × 2	6 × 5	6 × 3	6 × 4	6×8	6×6	6×7	6 × 9	6 × 11	6 × 12
7	7 × 10	7 × 2	7 × 5	7 × 3	7 × 4	7×8	7×6	7×7	7×9	7 × 11	7×12
9	9 × 10	9×2	9×5	9 × 3	9×4	9 × 8	9×6	9×7	9 × 9	9 × 11	9×12
11	11 × 10	11 × 2	11 × 5	11 × 3	11 × 4	11 × 8	11 × 6	11 × 7	11 × 9	11 × 11	11 × 12
12	12 × 10	12 × 2	12 × 5	12 × 3	12 × 4	12 × 8	12 × 6	12 × 7	12×9	12 × 11	12 × 12



Effort			~
Fluency			~
Studio			~
Gigs			^
	SCORE HISTO	RY	
20 20 20 20 20 20 20 20 20 20	Date		0 1 Ott 2022
Gig	Date	Table to practise	
Gig 1 (Baseline)	20 Sep 2022	× 5	Breakdown

1 Oct 2022

×4

<u>Breakdown</u>	

Gig 2 - Result Breakdown						
		Table	Score (j)	Avg. Speed (i)		
F	Passed	× 10	10 / 10	1.7 s / q	~	
F	Passed	× 2	10 / 10	1.8 s / q	~	
F	Passed	× 5	10 / 10	2.7 s / q	~	
F	Passed	× 3	10 / 10	4.6 s / q	~	
	Failed	× 4)	<mark>6</mark> / 10	6.9 s / q	~	
	Failed	× 8	4 / 10	3.0 s / q	~	
	Failed	× 6	5 / 10	4.0 s / q	~	
	Failed	× 7	4 / 10	3.3 s / q	~	
	Failed	× 9	<mark>1</mark> / 10	1.4 s / q	~	
	Failed	× 11	0/5	-		
	Failed	× 12	0 / 5			
× 4	Suggested table for Evan to practise.					

You can explore which times tables your child is finding tricky or is taking more thinking time for them to answer. These can be targeted in your own screen free games.



Gig 2





- All children have been given a login to this amazing website where they can access lessons in relation to their learning, either to further their learning or to revise. This is an extremely valuable resource.
- Homework is also set regularly for online completion.





CPA Approach

- As a school we believe that all students, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach.
- **Concrete** students should have the opportunity to use concrete objects and manipulatives to help them understand what they are doing.
- Pictorial students should then build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems.
- Abstract with the foundations firmly laid, students should be able to move to an abstract approach using numbers and key concepts with confidence.

Place Value

50

8

Pictoral representations

200

Base ten

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Counters



Drawing symbols

Addition

Dexter scores 371 points in a game. Rosie scores 263 points.

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How much do they score altogether? 634





We do not aim to simply become fluent in using written methods but also to develop children's confidence to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.



Children who can reason:

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notice things, think before doing, justify, explain and make decisions based on what they notice, know and understand.





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Problem Solving

One counter has fallen off the place value chart.

Hundreds	Tens	Ones

What could the number have been?

What could the missing digits be?

	Н	Т	0	
	4		3	
+	1		5	
	6		8	

Explain your answer.

Maths has provided the solutions (to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, necessary for financial literacy and most forms of employment.

Whitney has six different numbers.

She put them in ascending order then accidentally spilt some ink onto her page. Two of her numbers are now covered in ink.



What could the hidden numbers be? Explain how you know.



A shirt costs £35



A pair of trousers costs £16 more. How much do they cost altogether?

Shirt £35	Trousers $£35 + £16 = £51$
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If children are

struggling to identify which number

operation is required

to solve a problem,

focus on vital

vocabulary and get them to draw it.

?					
£35	£51				



Time

Support from home is invaluable when teaching children to tell the time.

Essentially, all children should be able to tell the time using an analogue clock to the nearest five minutes by the time they are in Year Three. However, children also need to be able to convert analogue time to digital in order to build up to using the 24 hour clock.

Please tell the time as much as possible and practise using timetables to calculate differences between times. Repetition is key to developing accuracy and confidence.



Measures

You can help by providing real-life opportunities for children to <u>estimate</u> and <u>measure</u> in a variety of different situations.

• Baking

- Measuring liquids
- Using tape measures





Money



Many children have little concept of money in today's 'plastic' dominated world.

Simply allowing children to count a spare change pot develops coin awareness and little tricks, e.g counting the largest values first, 'grouping' the ones into tens etc.

Where possible, allow children to pay for items, to approximate if they will have enough for several items, and calculate change.

Once secure, ask children to reason, will it be better value to buy the items in a multipack or as single items? If there is a special offer, how much will I save?



Fractions



- Recognise fractions in real life situations, e.g. when slicing a pizza into eight <u>equal</u> slices, discuss 2 eighths are equal to 1 quarter; 4 eighths are equal to 1 half etc.
- Share a bar of chocolate out equally, e.g. how many chunks are there in half of the bar?
- Would you rather have $\frac{3}{4}$ or 2/3 of a cake?

General Principles

- Children should know that when we make mistakes and correct them, that is where the learning happens. Encourage children to explore solutions.
- Make games as enjoyable as possible.
- Make the most of opportunities, where children can see maths being used in real-life situations, e.g. discuss the shapes they can use used in buildings, use timetables, measure, bake.
- Little and often is better.



