

# Maths

## Book 3

Name: \_\_\_\_\_

### Home Learning Log



**St George's  
Primary School**



**St George's  
Primary School**

This homework book provides opportunities for you to support and enjoy mathematics with your child through playing various fun activities at home. All the games are focused at your child's stage of development.

The aim of all the activities is to develop mathematical confidence and fluency through practise and repetition.

Your child's class teacher may advise particular games for your child to practise, or they may let the choice be yours.

Our expectation is that **your child will complete at least one activity a week**. Any working out and mathematical thinking related to the tasks should be captured in their jotter. To complete the booklet they will need to complete 2/3 activities a week.

Please initial and date an activity when complete and record the activities your child has completed each week in the logbook area at the back of this book. You can also use this area to comment on your child's progress and communicate with your child's teacher. Please remind the children to bring their books in weekly by **Wednesday**.

It is your challenge to complete the whole book by the end of the year!

# For the following activities, you will need:

- A pencil and paper
- Paperclips
- Counters (they can be made from paper)
- Playing cards
- Coins
- A tape measure

The only way  
to learn  
**mathematics**  
is to do  
**mathematics.**

PAUL HALMOS

# Counting On



This is an extension from the activity in books one and two. The aim is to apply what they know about numbers up to 100 and develop fluency and confidence up to 1000. In Year 3, children should be confident counting forwards and backwards up to 1000 in steps 1 to 10, 100s and 50s. This is a game that requires no equipment and can be played in pairs.

One person chooses a number from the first column (jump size), and the other chooses a number from the second column (the starting number). They should be confident starting at a range of numbers. You must take it in turns to say the next number in the sequence.

For example, if you chose to start with jumps of 100, and your child decided to start at 28, the conversation would go:

Child: “**28**”

You: “**128**”

Child: “**228**” etc.

Set a limit to reach, or stop whenever you feel that your child is struggling. You can swap your roles over. Challenge your child to use their jotter to **visually represent** their counting. This will help them to **notice patterns and create rules**. To go deeper, ask your child ‘How can you use counting in jumps of **100**, to help you count in jumps of **99** or **101**?’

Jump Size	Starting Number
3	0
4	5
100	500
8	28
6	117
9	455
0.1	19

	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

# Counting Back



This is an extension from the activity in books one and two. The aim is to apply what they know about numbers up to 100 and develop fluency and confidence up to 1000. In Year 3, children should be confident counting forwards and backwards up to 1000 in steps 1 to 10, 100s and 50s.

It is very important that children learn to count backwards as well as forwards. As in the previous activity ‘Counting On’, one person chooses a number from the first column (jump size), and the other chooses a number from the second column (the starting number). You must take it in turns to say the next number in the sequence when counting backwards.

For example, if you chose to start with jumps of 3, and your child decided to start at 136, the conversation would go:  
Child: "136"  
You: "133"  
Child: "130" etc. *You may decide to stop after 100.*

Keep counting until you reach a target number or zero. There is no need to explore negative numbers at this stage. Challenge your child to use their jotter to **visually represent** their counting. This will help them to **notice patterns and create rules**. To go deeper, ask your child ‘How can you use counting back in jumps of 8, to help you back count in jumps of 7 or 16?’ You could also ask your child to **predict** a number that will or won’t be said in the counting sequence and to **justify** this in their jotter.

Jump Size	Starting Number
3	100
4	75
8	98
100	136
6	921
9	350
0.1	20

	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

# Five Facts



St George's  
Primary School

Start by giving your child a multiplication fact up (from the 2, 5, 10, 3, 6, 9, 4 or 8 times table). For example, you might say **“Three times ten equals thirty”**. You have given them one fact and in return **they have to give you five related facts**. The five related facts for this fact would be:

*“Ten times three equals thirty”*

$$10 \times 3 = 30 \quad \text{so } 5 \times 6 = 30$$

*“Thirty divided by three equals ten”*

$$30 \div 3 = 10$$

*“Thirty divided by ten equals three”*

$$30 \div 10 = 3 \quad \text{so } 30 \div 5 = 6$$

*“One third of thirty equals ten”*

$$\frac{1}{3} \text{ of } 30 = 10 \quad \text{so } \frac{2}{3} \text{ of } 30 = 20$$

*“One tenth of thirty equals three”*

$$\frac{1}{10} \text{ of } 30 = 3 \quad \text{so } \frac{2}{10} \text{ of } 30 = 6, \frac{5}{10} \text{ of } 30 = 15 \text{ etc.}$$

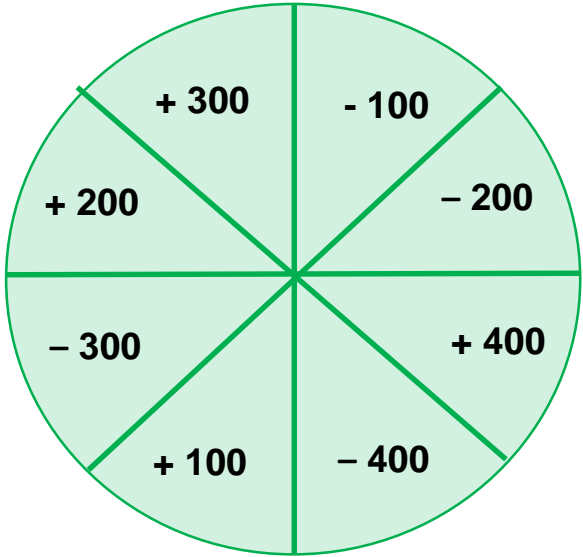
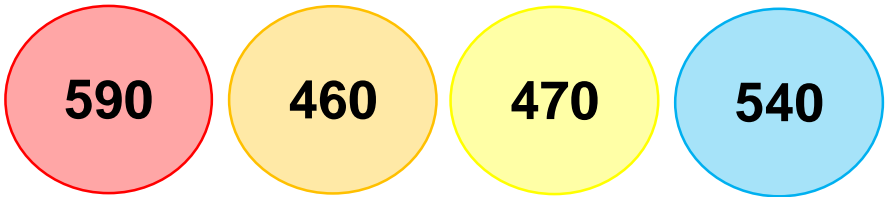
Encourage your child to spot that the facts come in pairs: two multiplication, two divisions and two fractions. They can also **explore** addition and subtraction **connections**. For example  $5 \times 6 = 30$  is same as  $5 + 5 + 5 + 5 + 5 + 5 = 30$ .

You can challenge your child to think of as many related facts as possible by saying **‘If you know this, what else do you know?’** (see the examples in red). You can also **vary the type of fact** you start the game with. For example, you could start with a division fact “Thirty divided by ten equals three” or a fraction of an amount  $\frac{1}{4}$  of 44 = 11’.

	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

# Hundreds

340	170	240	890
290	260	760	740
670	660	640	60
490	140	690	770
70	440	270	190
790	840	570	940
860	990	160	360
370	560	870	390



This is a 2 player game. You will need some coloured counters (or equivalent).

Begin by choosing one of the four numbers. Use a pencil and paperclip as a spinner to select the multiple of 100 that you will add or subtract from the chosen number.

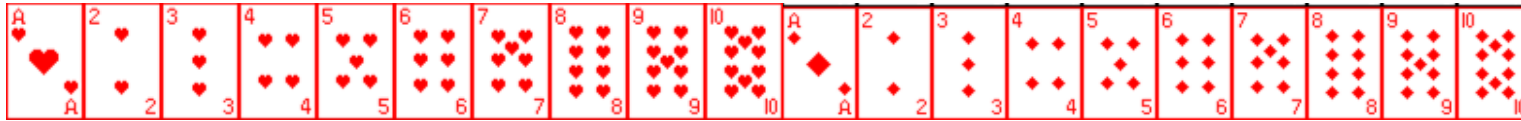
Place your colour counter over the correct answer. The winner is the player with the most answers connected together by their sides.

	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

# Running Total



Find a pack of cards and remove all court cards (Jacks, Queens and Kings), and black cards (spades and clubs) so you are left with the ace to ten of hearts and diamonds.



Shuffle the cards and then deal one card face up. Deal the next card on top for your child to add mentally to the one before. Repeat dealing and adding until every card has been dealt. You should finish on 110 if all calculations are correct.

For example, if the first four cards were 3, 6, 7 and 9, the game would go like this:

YOU DEAL 3  
Then YOU DEAL 6  
Child "9"  
YOU DEAL 7  
Child "16"  
YOU DEAL 9  
Child "25" etc.

As an extra challenge, ask your child to **show the most efficient/most interesting method** to add the numbers together in their jotters and encourage them to **label/explain their thinking**. You could also time the activity with the aim of **getting faster and more accurate** each time or try to beat each other's times.

	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	



# Shopping Trip



It is a great idea to let children familiarise themselves with the world of currency from an early age.

When shopping, look at different brands of an item and compare costs. What do children notice about multibuy? Go to the self-serve checkouts and allow your child to estimate the total price of all items before scanning the items. Was their estimation close?

Allow your child to pay by inserting the correct amount, choosing the appropriate coins. Or pay to the nearest 10p, 50p, £1 etc. and let them work out and check the change given. For example the cost is £2.37 and I pay £2.50. How much change will I receive?

You can obviously role play this at home if necessary using real prices found in catalogues, online and via shopping apps.

To add challenge, ask children which coins could be used to make up the change. What is the least number of coins that could be used? What are they? **How many different ways** can they make the amount of money using coins?

	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

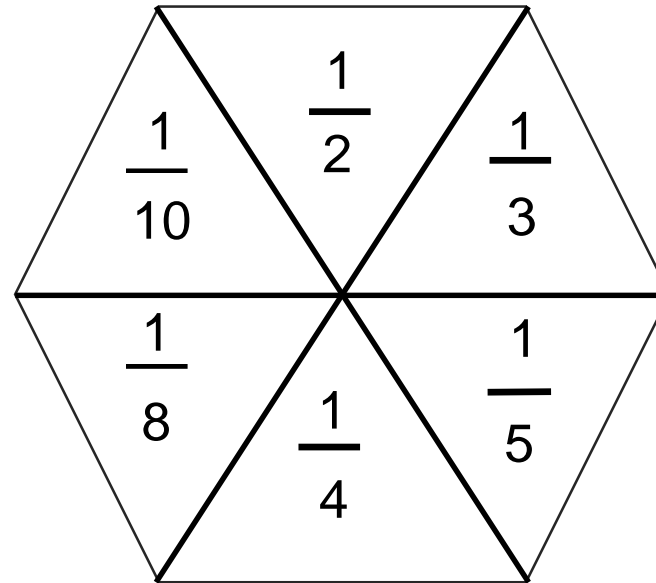


# Find the Fraction

100	1	2	24	4	3
10	9	5	30	3	21
25	45	9	4	36	1
6	12	50	16	3	27
18	30	8	14	15	40
32	7	3	50	6	9
5	2	20	8	16	1
15	4	7	50	2	3

Using your paperclip and pencil spinner, spin and land on a fraction.

Match two numbers in the grid and the fraction you landed on. For example if you land on  $\frac{1}{4}$ , you could cover 25 and 100 with your colour counter as 25 is  $\frac{1}{4}$  of 100. The first to 4 in a line is the winner.



	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Encourage your child to '**prove it**' in their jotters. **How many different ways** can they find to **convince** you? As an additional challenge, you could also ask, **if you know**  $\frac{1}{4}$  of 100 is 25, **what else do you know?**

# Multiply



St George's  
Primary School

You and your child should each put a hand behind your back. Secretly extend between 1 and 5 fingers. Say "Ready, Steady, Go!" and both bring your hands out to the centre.

Each of you must call out the product of the numbers displayed on each hand.  
For example, if you show 3 fingers and your child shows 4, you must quickly call out "TWELVE!"

Once confident with 1-5, begin to use both hands. By the end of Year 3, your child should be fluent in the 1, 2, 3, 4, 5, 6, 8, 9 and 10 times tables.

The winner writes down one letter from the word 'MULTIPLY' in sequence. The first person to complete the word is the winner of the whole game.

As an additional challenge, ask your child to **show their thinking process** in their jotter. They could draw what they **visualise** when working out the product and **use mathematical language to explain their thinking** e.g. factor, product, multiply. They could even **make generalisations** about that times table and **make links** to other times tables.



	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

# DIY



It is important that children get regular, hands-on practise of measuring. This will help them to fully understand the units of measurement, and how they relate to one another.

Set your child a challenge to measure part of an object in the house using a tape measure. For example: the sofa, the dining table, their bedroom walls etc. This can be the height, width or length. To make it more difficult you may want them to measure all three dimensions! Get them to draw mathematical diagrams and label the dimensions in their jotters.

As an extra challenge, you can ask your child additional questions, such as:

- *“Which object was the tallest?”*
- *“How much shorter/taller was one item compared to another?”*
- *“How many of one object would fit into the height of another?”*
- *“How many of one object would fit across the wall?”*
- *“Can you convert the measurements between ‘mm’, ‘cm’ and ‘m’?”*



	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	



When it comes to times tables, speed and accuracy are important – the more facts your child remembers, the easier it is for them to do harder calculations.

Using your child's login details provided by the class teacher, support your child to practise their times tables online or using the app.

In Year 3, your child can play on the single player game 'Garage', and the multiplayer game 'Arena', in which they can play against rock stars from their class.

As an additional challenge, your child could pick a times table that they find most challenging, e.g.  $7 \times 4$ , and find **as many ways to represent the calculation visually** in their jotters. They could also create their own 'derivation board' in which they **derive facts** from the given fact.

	Initials & Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Please use the following pages keep record of the activities your child has completed at home each week and to comment on your child's progress in mathematics.

Week Beginning:	Weekly Activity details and Comment	Week Beginning:	Weekly Activity details and Comment

Week Beginning:	Weekly Activity details and Comment	Week Beginning:	Weekly Activity details and Comment

Week Beginning:	Weekly Activity details and Comment	Week Beginning:	Weekly Activity details and Comment



Week Beginning:	Weekly Activity details and Comment	Week Beginning:	Weekly Activity details and Comment

Week Beginning:	Weekly Activity details and Comment	Week Beginning:	Weekly Activity details and Comment