

Maths

Book 5

Name: _____

Home Learning Log



**St George's
Primary School**



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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 $\frac{2}{3}$ 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 on **Wednesdays**.

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)
- Recipe books
- Catalogues
- Your maths jotter

The only way
to learn
mathematics
is to do
mathematics.

PAUL HALMOS

Counting On

This is an extension from the counting activity in the previous books.

The aim in Year 5 is that children should be confident counting forwards and backwards using decimals and progressing beyond 0 into negative numbers.

They should be able to start on any number.

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. **You can make up your own starting points.**

For example, if you chose to start with jumps of 0.6, and your child decided to start at -5, the conversation would go:

Child: "-5"

You: "-4.4"

Child: "-3.8" 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 **10**, to help you count in jumps of **0.1**?'

Jump Size	Starting Number
0.6	0
1.25	-10
12	9.25
0.03	5.09
0.2	18
9.9	-5
0.25	21,500
1.2	1,025
0.4	100

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Counting Back

It is very important that children learn to count backwards as well as forwards. The aim in Year 5 is that children should be confident counting forwards and backwards in decimal values and going beyond 0 into negative numbers.

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. **You can make up your own starting points.**

For example, if you chose to start with jumps of 0.2, and your child decided to start at 62, the conversation would go:

Child: "62"

You: "51.8"

Child: "51.6" etc.

Jump Size	Starting Number
7	3,400
250	- 14
12	- 2
0.02	20.75
0.2	100
0.9	80,000
0.2	3.5
1500	13,005
0.4	62

Set a target to reach and remember to count beyond zero. 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 'What do you notice when you count beyond zero?' You could also ask your child to **predict** a large number that will or won't be said in the counting sequence and to **justify** this in their jotter.

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Related Facts



This activity should help child master their time tables and extend this using their place value knowledge. Start by giving your child a multiplication fact up to 12x12.

For example, you might say “Three times eight equals twenty-four”.

You have given them one fact an in return they have to give you five related facts. Five related facts for this fact could be:

- “Eight times three equals twenty-four” $8 \times 3 = 24$
- “Twenty-four divided by three equals eight” $24 \div 3 = 8$

Now extend this using place value knowledge to derive number facts.

- “Eighty times three equals two hundred and forty.” $80 \times 3 = 240$.
- “Eight times zero point three (three tenths) equals 2.4” $8 \times 0.3 = 2.4$
- “One eighth of 2400 equals three hundred because $2400 \div 8 = 300$ ”

Once more confident, you can vary the type of fact you start the game with. For example, you could start with “One third of twenty-four equals eight”. Encourage your child to spot that the facts come in pairs: two multiplication, two divisions and two fractions.

As an extra challenge, try saying to your child “If you know ____, what else do you know?”. For example, if you know one third of 240, you can work out two thirds of 240.

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COUNTDOWN



Make a set of countdown cards by writing three 1s, three 2s, three 3s, and so on up to three 9s on separate strips of paper. Make a second set of cards consisting of two 50s and two 100s. Or download a set:

<https://www.paperzip.co.uk/resource/countdown-game/>

Shuffle each pack of cards separately and ask your child to choose 5 small numbers from set one and one large number from set 2.

Roll a dice 3 times and use the three digits rolled to generate a 3-digit number.

Your challenge is to combine the cards using addition, subtraction, multiplication and division to get as close as possible to the 3-digit number. Each card can only be used once.

You could even play online:

<https://nrich.maths.org/6499>

For extra challenge you could ask your child to come up with an '**always, sometimes, never**' for what happens when they add 2 odds and one even, two evens and one odd etc. Could they also do this for multiplication? Encourage children to record their working out in their jotters.

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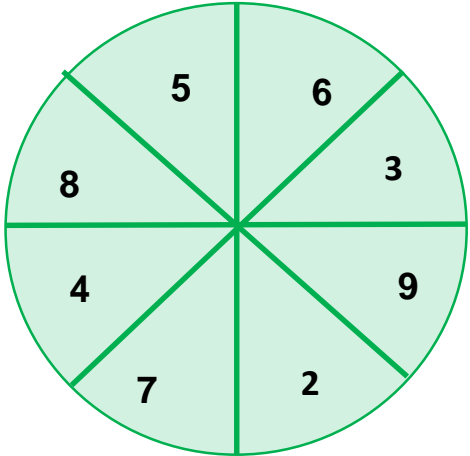
Divide Me

This is a game for two players.
You will need counters in two different colours. We have used some numbers beyond x 12 tables.

- Use a paperclip and pencil as a spinner to select a number at random.
- Using your colour counter, cover a number in the grid that can be divided exactly by the number the spinner lands on - without any remainder.
- If you cannot divide a number in the grid by the number on the spinner, you must miss a go.
- The winner is the player with the most answers.

For extra challenge you could ask your child to come up with a **rule** for how they know a number is divisible by another number. Encourage them to prove this in their jotters. Also, they could choose two numbers and **say what's the same/what's different**.

130	88	48	72	126	120
64	360	56	35	420	210
36	45	630	49	189	540
240	54	35	540	50	30
28	400	40	32	63	48



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In the Kitchen

Give your child a simple recipe and support them with measuring the ingredients accurately using kitchen scales and measuring cylinders etc.

Help your child to decide which items need cooking for longer or shorter periods of time. As an extra challenge, you could let your child take charge of timings using a stopwatch or a phone timer. They could also ensure the oven is set to the correct temperature.

You are welcome to share photographs of the final product with the class! Just send them in via e-mail or school website contact page

For additional challenge your child could look at a recipe in a cook book and ask them questions, such as:

"This recipe feeds four people. What quantity of each ingredient would you need to feed 2/8 people?"

"We only want half a portion. What ingredients will we need now?"

You can also ask them to round each amount to the nearest 10/100/1000. Or to one decimal place. Ask them to convert grams to kg and vice versa.



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Products

5600	4200	3000	560	2600
420	560	2400	4599	280
400	5600	350	320	6300
210	2800	7200	3600	490
640	2000	120	3200	720
270	630	4800	480	240

Each player will choose 2 factors from the box of green numbers and cover their product in the large grid using their colour counter.

The first player to cover 4 products in a connected line wins. Play strategically to attempt to block your partner's path!

3	40	50
7	8	60
70	80	90

For additional challenge your child could choose a product from the grid and **'find all possibilities'** to make this number using all operations (mixing them together). They could also multiply 3 numbers to create the product. Ask them to **represent their findings** and show their workings out using their jotters. Encourage them to **work systematically**.

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Spend Me



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Help your child to spend a virtual amount of money (£10/£20/£100 etc.) using catalogues around the home or online shops.

You could set your child various challenges such as:

- *“Which two/three/four items can you buy that would cost exactly £10/£20?”*
- *“How much change will you get from £10 if you buy...? Which coins could you receive as change?”*
- *“Which two/three/four items can you buy that will give you at least £2 change?”*
- *“Which two/three items can't you afford to buy?”*
- *“How much would it cost to buy 2/3/5 of...?”*
- *“If your items were reduced in the sale by 50/25/10%, what would their new price be?”*

For additional challenge ask your child questions such as what would its new cost be if it was reduced by 25/50/10/15% etc. Make it more difficult and ask how could you use 10% to help you to work out 17% etc.

Give them more scenarios such as “I only have 2/3 of the total amount , how much am I short?”.

This encourages **multistep problem solving**. Also ask them to **convert** between £ and pence. Ask them to show their working out as jottings.

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Tens, Hundreds and Thousands

0.77	770	777	77.7	7007	7770
7070	707	0.077	707	0.707	777
0.77	0.777	77	770	7700	7.7
770	7070	0.707	0.777	0.77	7.07
77.7	7700 0	7007	77	77.7	7.7

10	100	1000	7.7	7.07	7.77	77
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This is a game for two players.

Choose one number out of 10, 100 or 1000 and one from 7.7, 7.07, 7.77 or 0.77

Decide whether to multiply or divide the two numbers and cover the answer on the grid with a counter.

The first player to get 4 in a row wins.

To add challenge, ask your child to use and explain the patterns they have spotted here to create their own version using different numbers to the grid but following the same idea of using the same digit and altering it's place value.

Ask you child to tell you the value of the digit 7 in each number , **can they represent the numbers visually?**

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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 5, your child can begin by playing on the single player game 'Garage', and the multiplayer game 'Arena', in which they can play against rock stars from their class.

Once your child has learnt all of their times tables at school, they may begin to play on 'Studio' and 'Festival' which display all times tables up to 12 x 12.

As an additional challenge, your child could pick a times table that they find most challenging, e.g. 11 x 12, 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.

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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

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

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