Book 6

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.

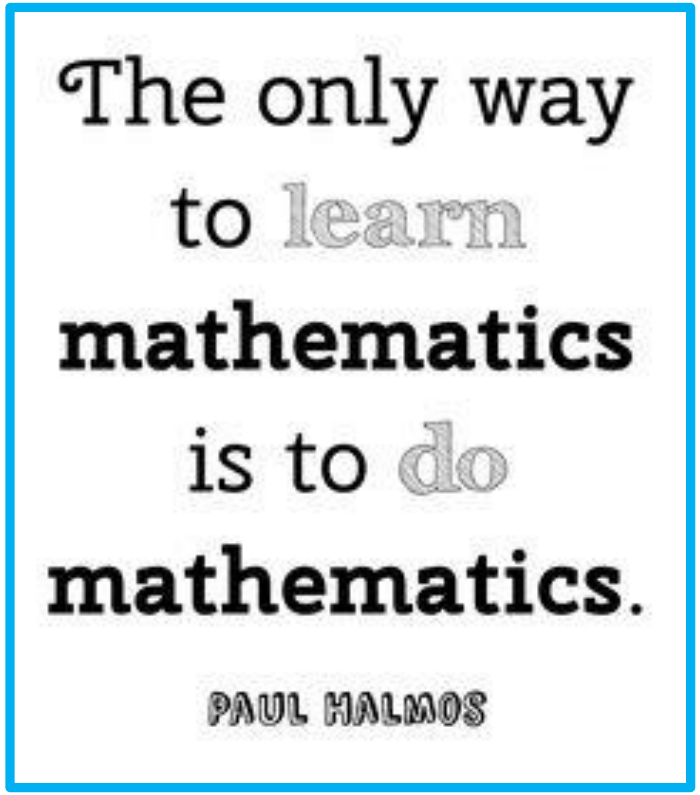
Our expectation is that **your child will complete at least one activity a week**. Any working out and mathematical thinking related to the tasks should be captured in their jotter. To complete the booklet they will need to complete 2/3 activities a week.

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
- Dice (can use interactive versions online)
- Counters (they can be made from paper)
- Recipe books
- Tape measure



Four Go

100	25	5
10	2	36
12	4	3

÷

×

Challenge: Is it easier to win if you include decimal answers?
Can you change the rules to make it more difficult? E.g. allow multiple calculations using BODMAS (36÷4) x 2

St George's Primary School

Draw a number line from zero to twenty like this.

This is a game for two players. Player 1 chooses two numbers in this grid and either multiplies or divides them. Mark the answer on the number line. Player two repeats using a different colour.

The winner is the player to get four marks in a row with none of their opponent's marks in between.

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

Factors and Multiples

St George's Primary School

This is a game for two players.
Use the hundred square below or download one here https://nrich.maths.org/8506
The first player chooses a **positive even number** that is **less than 50** and covers it with a counter.
The second player chooses a number which is a **factor or multiple** of the first number and covers it with a counter.
Players continue to take it in turns to cover numbers, at each stage choosing a number that is a factor or multiple of the number just covered by the other player.
The first person who is unable to find a number loses. Or alternatively, you could aim to make the longest possible chain

You could even play online:
https://nrich.maths.org/factorsandmultiples

Extension.
Ask your child questions like **Which numbers would we want to avoid if we are trying to make the longest chain? What numbers do you think will have less factors than others?**

Encourage them to use vocabulary like **prime, square number, cube number, factor, multiple, odd, even.**

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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

Timetable Maker

St George's Primary School

Support your child to make a timetable for a day of their choice. They should write down the start and end time of each activity for that day in digital and analogue, and the duration of each activity in minutes and hours where possible. Encourage your child to use the 24 hour clock when writing the digital time. Use things like train/bus timetables and cinema listings etc. to increase the challenge.

Here is an example of how the timetable could look:

Activity	Start Time		End Time		Duration	
	Digital	Analogue	Digital	Analogue	Minutes	Hours
Eating breakfast	9:00	9 o'clock	9:20	20 past 9	20	0:33
Getting ready	9:20	20 past 9	9:50	10 to 10	30	0.5

If you want to move the **challenge** on further could you timetable travelling to another country and factor in time differences? E.g. **How long before the flight do you need to be at the airport? How long will it take to get there? What time will you have to leave home? If the flight is 2 hours 45 minutes and the country is 1 hour ahead, what time will you arrive at your destination? Etc.**

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

Countdown

St George's Primary School

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 4 small numbers from set one and two large numbers from set 2 (slightly harder than the year 5 rules).

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

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

Place Value Products

0.66	660	606	666	6006	6660
6060	606	0.066	6060	0.606	666
0.66	0.666	0.006	0.066	6600	6.6
660	6060	0.606	0.666	0.66	6.06
66.6	6060	6006	6660	66.6	6.6

10	**100**	**1000**	**6.6**	**6.06**	**6.66**	**66**

St George's Primary School

This is a game for two players.

Choose one number out of 10, 100 or 1000 and one from 6.06, 0.06, 6.66 or 0.066

Decide whether to multiply or divide the two numbers together and cover the answer on the grid with a counter. **Not all the totals are achievable.**

The first player to get 3 products in a row wins

Challenge:

Try making your own board and numbers to choose from. E.g., all the digits could be zeros and sevens instead. **Will you make all of your totals achievable?**

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

Party Planner

St George's Primary School

Set your child the challenge of planning an imaginary party and working out the total cost - they can choose what the celebration is! Your child could plan their own perfect party or could give a criteria for your own party for your child to plan. Support them to price this up and check if it is within your price range – Don't forget to add on VAT! What is the most efficient way of doing this?

Party Extras

Sweet Table	£150
Balloons: set of 3	£2.45
Photo booth	£350

Price for 2 hours, additional hours are priced at £60 each

Candy floss machine	£95
Popcorn machine	£125
Slush machine	£160
1 character	£90
2 characters	£140
Face painter	£40 hour

Magician £110 hour for first two hours and £4.50 per hour thereafter

Church Hall

Buffet per person £7

Drinks per person £2

Hall hire: £175 per day

Local hotel

Buffet per person £11.95

Drinks per person £2.95

Room hire: £195

Party bags £1.90

Sweet Cones £1.00

Balloons £1.20

VAT is 20% extra on prices

Local restaurant

Buffet per person £9.50

Drinks per person £2.75

Room hire: £175

5 star Hotel

Buffet per person £15

Drinks per person £4

Room hire: FREE

Tiered cake

Large tier £60

Medium tier ¾ of price of large tier

Small tier ½ of price of large tier

Tiny tier 1/4 of price of large tier

As an extra challenge, give your child some criteria for what the party must include and give them a budget that they must not go over. Ask questions like, **what are the maximum number of guests that we can invite? Where is the most cost-effective venue for our party? etc.**

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

Circles

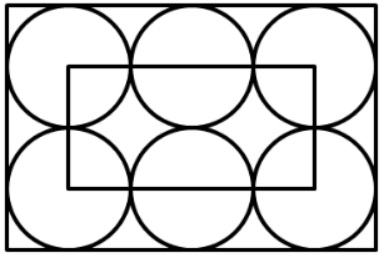
St George's Primary School

Ask your child to hunt for an everyday object around the house in the shape of a circle.

They should measure the diameter of the circle to the nearest mm, and use this information to calculate the circle's radius.

As an extra challenge, you could ask your child to convert the measurements between mm, cm and m.

Here is an extra challenge:
In the diagram, six circles of equal size touch adjacent circles and the sides of the large rectangle.
Each of the corners of the small rectangle is the centre of one of the large circles.
The perimeter of the small rectangle is 60cm.
What is the perimeter of the large rectangle?



If you did the same with the everyday objects you found in the earlier activity, what would be the perimeter of the inside and outside rectangles?

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

Find Your Product

0.4	2	0.6	3.6	2.6
2.5	4.8	5.6	4	5.4
6.3	6.2	3.5	1.5	8
1.2	6	4.2	4.9	3.2
5	0.8	6	1.6	9
8.1	1.4	1	2.4	3
1.8	2.8	4.5	2.1	0.9

2	3	4	5	6	7	8	9	10
0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	

Start by placing one counter on any blue number and another on any red number number.

Player 1 leaves the counter on the red track in place and moves the counter in the blue track to any number. They find the product of the two numbers and cover the product in the grid with a counter.

Player 2 leaves the counter on the blue track in place and moves the one on the red track**.** They find the product of the two numbers and cover the product in the grid with a counter.

The game continues with player one only moving counters on the blue track and player two only moving the counters on the red track before finding the product.

The winner is the player to cover 4 products in a row.

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

Fraction Fun

St George's Primary School

48	20	88	63	16	27
28	63	9	66	24	32
36	24	15	99	72	35
96	60	56	70	48	45
56	72	42	81	18	80
54	36	25	49	21	54
77	18	64	40	84	90

Throw two 0-9 dice (the 0 will represent 10).

Make a proper fraction using the digits rolled. For example, if you throw a 3 and a 4, make the fraction $\frac{3}{4}$.

Find a number in the grid that you can find $\frac{3}{4}$ of. If you chose 48, you know $\frac{1}{4}$ is 12 so $\frac{3}{4}$ is 36. Confirm the answer with your partner and cover the number (48 in this case).

First player to four-in-a-row will win.

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

As you become more confident with this, you could change the rules so the answer is in the grid and you need to find the original number, for example – if you make the fraction 2/5 with the dice, you could pick 60 from the grid – what would the original number have been if 2/5 = 60? Answer 60 ÷ 2 = 30 (1/5) so 30 x 5 = **150 original number.** Confirm the answer with your partner. Does this way of playing make it easier to win the game?

Cooking on a Budget!

Your child should find a simple recipe in a cookbook or online. They must then accurately measure the recipe and using scales, measuring cylinders etc. AND try and calculate the cost of the meal. For example if they need 300g of flour and a Kg of flour costs 90p. They can work out this is accurately 27p or approximately 30p (a third).

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!

You could challenge your child to use their ratio skills to adapt the quantities in a recipe to make it for more or less people. For example, if the recipe stated makes six, you could ask them to make it for two people or if the recipe was designed to feed two people, you could ask them to adjust it to feed a family of four.

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

St George's Primary School

Times Tables Rockstars

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 6, 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. 7 x 8 , and create their own 'derivation board' in which they **derive facts** from the given fact e.g. 7 x 80 = 560, 7 x 81 = 567, 0.7 x 8 = 5.6, 5.6 ÷ 7 = 0.8, 3.5 x 16 = 56

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

St George's Primary School

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