



GROW YOUR MATHS BRAIN DURING THE HOLIDAYS!

Welcome to your very own Holiday Fun Booklet. There are 12 pages of fun puzzles and activities to do with maths to keep your maths brain growing during the summer holidays.

Do a little every day and you will be ready to go back to school in 2014.

Take your book back to school at the beginning of the term and your teacher will give you solutions for the things you were unsure of.



Put the numbers 1 to 4 in the bottom row of the Christmas tree. They can be in any order. Add 2 numbers to get the 1 above. What order on the bottom row will give the highest possible total at the top? There is more than one possible way. WHAT DOES THE SHAPE STAND FOR? In this grid each shape stands for a number. The numbers shown are the totals of a row or column. Work out what each shape stands for and find the other totals.



SYMMETRY

Complete the design below so that the dotted line is a line of symmetry.







FIND THE PATTERN

Here are 3 puzzles to try. Draw the shapes to complete a pattern for each puzzle.



Activities courtesy of: BRAIN SIZZLERS SECOND EDITION: Puzzles for Critical Thinkers (Celia Baron 2001)



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MORE WHEEL SUMS

The number in the middle of this puzzle is the answer to sums. Find the missing numbers to go in the boxes.



There are some missing numbers in these grids. The numbers at the end of a row or column are the total of that row or column. Work out the missing numbers for the shaded squares. NOTE: some are totals!

5	1	5		2	17
1	9	5	2	8	
	2		8	10	28
4	6	4	6	2	
1		9	10	9	30
	19	25		31	122

ADDITION PRACTICE

7		4	10	8	32
9	7	6	8	10	
1	0		0	1	9
0	8	10		6	
8	0	2	0		17
	18	29	25	32	129

MULTIPLICATION SQUARES

Multiply the numbers across the top with the numbers down the side. One example has been done e.g. $3 \times 20 = 60$. In the last one, you are given some answers and you need to work out the numbers for the row and column.

×	2	5	3
20			60
10			

×	4	5	2
25			
15			

x	3		5
	60		
10		20	



HOW MANY?

Look at these 2 pictures. How many **squares** can you see in the first one? How many **triangles** can you see in the 2nd one?

HINT: It might be useful to use different colour pens / crayons to mark the shapes you find.

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SNAKES AND LADDERS

On this Snakes and Ladders board, your counter is on 9. You roll a normal 1 to 6 dice. After 2 moves you land on 16.

Find all the different ways you could have moved to 16.

Now think of some other questions you could ask about this game.



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HELP THE SPIDERS!

Work out what the number pattern is in each web. Then write the pattern in the web for as far as you can go.





PYRAMID SUMS Add 2 numbers to get the 1 above. Start at the bottom and work up. See example.

Did you get this as your

36

answer?

40

60

9

° CO



24



There are some blank ones later in the booklet so you can make up some of your own.

ADD & MULTIPLY PUZZLES

The 2 numbers in the middle

Add together to make the answer in the bottom box. In this example 3 + 4 = 7

Are multiplied to give the answer in the top box. In this example $3 \times 4 = 12$

TRY THESE. The 1st 2 examples are to get you started. The next few will make you think a little more.



Now, make up some of your own.

Top answer: 3 x 4 = 12

12

Bottom answer: 3 + 4 = 7

4

3





RAINBOW FACTS	🕂 O 🔷 🛆 🗖
HOW MAY WAYS CAN YOU MAKE 10?	HOW MAY WAYS CAN YOU MAKE 13?
Using the rainbow I can make 10 in these ways:	Some examples:
1 + 9 = 10 $9 + 1 = 10$	2 + 11 = 13 $11 + 2 = 13$
[NOTE: I can also use ten to make subtraction sums]	[NOTE: I can also use 13 to make subtraction sums]
10 - 1 = 9 $10 - 9 = 1$	13 - 2 = 11 $13 - 11 = 2$
Now you carry on and do the rest.	Now you carry on and do the rest.
HOW MAY WAYS CAN YOU MAKE 14?	HOW MAY WAYS CAN YOU MAKE 15?
The second state of the same as you have done above. Here are a few to get you started. Don't forget you can also use the 14 to make subtraction sums.	Now, see if you can make up a rainbow of your
6 + 8 = 14 $14 - 8 = 6$	own to add to 15



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	$-\bot$									•	each nu	mber by 2
											20	
Fill	in the	e nun	nbers	s for t	he Bl	.ANK	squa	res o	nly		20	
101	102		104	105	106		108	109	, 110		16	
	112		114			117					4	
121		123			126							
	132			135							12	
141			144		146			149			14	
~~~~				155			158		160			
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## ACROSS AND DOWN

In these puzzles, each column and row must equal the SAME number which is shown at the top of each puzzle.

Look at the example. This one must equal 26.

#### TRY THESE







These one use bigger numbers ...



Total Across	Total is 250 Across and down							
	150 75							
	30		=>					
	70		50	=>				
	∥ ∨	₩ V						

Look carefully at the numbers in these 2 puzzles and look for numbers pairs that add to friendly numbers like 10, 20, 100 etc.

#### Can you make up some of your own?



Look carefully at these numbers and see if you can find a way to add these up quickly!



Total is 26

# FUNNEL SUMS G

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Add 2 numbers to get the 1 below. Start at the top and work down. See example.



