

How to Sparkle at Beginning Multiplication and Division

Moira Wilson

We hope you and your class enjoy using this book. Other books in the series include:

Maths titles

How to Sparkle at Addition and Subtraction to 20	978 1 897675 28 1
How to Sparkle at Counting to 10	978 1 897675 27 4
How to Sparkle at Maths Fun	978 1 897675 86 1
How to Sparkle at Number Bonds	978 1 897675 34 2

Science titles

How to Sparkle at Assessing Science	978 1 897675 20 5
How to Sparkle at Science Investigations	978 1 897675 36 6

English titles

How to Sparkle at Alphabet Skills	978 1 897675 17 5
How to Sparkle at Grammar and Punctuation	978 1 897675 19 9
How to Sparkle at Nursery Rhymes	978 1 897675 16 8
How to Sparkle at Phonics	978 1 897675 14 4
How to Sparkle at Prediction Skills	978 1 897675 15 1
How to Sparkle at Word Level Activities	978 1 897675 90 8
How to Sparkle at Writing Stories and Poems	978 1 897675 18 2
How to Sparkle at Reading Comprehension	978 1 903853 44 3

Festive title

How to Sparkle at Christmas Time	978 1 897675 62 5
----------------------------------	-------------------

To find out more details on any of our resources, please log onto our website:
www.brilliantpublications.co.uk.

Published by Brilliant Publications

Unit 10, Sparrow Hall Farm, Edlesborough, Dunstable, Bedfordshire, LU6 2ES, UK

E-mail: info@brilliantpublications.co.uk

Website: www.brilliantpublications.co.uk

General information enquiries:

Tel: 01525 222292

The name Brilliant Publications and the logo are registered trademarks.

Written by Moira Wilson

Illustrated by Moira Wilson

Printed in the UK.

First published in 1999. Reprinted 2009.

10 9 8 7 6 5 4 3 2

© Moira Wilson 1999

Printed ISBN 978 1 897675 30 4

ebook ISBN 978 0 85747 058 4

The right of Moira Wilson to be identified as the author of this work has been asserted by her in accordance with the Copyright, Designs and Patents Act 1988.

Pages 6–48 may be photocopied by individual teachers for class use, without permission from the publisher and without declaration to the Publishers Licensing Society. The materials may not be reproduced in any other form or for any other purpose without the prior permission of the publisher.

Contents

	<i>page</i>		<i>page</i>
Introduction	4	Threes	
How to use this book	5	Flower pots	26
		Spotty fish	27
Twos		Party time	28
Teddy bears	6	Lots of fruit	29
Balloons	7	Hungry dogs	30
Mini-beasts	8		
Circus dots	9	Fours	
Feeding time	10	Flags	31
Marbles	11	Elephants	32
Sweet jars	12	Bunny jumps	33
		Party hats	34
Fives		Hungry children	35
Snakes	13	Tropical fish	36
Ladybirds	14		
Dangerous dots	15	Multiplication and division facts	
Crackers	16	Where is my egg?	37
Magic monsters	17	Multiplication function machines	38
Counters	18	Multiplication Martians	39
		Flower fun	40
Tens		Birds on the fence	41
Clowns	19	Where is my leaf?	42
Flowers	20	Snake sums	43
Jumping frogs	21	Division function machines	44
Space dots	22	Frog jumps	45
Creepy creatures	23		
Dogs and bones	24	Games	
It's raining	25	Penguin partners	46
		The kite game	47
		Piglet partners	48

Introduction

This book contains an abundance of stimulating activity sheets and games that will enable children to develop a thorough understanding of early multiplication and division. Various aspects of multiplication and division are covered, these being outlined with their corresponding pages as indicated.

Repeated addition Pages 6, 13, 19, 26 and 31 introduce multiplication as the addition of equal groups of objects.

Counting and grouping Pages 7, 8, 14, 20, 27, 28 and 32 give children experience of working with equivalent sets and partitioning sets using 2s, 3s, 4s, 5s and 10s.

Multiples Pages 9, 15, 21, 22, 25, 33 and 36 explore patterns of multiples and the relationship between them. For example, doubling multiples of 2 produces multiples of 4; halving multiples of 10 produces multiples of 5.

Sharing Pages 10, 11, 16, 17, 23, 29 and 34 require children to share out equally between a given number of subsets.

Repeated subtraction Pages 12, 18, 24, 30 and 35 require children to work out how many subsets there will be if the number in each subset is known.

Multiplication and division facts Pages 37 to 48 provide opportunities for children to reinforce and consolidate their understanding of the operations of multiplication and division.

Links to the National Curriculum

Close reference has been made to the National Curriculum in the writing of this book. The activities relate to the following programmes of study for Key Stage 1:

Pupils should be given opportunities to:

Using and applying mathematics

- 2a select and use the appropriate mathematics;
- 2b select and use mathematical equipment and materials;
- 3d use a variety of forms of mathematical presentation.

Number

- 3b explore and record patterns of multiples, *eg 3, 6, 9, 12*, explaining their patterns and using them to make predictions; progress to exploring further patterns involving multiplication and division, including those within a hundred-square of multiplication facts;
- 3b learn multiplication and division facts relating to the 2s, 5s and 10s and use these to learn other facts, *eg double multiples of 2 to produce multiples of 4*, and to develop mental methods for finding new results;
- 4b understand the operations of multiplication, and division as sharing and repeated subtraction, and use them to solve problems with whole numbers.

Successful linking of the activities to the programme of study depends to some extent on the way they are presented to the children and subsequent adult input. The page entitled 'How to use this book' explores this in further detail.

How to use this book

The activity sheets in this book form an indispensable bank of ideas that can be used to supplement any core mathematics scheme. Although there is built-in progression, it is not essential that a child should complete every page or that the pages should be used in a certain order. Rather, the book is intended to be a 'dip-in' resource that you can use to give children support, practice or consolidation as and when you feel it is necessary.

Use of terminology 'multiplied by' or 'times'

As far as possible, use of this terminology has been restricted because some schemes favour 'x' to be read as 'multiplied by' whereas others favour it to be read as 'times'. For example, 3×5 read as '3 multiplied by 5' would be represented pictorially by 5 sets of 3 objects or $3 + 3 + 3 + 3 + 3$. However, 3×5 read as '3 times 5' would be represented pictorially by 3 sets of 5 objects or $5 + 5 + 5$. The format of the book is such that 'x' has only been used where there is no pictorial representation. Therefore, either kind of terminology can be used.

Use of worksheets

The worksheets should always be preceded by practical work using real objects. For example:

Page 35 To introduce the idea of 'repeated subtraction'

- * In a group session, ask 4 children to 'act out' the characters on the page and set tasks for the audience. You could give a child in the audience 12 marbles and say, 'Which of these actors can have 4 marbles each?'
- * Gather together some yoghurt pots and a selection of counting objects. Arrange the children in groups and set them assorted tasks. For example, give them 4 marbles, 8 beads, 12 conkers, 16 pine cones and 20 cubes. Taking each type of object in turn, ask them to work out how many of the yoghurt pots can have 4 objects each.

Page 34 To introduce the idea of 'sharing equally'

- * In a group session, ask 4 children to be actors again. Set tasks for the audience such as 'Share these 8 conkers equally amongst the 4 actors'.
- * As for page 35, use counting objects but this time, only 4 yoghurt pots. Ask the children to share 4, 8, 12, 16 and 20 objects amongst the yoghurt pots.

You should then read through the instructions on the page and show the children examples of the required activity. When involved in the task, some children will benefit from further practical experience of moving objects into different groupings. It is also important to encourage them to use specific language associated with multiplication and division such as 'equal', 'equally', 'groups', 'lots', 'sets', 'share between' and 'share amongst'.

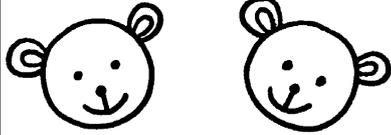
When completed and dated, the pages can be stored in the children's mathematical folders, creating a useful record of work covered.

Teddy bears

Count the ears on the teddy bears.



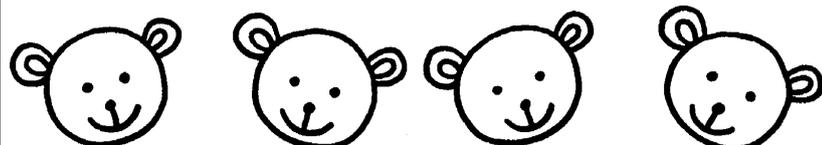
ears



+ = ears



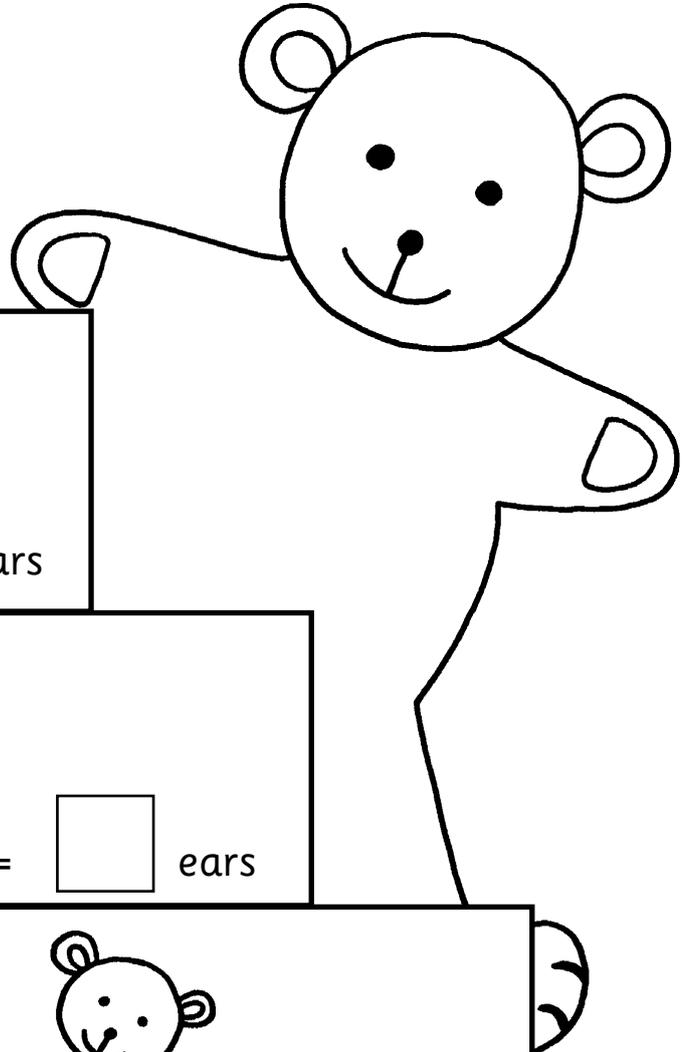
+ + = ears



+ + + = ears



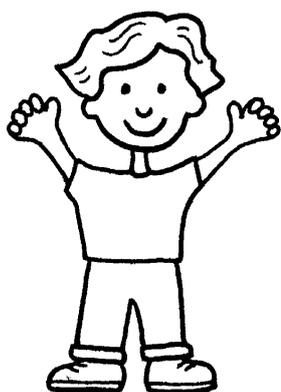
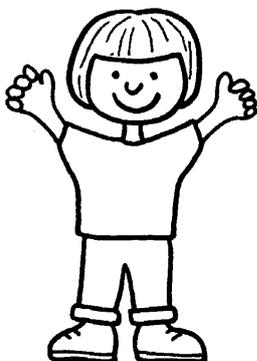
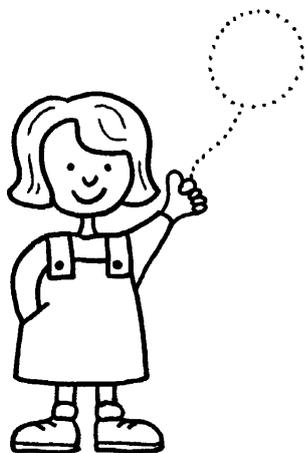
+ + + + = ears



Continue this repeated addition pattern for 6, 7, 8, 9 and 10 teddy bears.

Balloons

Draw 2 balloons for each child.



Write the number of balloons in the boxes.

1 child has balloons.

2 children have balloons.

3 children have balloons.

4 children have balloons.

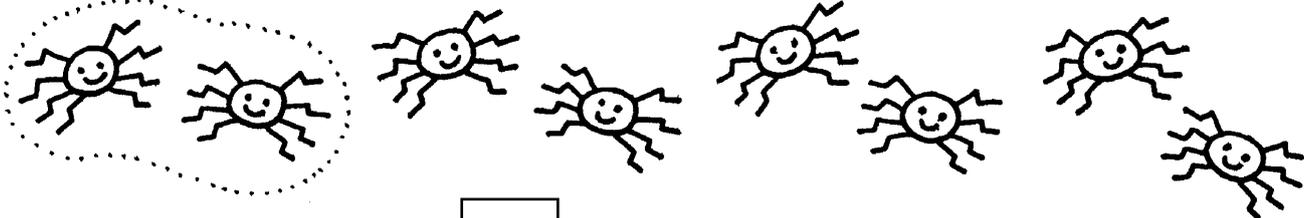
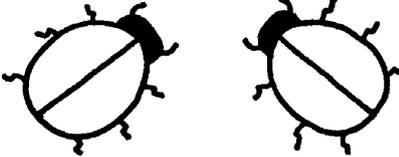
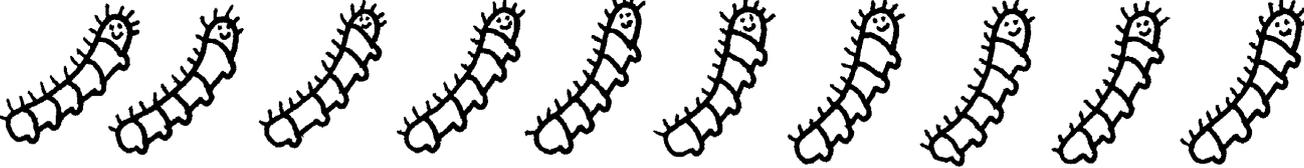
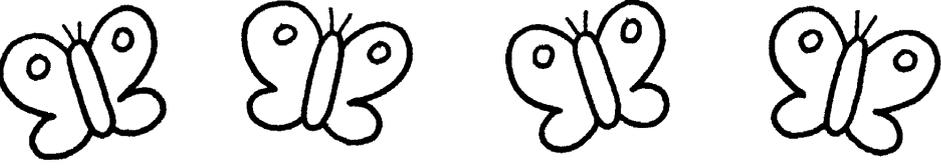
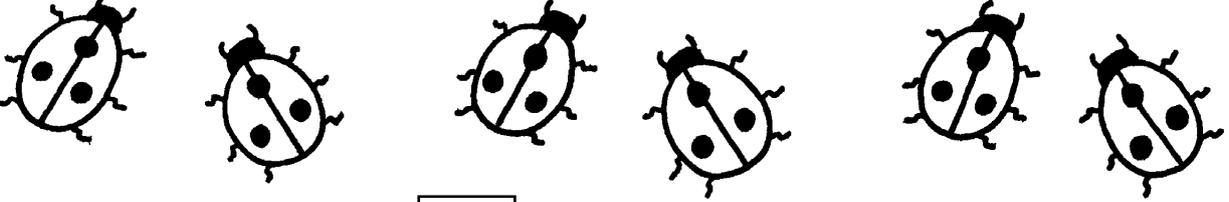
5 children have balloons.

Draw 5 more children, each with 2 balloons.

Write number sentences for 6, 7, 8, 9 and 10 children.

Mini-beasts

Draw a ring round each group of 2 mini-beasts.

 <input type="checkbox"/> groups of 2
 <input type="checkbox"/> group of 2
 <input type="checkbox"/> groups of 2
 <input type="checkbox"/> groups of 2
 <input type="checkbox"/> groups of 2