

Teacher's Notes

Basic Facts

Blitz: Tables

Multiplication & Division Facts - Years 4+

Curriculum
Linked

see links at
drpaulswan.com.au



- Jack Bana
- Linda Marshall
- Paul Swan

Introduction

This book along with the accompanying Practice Chart provides intense practice to develop automatic response to the basic multiplication and division facts, often called tables.

The basic multiplication facts are 0×0 to 9×9 , together with the related division facts $0 \div 1$ to $81 \div 9$. While there are 190 separate facts, that number is reduced significantly by understanding all of the relationships between the facts.

Students need to be able to recall all of these facts, preferably without thinking, to undertake their number work efficiently and effectively. Developing students' mastery of these facts needs to occur in the following sequence.

1. Understanding

Help your students work through the book to gain the understanding of these facts, how multiplication and division are closely related, and thus how there is only a small number that need attention.

2. Recalling

Students practise and use their understanding to recall all of these products and quotients, reducing their response time. Provide support during this phase.

3. Responding Automatically

Daily use of the practice chart on page 26 of the Student book will help develop this skill. The aim is for students to recall the facts immediately with no thinking time.

How to Use the Basic Number Facts Practice Chart

The **Practice Chart** contains 182 basic multiplication and division facts (combinations), with only these omitted: 0×0 , 0×1 , 1×0 , 1×1 , $0 \div 1$, $0 \div 2$, $1 \div 1$, $2 \div 1$.

The 182 facts are arranged in 14 rows and 13 columns. All rows and all columns have a mix of the two operations, and each are approximately equivalent in difficulty.

Students should complete the **Learn** and **Do** sections in their book before using the chart. After completing the Basic Facts Blitz Tables book, students should start using the Practice Chart.

- At the start of every maths lesson, have students start on a given row or column, and record their answers on paper as quickly as possible in a set time limit, which we recommend as 90 seconds for Year 3 and 60 seconds for Year 4 upwards.

#	1	2	3	4	5	6	7	8	9	10	11	12	13
A	0×2	$4 \div 4$	6×5	1×2	$16 \div 2$	3×3	9×4	$18 \div 2$	$48 \div 6$	$0 \div 6$	9×7	$64 \div 8$	$25 \div 5$
B	$10 \div 2$	0×3	$27 \div 3$	7×5	1×3	$6 \div 6$	3×5	$36 \div 4$	6×4	5×3	$0 \div 7$	$7 \div 1$	8×8
C	$24 \div 3$	5×8	0×4	$6 \div 3$	8×5	3×8	$0 \div 3$	3×4	$16 \div 8$	$36 \div 6$	6×3	8×2	$4 \div 2$
D	2×2	$3 \div 1$	$21 \div 7$	0×5	$42 \div 6$	1×4	9×5	$6 \div 2$	3×6	$5 \div 5$	$24 \div 6$	7×3	$15 \div 5$
E	$18 \div 3$	2×3	$4 \div 1$	$27 \div 9$	0×6	$12 \div 4$	8×8	1×6	$36 \div 9$	3×7	7×6	$32 \div 4$	9×2
F	$7 \div 7$	9×9	8×7	3×2	$20 \div 5$	0×7	$56 \div 7$	$40 \div 5$	1×7	$30 \div 6$	$0 \div 5$	3×9	$35 \div 5$
G	4×4	$40 \div 8$	9×1	$5 \div 1$	5×7	$32 \div 8$	0×8	4×2	$3 \div 3$	1×8	$24 \div 4$	$15 \div 3$	$12 \div 2$
H	7×1	4×5	$0 \div 9$	$18 \div 6$	2×4	8×6	$63 \div 9$	0×9	$21 \div 3$	$2 \div 2$	1×9	9×8	7×7
I	$72 \div 8$	$12 \div 3$	4×6	7×2	$9 \div 3$	2×5	$6 \div 1$	$30 \div 5$	2×0	$54 \div 6$	6×8	2×1	$54 \div 9$
J	7×9	9×0	$63 \div 7$	$12 \div 6$	5×5	$72 \div 9$	2×6	$8 \div 2$	6×7	3×0	8×1	6×9	8×3
K	$81 \div 9$	$14 \div 7$	5×2	$56 \div 8$	4×7	$0 \div 8$	$16 \div 4$	2×7	$28 \div 4$	7×8	4×0	$20 \div 4$	3×1
L	8×0	$24 \div 8$	9×6	7×4	$48 \div 8$	4×8	$35 \div 7$	5×6	2×8	4×1	$10 \div 5$	5×0	$8 \div 1$
M	5×9	$42 \div 7$	8×4	$6 \div 1$	$0 \div 4$	$45 \div 5$	6×6	$14 \div 2$	4×3	2×9	5×1	$9 \div 9$	6×0
N	$18 \div 9$	6×2	$45 \div 9$	$8 \div 4$	$28 \div 7$	9×3	1×5	4×9	$9 \div 1$	7×0	8×9	$49 \div 7$	5×4

Total \times and \div basic number facts = 182. This chart has 182, with only these omitted: 0×0 , 0×1 , 1×0 , 1×1 , $0 \div 1$, $0 \div 2$, $1 \div 1$, $2 \div 1$

The Practice Chart (page 26) in
Basic Facts Blitz: Tables.

- Students are told before commencing, that if they complete a given row or column, they go straight on to start the next row or column.
- Have students practise putting a ruler across a given **row** and point out that they are to slide the ruler down one row if they need to continue at the beginning of the next row.

Basic Fact Blitz: Tables Practice Chart

#	1	2	3	4	5	6	7	8	9	10	11	12	13
A	0×2	$4 \div 4$	6×5	1×2	$16 \div 2$	3×3	9×4	$18 \div 2$	$48 \div 6$	$0 \div 6$	9×7	$64 \div 8$	$25 \div 5$

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

E	$18 \div 3$	2×3	$4 \div 1$	$27 \div 9$	0×6	$12 \div 4$	$8 \div 8$	1×6	$36 \div 9$	3×7	7×6	$32 \div 4$	9×2
F	$7 \div 7$	9×9	8×7	3×2	$20 \div 5$	0×7	$56 \div 7$	$40 \div 5$	1×7	$30 \div 6$	$0 \div 5$	3×9	$35 \div 5$
G	4×4	$40 \div 8$	9×1	$5 \div 1$	5×7	$32 \div 8$	0×8	4×2	$3 \div 3$	1×8	$24 \div 4$	$15 \div 3$	$12 \div 2$
H	7×1	4×5	$0 \div 9$	$18 \div 6$	2×4	8×6	$63 \div 9$	0×9	$21 \div 3$	$2 \div 2$	1×9	9×8	7×7
I	$72 \div 8$	$12 \div 3$	4×6	7×2	$9 \div 3$	2×5	$6 \div 1$	$30 \div 5$	2×0	$54 \div 6$	6×8	2×1	$54 \div 9$
J	7×9	9×0	$63 \div 7$	$12 \div 6$	5×5	$72 \div 9$	2×6	$8 \div 2$	6×7	3×0	8×1	6×9	8×3
K	$81 \div 9$	$14 \div 7$	5×2	$56 \div 8$	4×7	$0 \div 8$	$16 \div 4$	2×7	$28 \div 4$	7×8	4×0	$20 \div 4$	3×1
L	8×0	$24 \div 8$	9×6	7×4	$48 \div 8$	4×8	$35 \div 7$	5×6	2×8	4×1	$10 \div 5$	5×0	$8 \div 1$
M	5×9	$42 \div 7$	8×4	6×1	$0 \div 4$	$45 \div 5$	6×6	$14 \div 2$	4×3	2×9	5×1	$9 \div 9$	6×0
N	$18 \div 9$	6×2	$45 \div 9$	$8 \div 4$	$28 \div 7$	9×3	1×5	4×9	$9 \div 1$	7×0	8×9	$49 \div 7$	5×4

Total \times and \div basic number facts = 190. This chart has 182, with only these omitted: 0×0 , 0×1 , 1×0 , 1×1 , $0 \div 1$, $0 \div 2$, $1 \div 1$, $2 \div 1$


Basic Fact Blitz: Tables

page 26

- Have students practise putting a ruler down a given column and point out that they are to slide the ruler across one **column** if they need to continue at the top of the next column
- You may change the suggested time, but it is most important to have **exactly the same time** on every occasion, so that meaningful **personal comparisons** of performance can be made by each student.
- We suggest you call out the items and get the class to call back the answers, thus giving your students additional practice with all the items covered in that session.
- Ask students who tried more than in their previous attempt and who improved their score, and by how many in each case.
- Do not ask students how many they did or got correct, so allowing all students to **progress at their own rate**. This will mean that weaker students are not identified or embarrassed.
- Students record the date with both their number done and their number correct on the template provided in their book.
- All the focus and incentive should be on the continual improvement of performance, while avoiding the sharing of actual scores which labels weaker students.
- Record the starting row or column in the table below with a tick so that you can vary the start each day, thus ensuring that you eventually cover all rows and columns on the chart. When all are covered, they should all be redone.

Record of Starting Row and Starting Column for each practice session

Columns		1	2	3	4	5	6	7	8	9	10	11	12	13
Rows	A	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
	B	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
C		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
D		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
E		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
F		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
G		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
H		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
I		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
J		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
K		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
L		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
M		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>
N		tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>	tick <input type="radio"/>

Australian Curriculum Version 9	Australian Curriculum Version 8	Other Curriculums
AC9M2A03: Recall and demonstrate proficiency with multiplication facts for twos.		<p>For links to curriculum see here:</p>  <p>drpaulswan.com.au/shop/basic-facts-blitz/</p>
AC9M3A03: Recall and demonstrate proficiency with multiplication facts for 3, 4, 5 and 10; extend and apply facts to develop the related division facts.	ACMNA056: Recall multiplication facts of two, three five and ten and related division facts.	
AC9M4A02: Recall and demonstrate proficiency with all multiplication facts up to 10×10 and related division facts.	ACMNA075: Recall multiplication facts to 10×10 and related division facts.	

ABOUT THE AUTHORS

Dr Jack Bana (OAM)

Jack Bana is the past Director of the Mathematics, Science and Technology Education Centre at Edith Cowan University in Perth. He began his career as a primary teacher and was a mathematics curriculum writer for the Education Department of Western Australia. He has presented numerous papers at state, national and international conferences, and is the co-author of a wide range of university and school mathematics textbooks. He is a Life Fellow of the Australian College of Educators and an Honorary Life Member of the Mathematical Association of Western Australia. He is now the Patron of the Association after having coordinated the MAWA student activities for over 45 years.

Ms Linda Marshall

Linda Marshall began her career as a primary teacher. She became a mathematics consultant in Western Australian District Education Offices, and in the WA Education Department Central Office where she was one of the writers of the 1989 WA Primary Mathematics Syllabus. She was a lecturer in mathematics education at Edith Cowan University and co-editor of The Australian Primary Mathematics Classroom journal. She has written many award-winning books aimed at making mathematics more accessible for students and teachers.

Dr Paul Swan

Paul Swan is an experienced primary and secondary teacher, and university lecturer in mathematics education. He is the author of numerous books, articles and software; as well as being a designer of educational games and mathematics manipulative materials. He was the co-editor of The Australian Primary Mathematics Classroom journal and is a past president of the Mathematical Association of Western Australia and is an honorary fellow of the Australian Council of Educational Leaders (WA Branch).