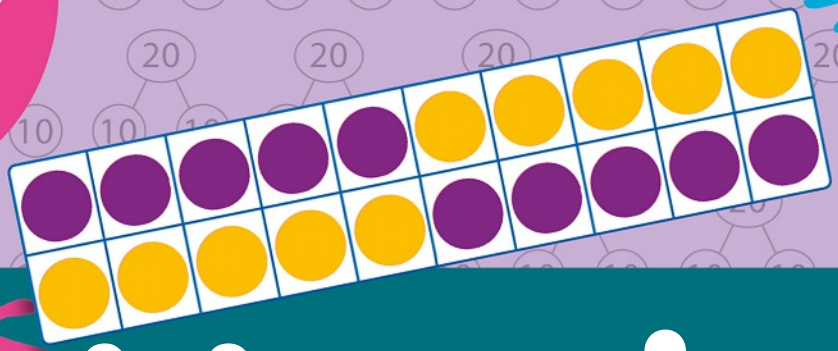
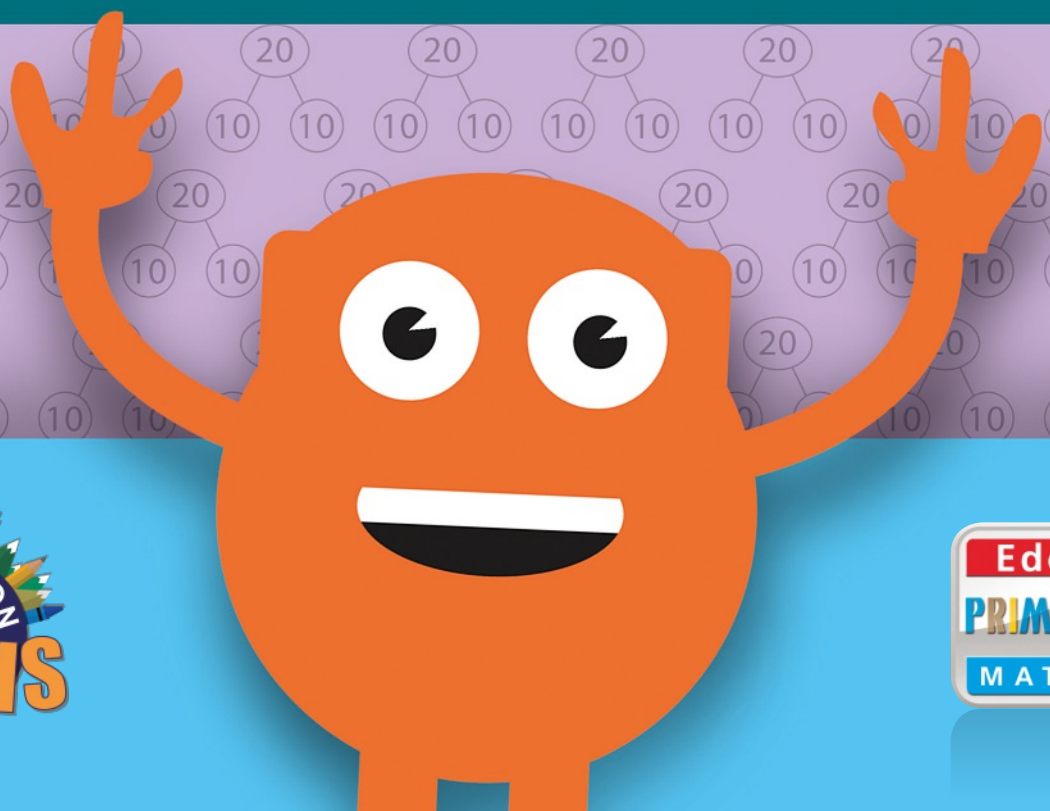


Number Facts 3

A New Approach to Tables



OPERATION MATHS

Edco PRIMARY MATHS

First published 2018
The Educational Company of Ireland
Ballymount Road
Walkinstown
Dublin 12
www.edco.ie

A member of the Smurfit Kappa Group plc

© Claire Corroon, 2018

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior permission of the Publisher or a licence permitting restricted copying in Ireland issued by the Irish Copyright Licensing Agency, 63 Patrick Street, Dún Laoghaire, Co. Dublin.

ISBN: 978-1-84536-761-9

Design and layout: Design Image
Cover design: Anú Design (www.anu-design.ie)
Cover illustration: Terry Foley at Anú Design
Proofreader: Sally Vince
Illustrations: Design Image; Adam Linley; Brian Fitzgerald

While every care has been taken to trace and acknowledge copyright, the publishers tender their apologies for any accidental infringement where copyright has proved untraceable. They would be pleased to come to a suitable arrangement with the rightful owner in each case.

Introduction for Teachers, Parents and Guardians

Number Facts is a new series of activity books designed to foster fluency in number facts (or 'tables') for primary school children from First Class. The series features an innovative approach to the acquisition of basic number facts, and teaches children to *understand*, not just *do*, maths.

Traditionally, learning tables was by rote, but current research suggests that this is ineffective for the majority of children. In contrast, ***Number Facts*** teaches children to visualise numbers and to use images and thinking strategies *to use what they know to solve what they do not know.*

Thinking strategies

A thinking strategy is a way to think about a process to arrive efficiently at an answer. In ***Number Facts 3*** the focus will largely be on thinking strategies for multiplication and division. It is important that children realise that there can often be many different ways to think about the same fact, so they should be encouraged both to identify alternative approaches and to choose their preferred strategy.

(a) Multiplication as groups or rows of a number The children are enabled to recognise that '6 × 2' means 6 groups/rows of 2 or 2 + 2 + 2 + 2 + 2 + 2.

(b) Turnaround facts The answer to 6 × 2 is the same as the answer to 2 × 6, and it is more efficient to think of 2 × 6, i.e. 2 groups of 6 or 6 + 6.

(c) Division as the inverse of multiplication Knowing the answer to 2 × 6 and 6 × 2 enables the children to also solve 12 ÷ 6 and 12 ÷ 2.

(d) Multiplying and dividing with 10 The children are enabled to multiply and divide with 10 by moving the digits one place.

T	U
	6
6	0

(e) Multiplying and dividing with 2
- To **multiply** with 2, double the number.
- To **divide** by 2, halve the number.

(f) Multiplying with 5 Multiply the number by 10 and then halve the result, e.g.
9 × 5 → 9 × 10 = 90 → $\frac{1}{2}$ of 90 = 45.

(g) Multiplying and dividing with 4
- To **multiply** with 4, double the number you are multiplying, and then double the result, e.g. 3 × 4 → 3 × 2 = 6 → 6 × 2 = 12.
- To **divide** by 4, halve the number you are multiplying, and then halve the result, e.g. 12 ÷ 4 → $\frac{1}{2}$ of 12 = 6 → $\frac{1}{2}$ of 6 = 3.

(h) Multiplying and dividing with 8
- To **multiply** with 8, double the number you are multiplying, double the result, and then double again, e.g. 3 × 8 → 3 × 2 = 6 → 6 × 2 = 12 → 12 × 2 = 24.
- To **divide** by 8, halve the number you are dividing, halve the result, and then halve again, e.g. 24 ÷ 8 → $\frac{1}{2}$ of 24 = 12 → $\frac{1}{2}$ of 12 = 6 → $\frac{1}{2}$ of 6 = 3.

(i) Multiplying with 1 and 0 When multiplying a number by 1, the answer is always the same as the number. When multiplying a number by zero, the answer is always zero.

(j) Multiplying with 3 Children are enabled to treble the number, or to add one set to 2 times the number, e.g.
3 × 8 = (2 × 8) + (1 × 8) = 24.

(k) Multiplying with 6
- Double 3 times the number, e.g. 6 × 8 = (3 × 8) + (3 × 8) = 48.
- Add one set to 5 times the number, e.g. 6 × 8 = (5 × 8) + (1 × 8) = 48.

(l) Multiplying with 9
- Treble 3 times the number, e.g. 9 × 8 = (3 × 8) + (3 × 8) + (3 × 8) = 72.
- Subtract one set from 10 times the number, e.g. 9 × 8 → (10 × 8) = 80 → 80 – 8 = 72.

Features of the series

- Each weekly unit includes activities for Monday to Thursday.
- **Challenge** Each day includes a Challenge section to extend the more able children.
- **Self-assessment** Children can assess their own learning at the end of every week by ticking the appropriate icon:  .
- **Revision and Assessment** Separate Revision and Assessment sections are included at the back of the book for completion at regular intervals. A note at the foot of the page directs teachers and children to the appropriate section.
- **Personal Progress Chart** Children can record their assessment scores in this chart at the back of the book.
- **Family Card Games** Parents and children can play these card games at home to reinforce the number facts taught in each unit. The page footers indicate which game should be played for each unit.
- **100 Dots** Children are instructed to use the 100 Dots grid on the inside back cover to help.

Note: traditionally, learning tables was emphasised for numbers up to 10 + 10. However, the thinking strategies approach used in this book enables children to apply these mental computation skills to numbers beyond this traditional ceiling, e.g. 23 + 9, 46 + 9, etc.

Contents

2 Add and subtract 10 and 100

MONDAY

1 Use your 100 Square to help you.

(a) 5 + 10 = ☐
(b) 10 + 4 = ☐
(c) 2 + 10 = ☐
(d) 10 + 6 = ☐
(e) 0 + 10 = ☐
(f) 10 + 7 = ☐
(g) 10 + 8 = ☐
(h) 3 + 10 = ☐
(i) 10 + 1 = ☐
(j) 9 + 10 = ☐

Think: go on 10.

4	5	6
14	15	16
24	25	26

2

(a) 20 + 10 = ☐
(b) 10 + 47 = ☐
(c) 10 + 38 = ☐
(d) 10 + 65 = ☐
(e) 84 + 10 = ☐
(f) 153 + 10 = ☐
(g) 10 + 261 = ☐
(h) 379 + 10 = ☐
(i) 412 + 10 = ☐
(j) 10 + 846 = ☐

Think: go on 10.

9	10	11
19	20	21
29	30	31

3 Challenge

(a) 10 + 91 = ☐
(b) 299 + 10 = ☐
(c) 10 + 691 = ☐
(d) 795 + 10 = ☐

Think:
9 tens + 1 ten = ?

TUESDAY

1 Use your 100 Square to help you.

(a) 19 – 10 = ☐
(b) 11 – 10 = ☐
(c) 17 – 10 = ☐
(d) 13 – 10 = ☐
(e) 15 – 10 = ☐
(f) 18 – ☐ = 10
(g) 10 – ☐ = 10
(h) 12 – ☐ = 10
(i) 14 – ☐ = 10
(j) 16 – ☐ = 10

Think: go back 10.

8	9	10
18	19	20
28	29	30

2

(a) 54 – 10 = ☐
(b) 82 – 10 = ☐
(c) 39 – 10 = ☐
(d) 98 – ☐ = 10
(e) 73 – ☐ = 10
(f) 148 – 10 = ☐
(g) 397 – 10 = ☐
(h) 862 – ☐ = 10
(i) 544 – ☐ = 10
(j) 936 – ☐ = 10

Think: go back 10.

43	44	45
53	54	55
63	64	65

3 Challenge

(a) 104 – 10 = ☐
(b) 205 – ☐ = 10
(c) 709 – 10 = ☐
(d) 402 – ☐ = 10

Think:
1 hundred = 10 tens.
10 tens – 1 ten = ?

Thinking Strategy To add/subtract 10 or 100, change the tens digit or the hundreds digit.

WEDNESDAY

1

(a) 100 + 6 = ☐

(b) 9 + 100 = ☐

(c) 2 + 100 = ☐

(d) 100 + 1 = ☐

(e) 20 + 100 = ☐

(f) 100 + 45 = ☐

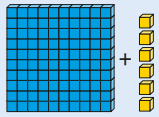
(g) 94 + 100 = ☐

(h) 100 + 157 = ☐

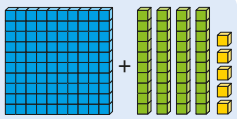
(i) 100 + 458 = ☐

(j) 673 + 100 = ☐

Think: visualise base ten blocks.



100 + 6



100 + 45

2

(a) 234 – 100 = ☐

(b) 852 – 100 = ☐

(c) 379 – 100 = ☐

(d) 641 – 100 = ☐

(e) 208 – 100 = ☐

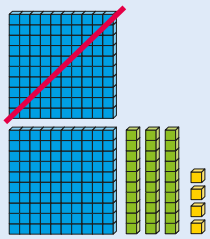
(f) 958 – ☐ = 100

(g) 743 – ☐ = 100

(h) 409 – ☐ = 100

(i) 897 – ☐ = 100

(j) 459 – ☐ = 100



234 – 100

3 Challenge

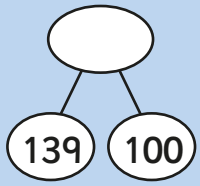
(a) ☐ – 139 = 100

(b) ☐ + 100 = 591

(c) ☐ + 100 = 627

(d) ☐ – 100 = 783

Think: visualise a number bond.



THURSDAY

1

(a) 100 + 686 = ☐

(b) 341 – 10 = ☐

(c) 218 – 10 = ☐

(d) 95 + 100 = ☐

(e) 26 + 10 = ☐

(f) 80 + 100 = ☐

(g) 907 – 100 = ☐

(h) 10 + 386 = ☐

(i) 635 – 10 = ☐

(j) 104 – 100 = ☐

Think: which digit needs to change, and which one stays the same?

2

(a) 765 – ☐ = 10

(b) 10 + ☐ = 972

(c) 100 + ☐ = 443

(d) 839 – ☐ = 100

(e) 100 + ☐ = 118

(f) 275 – ☐ = 10

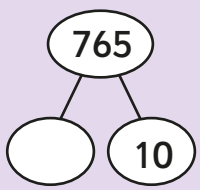
(g) 641 – ☐ = 100

(h) 100 + ☐ = 384

(i) 10 + ☐ = 311

(j) 534 – ☐ = 10

Think: visualise a number bond.



3 Challenge

(a) 493 + 10 = ☐

(b) 10 + ☐ = 604

(c) ☐ + 10 = 308

(d) 705 – ☐ = 10

11 Multiply with 5

MONDAY

1 Count in fives. Use 5c coins.

(a) 7 coins = ☐ c

(b) 10 coins = ☐ c

(c) 5 coins = ☐ c

(d) 8 coins = ☐ c

(e) 1 coin = ☐ c

(f) 4 coins = ☐ c

(g) 3 coins = ☐ c

(h) 6 coins = ☐ c

(i) 2 coins = ☐ c

(j) 9 coins = ☐ c

2 Use your 100 Dots grid.

(a) 2 rows of 5 = ☐

(b) 8 rows of 5 = ☐

(c) 4 rows of 5 = ☐

(d) 0 rows of 5 = ☐

(e) 1 row of 5 = ☐

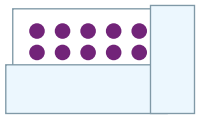
(f) 6 rows of 5 = ☐

(g) 3 rows of 5 = ☐

(h) 10 rows of 5 = ☐

(i) 7 rows of 5 = ☐

(j) 5 rows of 5 = ☐



3 **Challenge** Count in fives. Use 5c coins.

(a) 11 coins = ☐ c

(b) 13 coins = ☐ c

(c) 12 coins = ☐ c

(d) 14 coins = ☐ c

TUESDAY

1 Change to multiplication sentences.

(a) 5 + 5 + 5 + 5 → ☐ × 5 = ☐

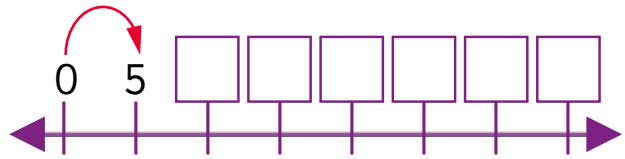
(b) 5 + 5 + 5 → ☐ × 5 = ☐

(c) 5 + 5 + 5 + 5 + 5 → ☐ × 5 = ☐

(d) 5 + 5 = ☐ × 5 → ☐

(e) 5 + 5 + 5 + 5 + 5 + 5 → ☐ × 5 = ☐

2 Count on in fives.



3 Count on in fives.

(a) 5, 10, 15, ☐

(b) 35, 40, 45, ☐

(c) 15, 20, ☐

(d) 0, 5, ☐

(e) 25, 30, ☐

(f) 5, 10, ☐

(g) 40, ☐

(h) 30, ☐

(i) 25, ☐

(j) 35, ☐

4 Count back in fives.

(a) 40, 35, 30, ☐

(b) 50, 45, 40, ☐

(c) 10, 5, ☐

(d) 20, 15, ☐

(e) 25, 20, ☐

(f) 50, ☐

(g) 10, ☐

(h) 45, ☐

(i) 25, ☐

(j) 35, ☐

5 **Challenge** Count in fives.

(a) 45, 50, ☐

(b) 70, 75, ☐

(c) 60, 55, ☐

(d) 130, 135, ☐

(e) 120, 125, ☐

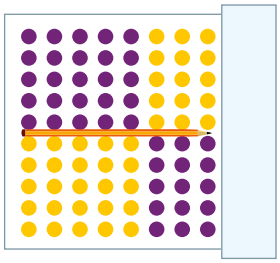
(f) 170, 165, ☐

Thinking Strategy To multiply a number by 5, first multiply by 10 and then halve your answer.

WEDNESDAY

1 Use your 100 Dots grid.

(a) 10 × 8 = ☐, so 5 × 8 = ☐



Think: what is 10 rows of 8? 5 rows of 8 is half that amount.

(b) 10 × 4 = ☐, so 5 × 4 = ☐

(c) 10 × 10 = ☐, so 5 × 10 = ☐

(d) 10 × 6 = ☐, so 5 × 6 = ☐

(e) 10 × 2 = ☐, so 5 × 2 = ☐

(f) 10 × 5 = ☐, so 5 × 5 = ☐

(g) 10 × 7 = ☐, so 5 × 7 = ☐

(h) 10 × 3 = ☐, so 5 × 3 = ☐

(i) 10 × 9 = ☐, so 5 × 9 = ☐

2 Multiply to complete these number bonds.

(a) 40 → 5, 8

(b) ☐ → 6, 5

(c) ☐ → 4, 5

(d) ☐ → 5, 7

(e) ☐ → 9, 5

(f) ☐ → 5, 5

3 Challenge

(a) 10 × 12 = ☐, so 5 × 12 = ☐

(b) 10 × 14 = ☐, so 5 × 14 = ☐

(c) 10 × 20 = ☐, so 5 × 20 = ☐

(d) 10 × 15 = ☐, so 5 × 15 = ☐

THURSDAY

1 Use your thinking strategies.

(a) 5 × 9 = ☐

(b) 5 × 10 = ☐

(c) 0 × 5 = ☐

(d) 5 × 8 = ☐

(e) 1 × 5 = ☐

(f) 6 × 5 = ☐

(g) 5 × 7 = ☐

(h) 3 × 5 = ☐

(i) 5 × 4 = ☐

(j) 5 × 5 = ☐

Think: 5 × is half of 10 ×.

2 (a) 5 × ☐ = 50

(b) 5 × ☐ = 35

(c) 5 × ☐ = 5

(d) 5 × ☐ = 25

(e) 5 × ☐ = 20

(f) 5 × ☐ = 45

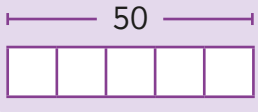
(g) ☐ × 5 = 10

(h) ☐ × 5 = 30

(i) ☐ × 5 = 15

(j) ☐ × 5 = 40

Think: 5 times what number equals 50?



3 Challenge

(a) 5 × 16 = ☐

(b) 5 × 18 = ☐

(c) 5 × 11 = ☐

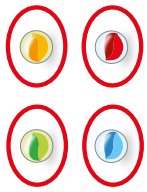
(d) 5 × 13 = ☐

Think: what is 10 × 16? So what is 5 × 16?

16 Divide by 4

MONDAY

1 Use objects. Share each amount to make 4 equal groups.



(a) 4 = 4 groups of 1

(b) 16 = 4 groups of ☐

(c) 8 = 4 groups of ☐

(d) 40 = 4 groups of ☐

(e) 12 = 4 groups of ☐

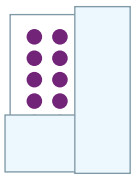
(f) 20 = 4 groups of ☐

(g) 36 = 4 groups of ☐

(h) 28 = 4 groups of ☐

(i) 32 = 4 groups of ☐

2 Use your 100 Dots grid. Share each amount to make 4 equal rows.



(a) 8 = 4 rows of 2

(b) 12 = 4 rows of ☐

(c) 32 = 4 rows of ☐

(d) 20 = 4 rows of ☐

(e) 4 = 4 rows of ☐

(f) 40 = 4 rows of ☐

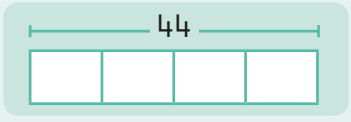
(g) 24 = 4 rows of ☐

(h) 28 = 4 rows of ☐

(i) 36 = 4 rows of ☐

3 Challenge

(a) Double ☐, doubled again = 44



(b) Double ☐, doubled again = 60

(c) Half of 100, halved again = ☐

(d) Half of 80, halved again = ☐

TUESDAY

1 Use objects. How many times can you subtract 4 from:

(a) 12? 3

(b) 20? ☐

(c) 32? ☐

(d) 16? ☐

(e) 4? ☐

(f) 8? ☐

(g) 24? ☐

(h) 28? ☐

2 Use your 100 Dots grid. How many rows of 4 in:

(a) 16? 4

(b) 4? ☐

(c) 8? ☐

(d) 12? ☐

(e) 32? ☐

(f) 24? ☐

(g) 40? ☐

(h) 36? ☐

3 Use multiplication to solve division.

(a) 4 × 6 = 24, so 24 ÷ 4 = ☐

(b) 4 × ☐ = 16, so 16 ÷ 4 = ☐

(c) 4 × ☐ = 4, so 4 ÷ 4 = ☐

(d) 4 × ☐ = 28, so 28 ÷ 4 = ☐

(e) 4 × ☐ = 36, so 36 ÷ 4 = ☐

(f) 4 × ☐ = 12, so 12 ÷ 4 = ☐

(g) 4 × ☐ = 40, so 40 ÷ 4 = ☐

(h) 4 × ☐ = 20, so 20 ÷ 4 = ☐

(i) 4 × ☐ = 32, so 32 ÷ 4 = ☐

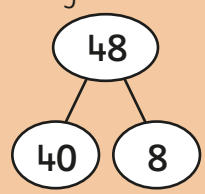
4 Challenge How many groups of 4 in:

(a) 48? ☐

(b) 80? ☐

(c) 76? ☐

Think: break into friendly numbers.



Thinking Strategy To divide by 4, first halve the number that you are dividing and then halve the result. Say 'halve, halve.'

WEDNESDAY

1 Halve each number and then halve your answer.

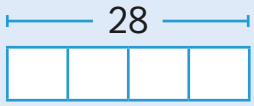
		÷ 2	÷ 4
(a)	40	20	10
(b)	20		
(c)	12		
(d)	16		
(e)	8		
(f)	4		
(g)	24		
(h)	36		
(i)	28		
(j)	32		

Think: if × 4 is *double, double*, then ÷ 4 is *half, half*.

2

(a) 28 ÷ 4 = ☐
(b) 40 ÷ 4 = ☐
(c) 24 ÷ 4 = ☐
(d) 4 ÷ 4 = ☐
(e) 12 ÷ 4 = ☐
(f) 32 ÷ 4 = ☐
(g) 16 ÷ 4 = ☐
(h) 8 ÷ 4 = ☐
(i) 20 ÷ 4 = ☐
(j) 36 ÷ 4 = ☐

Think: ÷ 4 is *half, half*.



3 **Challenge** First, halve each number. Then halve the result. What do you notice?

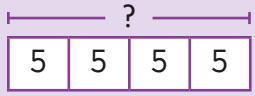
		÷ 2	→	÷ 2
(a)	100	50		25
(b)	60			
(c)	80			
(d)	68			

THURSDAY

1 Use your thinking strategies.

(a) 40 ÷ ☐ = 4
(b) 28 ÷ ☐ = 4
(c) 36 ÷ ☐ = 4
(d) 24 ÷ ☐ = 4
(e) 16 ÷ ☐ = 4
(f) ☐ ÷ 4 = 5
(g) ☐ ÷ 4 = 1
(h) ☐ ÷ 4 = 2
(i) ☐ ÷ 4 = 3
(j) ☐ ÷ 4 = 8

Think: what number ÷ 4 equals 5?



2 (a) 4 | 20 (b) 4 | 12 (c) 4 | 36

(d) 4 | 28 (e) 4 | 40 (f) 4 | 8

(g) 4 | 32 (h) 4 | 24 (i) 4 | 16

3 (a) (32 ÷ 4) – 3 = ☐
(b) (24 ÷ 4) + 7 = ☐
(c) (16 ÷ 4) + (8 × 4) = ☐
(d) (36 ÷ 4) – (1 × 4) = ☐

4 **Challenge**

(a) 80 ÷ 4 = ☐
(b) 120 ÷ 4 = ☐
(c) 160 ÷ ☐ = 4
(d) 240 ÷ ☐ = 4

Think: what is half of 80? What is half again?

Dear Family Play 'Times Snap with 4' (see page 70).

23 Multiply with 9

MONDAY

1 Use your 100 Dots grid.

(a) 2 rows of 9 = 18

(b) 5 rows of 9 = ☐

(c) 0 rows of 9 = ☐

(d) 1 row of 9 = ☐

(e) 10 rows of 9 = ☐

(f) 4 rows of 9 = ☐

(g) 7 rows of 9 = ☐

(h) 6 rows of 9 = ☐

(i) 9 rows of 9 = ☐

(j) 3 rows of 9 = ☐

(k) 8 rows of 9 = ☐

2 Change to addition sentences.

(a) 3 × 9 = 9 + 9 + 9 = ☐

(b) 5 × 9 = _____ = ☐

(c) 2 × 9 = _____ = ☐

(d) 4 × 9 = _____ = ☐

(e) 1 × 9 = _____ = ☐

(f) 7 × 9 = _____ = ☐

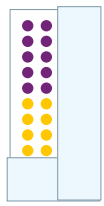
(g) 6 × 9 = _____ = ☐

3 **Challenge** Fill in the missing numbers. Look for patterns.

0	9		27	
	54	63		
90				
			162	

TUESDAY

1 Use your 100 Dots grid to help.



(a) 9 rows of 2 = 18

(b) 9 rows of 4 = ☐

(c) 9 rows of 10 = ☐

(d) 9 rows of 5 = ☐

(e) 9 rows of 1 = ☐

(f) 9 rows of 9 = ☐

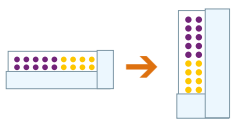
(g) 9 rows of 0 = ☐

(h) 9 rows of 7 = ☐

(i) 9 rows of 8 = ☐

2 Use your 100 Dots grid to make turnaround facts. What thinking strategy could you use for 9 ×?

(a) 2 × 9 = 9 × 2 = ☐



(b) 1 × 9 = 9 × ☐ = ☐

(c) 3 × 9 = 9 × ☐ = ☐

(d) 10 × 9 = 9 × ☐ = ☐

(e) 5 × 9 = 9 × ☐ = ☐

(f) 4 × 9 = 9 × ☐ = ☐

(g) 9 × 9 = 9 × ☐ = ☐

(h) 6 × 9 = 9 × ☐ = ☐

(i) 0 × 9 = 9 × ☐ = ☐

3 **Challenge**

(a) 12 × 9 = 9 × ☐ = ☐

(b) 14 × 9 = 9 × ☐ = ☐

(c) 13 × 9 = 9 × ☐ = ☐

Thinking Strategy • Find treble 3 times the number, e.g. 9 × 8 = (3 × 8) + (3 × 8) + (3 × 8) = 72.
• Subtract one set from 10 times the number, e.g. 9 × 8 → 10 × 8 = 80 → 80 − 8 = 72.

WEDNESDAY

1 Multiply by 10 and then subtract one set.

		10 ×	9 ×
(a)	10	100	90
(b)	3		
(c)	9		
(d)	7		
(e)	6		
(f)	2		
(g)	5		
(h)	1		
(i)	8		
(j)	4		

Think: 9 × is one set less than 10 ×.

2 Treble each number and then treble your answer.

		3 ×	9 ×
(a)	2	6	18
(b)	3		
(c)	8		
(d)	1		
(e)	4		
(f)	7		
(g)	9		
(h)	6		
(i)	5		
(j)	10		

Think: 9 × is treble 3 ×.

3 Challenge

(a) 9 × 11 = ☐

(b) 9 × 15 = ☐

(c) 9 × 20 = ☐

(d) 9 × 26 = ☐

(e) 9 × 31 = ☐

Think: use (a), (b) and (c) above to help solve (d) and (e).

THURSDAY

1 Use your thinking strategies.

(a) 9 × 6 = ☐

(b) 9 × 10 = ☐

(c) 5 × 9 = ☐

(d) 4 × 9 = ☐

(e) 9 × 8 = ☐

(f) 9 × 3 = ☐

(g) 1 × 9 = ☐

(h) 9 × 9 = ☐

(i) 9 × 7 = ☐

(j) 2 × 9 = ☐

Think: 10 × 6 = 60, so 9 × 6 = …

2 (a) 9 × ☐ = 72

(b) 9 × ☐ = 18

(c) 9 × ☐ = 54

(d) 9 × ☐ = 9

(e) 9 × ☐ = 90

(f) ☐ × 9 = 27

(g) ☐ × 9 = 63

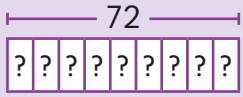
(h) ☐ × 9 = 81

(i) ☐ × 9 = 0

(j) ☐ × 9 = 36

(k) ☐ × 9 = 45

Think: 9 times what number equals 72?



Think: how many groups of 9 equals 27?

3 Challenge

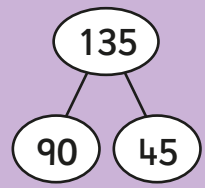
(a) 9 × ☐ = 99

(b) 9 × ☐ = 180

(c) 9 × ☐ = 108

(d) 9 × ☐ = 135

Think: break into friendly numbers.

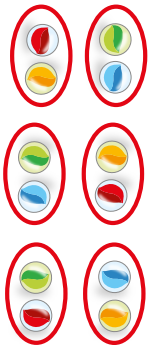


Dear Family Play 'Times Snap with 9' (see page 70).

25 Divide by 6

MONDAY

1 Use objects. Share each amount to make 6 equal groups.



(a) 12 = 6 groups of 2

(b) 30 = 6 groups of ☐

(c) 6 = 6 groups of ☐

(d) 36 = 6 groups of ☐

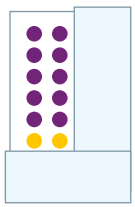
(e) 60 = 6 groups of ☐

(f) 24 = 6 groups of ☐

(g) 48 = 6 groups of ☐

(h) 18 = 6 groups of ☐

2 Use your 100 Dots grid. Share each amount to make 6 equal rows.



(a) 12 = 6 rows of 2

(b) 48 = 6 rows of ☐

(c) 42 = 6 rows of ☐

(d) 36 = 6 rows of ☐

(e) 6 = 6 rows of ☐

(f) 60 = 6 rows of ☐

(g) 54 = 6 rows of ☐

(h) 30 = 6 rows of ☐

(i) 24 = 6 rows of ☐

3 **Challenge** Divide each amount into 6 equal groups as fairly as possible.

(a) 25 → ☐ R ☐

(b) 31 → ☐ R ☐

(c) 16 → ☐ R ☐

TUESDAY

1 Count on in sixes.

0	6			24
		42		

2 How many jumps of 6 back to 0 from:

(a) 42? ☐ (b) 30? ☐

(c) 48? ☐ (d) 6? ☐

(e) 24? ☐ (f) 18? ☐

(g) 54? ☐ (h) 12? ☐

3 Use your 100 Dots grid. How many rows of 6 in:

(a) 36? ☐ (b) 48? ☐

(c) 12? ☐ (d) 6? ☐

(e) 42? ☐ (f) 54? ☐

(g) 30? ☐ (h) 60? ☐

(i) 24? ☐ (j) 18? ☐

4 Use multiplication to solve division.

(a) 6 × 5 = 30, so 30 ÷ 6 = ☐

(b) 6 × ☐ = 42, so 42 ÷ 6 = ☐

(c) 6 × ☐ = 6, so 6 ÷ 6 = ☐

(d) 6 × ☐ = 54, so 54 ÷ 6 = ☐

(e) 6 × ☐ = 24, so 24 ÷ 6 = ☐

(f) 6 × ☐ = 12, so 12 ÷ 6 = ☐

(g) 6 × ☐ = 60, so 60 ÷ 6 = ☐

(h) 6 × ☐ = 48, so 48 ÷ 6 = ☐

5 **Challenge** How many jumps of 6 back to 0 from:

(a) 72? ☐ (b) 66? ☐ (c) 90? ☐

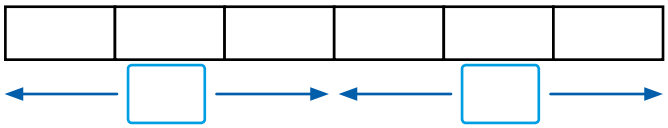
Thinking Strategy Division as the inverse of multiplication: knowing that 7 × 6 = 42 can solve 42 ÷ 6.

WEDNESDAY

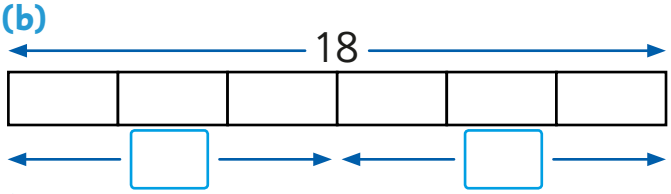
1 Divide each of these numbers into 6 equal parts.

Think: first, halve each number.

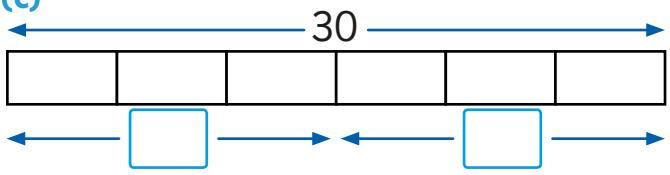
(a)



(b)



(c)



2

(a) 30 ÷ 6 = ☐

(b) 60 ÷ 6 = ☐

(c) 42 ÷ 6 = ☐

(d) 6 ÷ 6 = ☐

(e) 12 ÷ 6 = ☐

(f) 36 ÷ 6 = ☐

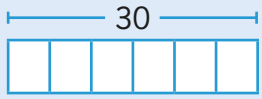
(g) 54 ÷ 6 = ☐

(h) 48 ÷ 6 = ☐

(i) 24 ÷ 6 = ☐

(j) 18 ÷ 6 = ☐

Think: 30 divided into 6 groups equals what number?



3 **Challenge** First, halve each number. Then divide the result by 3. What do you notice?

		÷ 2	→	÷ 3
(a)	24	12		4
(b)	54			
(c)	66			
(d)	84			

THURSDAY

1 (a) 12 ÷ ☐ = 6

(b) 30 ÷ ☐ = 6

(c) 54 ÷ ☐ = 6

(d) 42 ÷ ☐ = 6

(e) 18 ÷ ☐ = 6

(f) ☐ ÷ 6 = 4

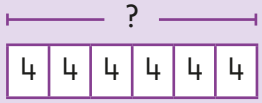
(g) ☐ ÷ 6 = 1

(h) ☐ ÷ 6 = 8

(i) ☐ ÷ 6 = 10

(j) ☐ ÷ 6 = 6

Think: what number ÷ 6 equals 4?



2 (a) 6 | 30 (b) 6 | 18 (c) 6 | 48

(d) 6 | 60 (e) 6 | 24 (f) 6 | 12

(g) 6 | 54 (h) 6 | 36 (i) 6 | 42

3 (a) (54 ÷ 6) − 3 = ☐

(b) (24 ÷ 6) + 10 = ☐

(c) (48 ÷ 6) + (3 × 6) = ☐

(d) (42 ÷ 6) + (5 × 6) = ☐

4 **Challenge**

(a) 120 ÷ 6 = ☐

(b) 240 ÷ 6 = ☐

(c) 180 ÷ 6 = ☐

(d) 360 ÷ ☐ = 6

(e) 150 ÷ ☐ = 6

Think: 120 = 12 tens

Dear Family Play 'Times Snap with 6' (see page 70).

3

(a) 100 – 5 = ☐

(b) 65 + ☐ = 100

(c) 100 – 50 = ☐

(d) ☐ + 95 = 100

(e) 100 – 55 = ☐

(f) 40 + ☐ = 100

(g) 100 – 15 = ☐

(h) ☐ + 45 = 100

(i) 100 – 10 = ☐

(j) 85 + ☐ = 100

4

(a) 100 – 75 = ☐

(b) ☐ + 90 = 100

(c) 100 – 80 = ☐

(d) 25 + ☐ = 100

(e) 100 – 30 = ☐

(f) ☐ + 20 = 100

(g) 100 – 60 = ☐

(h) ☐ + 50 = 100

(i) 100 – 35 = ☐

(j) 70 + ☐ = 100

5

(a) 7 + 5 = ☐

(b) 10 + 4 = ☐

(c) 5 + 6 = ☐

(d) 3 + 6 = ☐

(e) 7 + ☐ = 7

(f) 4 + ☐ = 6

(g) 4 + 5 = ☐

(h) 6 + ☐ = 7

(i) 8 + ☐ = 15

(j) 4 + ☐ = 13

6

(a) 12 – 7 = ☐

(b) 15 – 9 = ☐

(c) 5 – 0 = ☐

(d) 14 – 7 = ☐

(e) 10 – 6 = ☐

(f) 12 – ☐ = 5

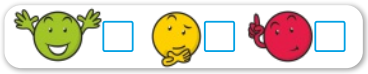
(g) 6 + ☐ = 15

(h) 15 – ☐ = 8

(i) 10 – ☐ = 6

(j) 5 + ☐ = 12

You are now ready to do Assessment C (page 67).

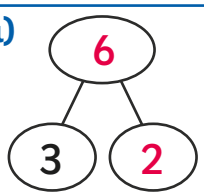


Revision D (Units 21–26)

1 Multiplication and division facts with 3

Complete the number bonds to show multiplication and division facts with 3.
Write the matching number sentences. The first one is done for you.
You can write the number sentences for parts (f) to (j) in your copy.

(a)



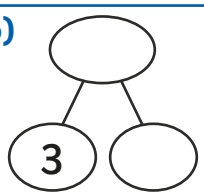
3 × 2 = 6

2 × 3 = 6

6 ÷ 3 = 2

6 ÷ 2 = 3

(b)



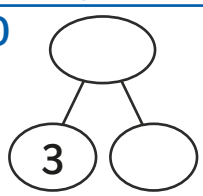
3 × ☐ = ☐

☐ × 3 = ☐

☐ ÷ 3 = ☐

3 ÷ ☐ = 3

(c)



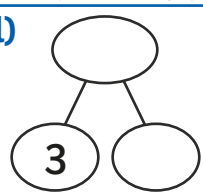
☐ × ☐ = ☐

☐ × ☐ = ☐

☐ ÷ ☐ = ☐

☐ ÷ ☐ = ☐

(d)



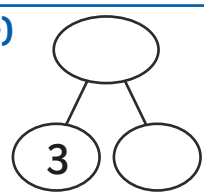
☐ × ☐ = ☐

☐ × ☐ = ☐

☐ ÷ ☐ = ☐

☐ ÷ ☐ = ☐

(e)



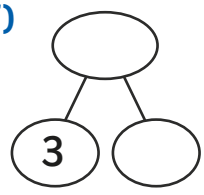
☐ × ☐ = ☐

☐ × ☐ = ☐

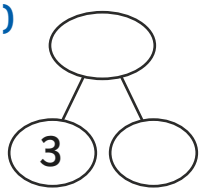
☐ ÷ ☐ = ☐

☐ ÷ ☐ = ☐

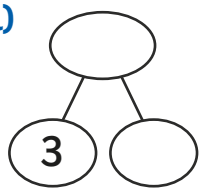
(f)



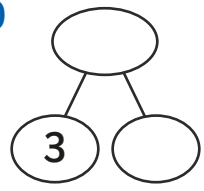
(g)



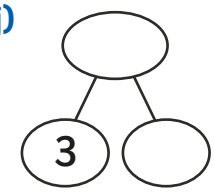
(h)



(i)



(j)



Assessments

Assessment A (Units 1–7)

/40

1

(a) 9 + 3 = ☐
(b) 3 + 4 = ☐
(c) 3 + 3 = ☐
(d) 0 + 9 = ☐
(e) 49 + 1 = ☐
(f) 7 + 2 = ☐
(g) 9 + 5 = ☐
(h) 2 + 8 = ☐
(i) 0 + 79 = ☐
(j) 8 + 4 = ☐

2

(a) 8 + ☐ = 11
(b) 2 + ☐ = 6
(c) 9 + ☐ = 19
(d) 2 + ☐ = 5
(e) 6 + ☐ = 9
(f) 4 + ☐ = 13
(g) 95 + ☐ = 96
(h) 2 + ☐ = 11
(i) 8 + ☐ = 15
(j) 65 + ☐ = 75

3

(a) 15 − 9 = ☐
(b) 7 − 2 = ☐
(c) 82 − 1 = ☐
(d) 10 − 9 = ☐
(e) 8 − 0 = ☐
(f) 3 − 0 = ☐
(g) 14 − 8 = ☐
(h) 95 − 10 = ☐
(i) 10 − 3 = ☐
(j) 18 − 9 = ☐

4

(a) 7 − 2 = ☐
(b) 8 + 9 = ☐
(c) 249 − 100 = ☐
(d) 8 + 8 = ☐
(e) 16 − 7 = ☐
(f) 8 − ☐ = 3
(g) 5 + ☐ = 13
(h) 138 + ☐ = 148
(i) 8 − ☐ = 7
(j) 6 + ☐ = 8

Assessment B (Units 8–13)

/40

1

(a) 5 × 5 = ☐
(b) 10 × 1 = ☐
(c) 0 × 2 = ☐
(d) 10 × 3 = ☐
(e) 6 × 5 = ☐
(f) 10 × 5 = ☐
(g) 0 × 10 = ☐
(h) 6 × 2 = ☐
(i) 5 × 7 = ☐
(j) 2 × 4 = ☐

2

(a) 5 × ☐ = 20
(b) 10 × ☐ = 60
(c) 2 × ☐ = 14
(d) 2 × ☐ = 2
(e) 7 × ☐ = 35
(f) 9 × ☐ = 45
(g) 10 × ☐ = 0
(h) 2 × ☐ = 4
(i) 5 × ☐ = 40
(j) 10 × ☐ = 20

3

(a) 40 ÷ 10 = ☐
(b) 35 ÷ 5 = ☐
(c) 15 ÷ 5 = ☐
(d) 60 ÷ 10 = ☐
(e) 16 ÷ 2 = ☐
(f) 50 ÷ 10 = ☐
(g) 20 ÷ 10 = ☐
(h) 10 ÷ 2 = ☐
(i) 90 ÷ 10 = ☐
(j) 45 ÷ 5 = ☐

4

(a) 7 × 10 = ☐
(b) 40 ÷ 10 = ☐
(c) 2 × 5 = ☐
(d) 14 ÷ 2 = ☐
(e) 10 × 10 = ☐
(f) 18 ÷ ☐ = 9
(g) 5 × ☐ = 15
(h) 80 ÷ ☐ = 8
(i) 5 ÷ ☐ = 1
(j) 5 × ☐ = 0

Assessment G (All units)

40

1

(a) $7 \times 1 =$ ☐

(b) $10 \times 2 =$ ☐

(c) $3 \times 2 =$ ☐

(d) $0 \times 6 =$ ☐

(e) $10 \times 6 =$ ☐

(f) $9 \times$ ☐ $= 9$

(g) $8 \times$ ☐ $= 64$

(h) $10 \times$ ☐ $= 0$

(i) $3 \times$ ☐ $= 15$

(j) $5 \times$ ☐ $= 35$

2

(a) $5 \div 5 =$ ☐

(b) $81 \div 9 =$ ☐

(c) $16 \div 2 =$ ☐

(d) $20 \div 5 =$ ☐

(e) $10 \div 10 =$ ☐

(f) $45 \div$ ☐ $= 5$

(g) $10 \div$ ☐ $= 5$

(h) $8 \times$ ☐ $= 32$

(i) $72 \div$ ☐ $= 9$

(j) $3 \times$ ☐ $= 21$

3

(a) $2 \times 2 =$ ☐

(b) $83 -$ ☐ $= 83$

(c) $9 +$ ☐ $= 16$

(d) $9 \times 2 =$ ☐

(e) $9 -$ ☐ $= 7$

(f) $5 \times 5 =$ ☐

(g) $7 \times 4 =$ ☐

(h) $6 + 8 =$ ☐

(i) $6 \times$ ☐ $= 54$

(j) $100 +$ ☐ $= 307$

4

(a) $3 +$ ☐ $= 9$

(b) $40 \div 8 =$ ☐

(c) $14 - 7 =$ ☐

(d) $7 \times 8 =$ ☐

(e) $198 + 10 =$ ☐

(f) $9 - 5 =$ ☐

(g) $42 \div 7 =$ ☐

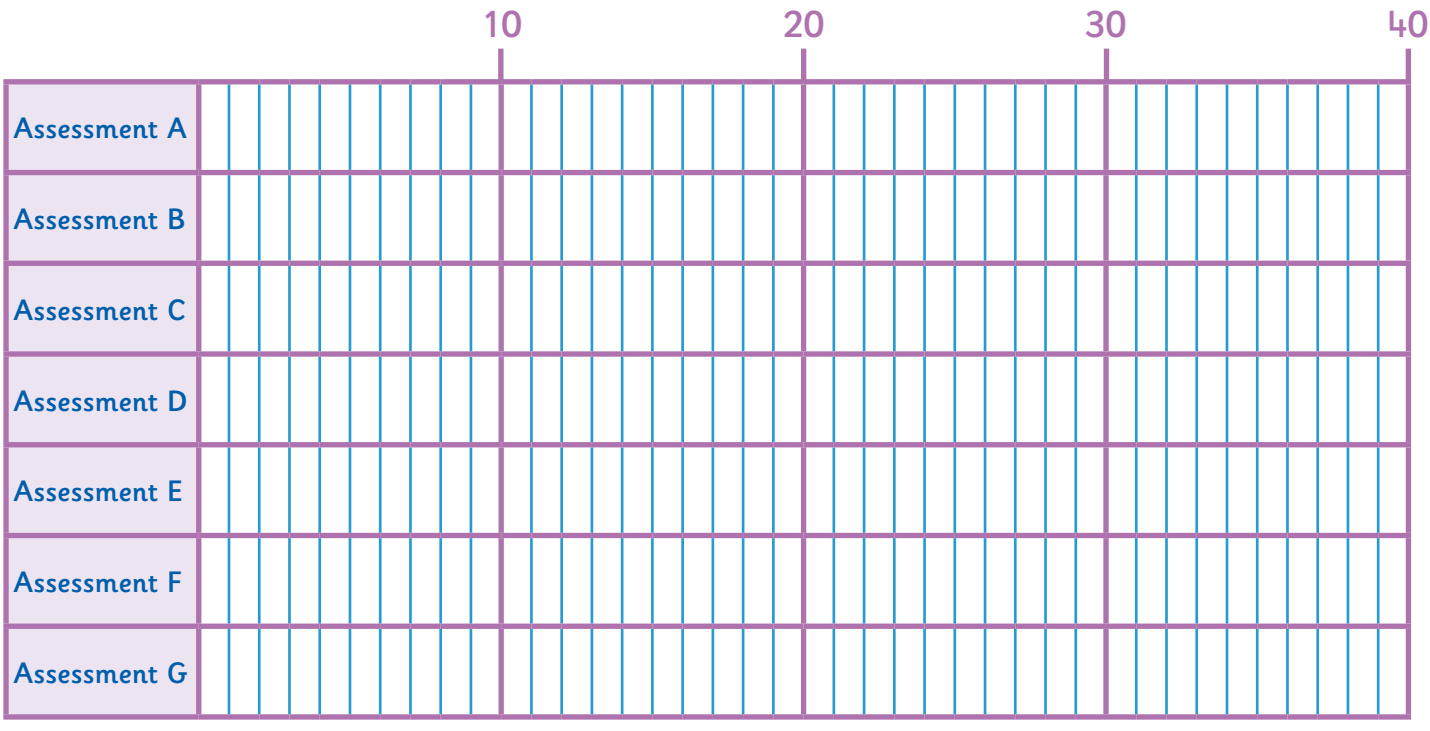
(h) $467 + 100 =$ ☐

(i) $4 \div 4 =$ ☐

(j) $302 - 10 =$ ☐

Personal Progress Chart

Colour the correct number of squares to show your score.



Family Card Games

Add Snap with 10/100

To play **Add Snap with 10**, use a pack of playing cards with the picture cards removed. Place the rest of the pack face down on the table. The dealer turns over the top two cards. Those cards represent a two-digit number. For example, the cards '2' and '6' represent '26'. The person who first calls out the total of the number of the upturned cards plus 10 (36 in this case) wins those cards. Play continues until all the cards are gone. The winner is the player with the most cards. If the game continues, the winner also becomes the dealer for the next round.

- You can play **Add Snap with 100** in a similar way.

Add Snap: mixed bag

This is a good game to play to revise a number of Add facts. Use a pack of playing cards with the picture cards removed. The dealer turns over the top two cards in the pack in full view of the other players. The person who first calls out the sum/total of the two cards wins those cards. For example, if the upturned cards are '8' and '6', the answer is 14.

As above, play continues until all the cards are gone.

- You can play **Add Zero Snap** in a similar way, but include the picture cards, which all count as zero.
- To play **Add Snap Advanced**, include the picture cards: jacks represent 11; queens represent 12 and kings represent 13.

Difference Snap

Play as per **Add Snap: mixed bag**, but it is the person who first calls out the difference between the two cards who wins those cards. For example, if the upturned cards are '8' and '6', the answer is 2.

Doubles Snap

Play as per **Add Snap: mixed bag**, but the dealer turns over only the top card in the pack. The person who first calls out the double of that number wins the card. For example, if the upturned card is a '6', the answer is 12.

Doubles Snap: Tens

Play as per **Doubles Snap**, but the upturned card represents that number of tens. For example, if the upturned card is a '6', that represents 6 tens or 60. So, in this case, the answer is 120.

Near Doubles Snap

Play as per **Doubles Snap**, but it is the person who first calls out the near double of the number who wins that card.

NB: you must decide in advance if the aim is to find the double of the number plus one or minus one. For example, if the upturned card is a '6', the answer is either 13 (12 plus 1) or 11 (12 minus 1).

Near Doubles Snap: Tens

Play as per **Near Doubles Snap**, but the upturned card represents that number of tens. The winner is the person who doubles this number and adds/subtracts one ten, depending on which version of the game you are playing. For example, if the upturned card is a '6', that represents 6 tens or 60. So, in this case, the answer is either 130 (120 plus one ten) or 110 (120 minus one ten).

Times Snap with 2/3/4 . . .

Use a pack of playing cards with the picture cards removed. To play **Times Snap with 2**, remove one of the '2' cards from the pack and leave it on the table. Place the rest of the pack face down on the table alongside the upturned 2. The dealer turns over the top card. The person who first calls out the product of 2 and the upturned card wins the card. For example, if the upturned card is a '9', the answer is 18. Play continues until all the cards are gone. The winner is the player with the most cards.

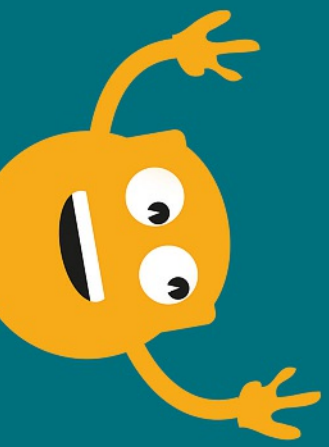
- You can play **Times Snap** using different values (e.g. **Times Snap with 1/3/4**, etc.) in a similar way.
- You can also play **Times Snap with 0** in a similar way: include the picture cards, which count as zero.

Times Snap: mixed bag

Play as per **Add Snap: mixed bag**, but it is the person who first calls out the product of the two cards who wins those cards. For example if the upturned cards are '6' and '4', the answer is 24.

Make 10

Use a pack of cards with the kings and queens removed. Lay out the cards in four rows of 11, face down. The players take turns to turn over two cards. If the two cards total 10, the player gets to keep the cards; if not, the cards are returned to their original position. Jacks are worth zero. Play continues until all the cards are gone. The winner is the player with the most cards.



Number Facts 3

A New Approach to Tables

Number Facts **is a series of activity books designed to foster fluency in number facts (or 'tables') for primary school children. This attractive and engaging series features an innovative approach to basic number facts, teaching children to understand, not just do, maths.**

In contrast to traditional drill-and-practice workbooks, which just test whether the answer is known, ***Number Facts*** teaches children to **visualise numbers pictorially** and to use these images and **thinking strategies** to become more adept at manipulating numbers, thus also enhancing their **mental calculation** and **problem-solving skills**.

FEATURES OF *NUMBER FACTS 3* (3rd Class)

- **Weekly** units with addition, subtraction, multiplication and division activities for Monday to Thursday.
- Each unit has an underlying **thinking strategy**, which is provided in the footer of the first page in each unit.
- **Think boxes** reinforce the relevant thinking strategies.
- A daily **Challenge section** is included to extend the children.
- The **Self-assessment** feature allows children to assess their own learning at the end of every week.
- Separate **Revision** and **Assessment** sections are included for completion at regular intervals to consolidate learning.
- Children can record their assessment scores in their **Personal Progress Chart**.
- A selection of **Family Card Games** is included for parents and children to play at home to reinforce the number facts taught in each unit.

Edco Learning
Teacher's resources and e-book available on www.edcolearning.ie

ISBN 978-1-84536-761-9

Edco PRIMARY MATHS