

Book 7T contents

FM: indicates sections that address functional mathematics

Mental methods and starters

(Teacher's guide only) A teaching programme covering mental arithmetic skills; ideas for teacher-led activities for use at the start of a lesson

'Can you ... ?' general assessments

(Teacher's guide and resource sheets only) To help identify particular areas of difficulty in basic number work

1 First bites 4 **FM: D**

Enjoyable activities to start year 7 and help the teacher get to know pupils and how they work

2 Number bites 13 **FM: T**

Practice with whole number skills to be dipped into from time to time

3 Written addition and subtraction 23

FM: C

Addition and subtraction without a calculator including investigating patterns

4 Test it! 28 **FM: all**

Planning a survey, measuring accurately and collecting and recording data

5 Reflection symmetry 32

Making shapes with reflection symmetry; identifying symmetrical shapes and one or more lines of symmetry

6 Multiplication tables 39

Practice in using tables up to 10×10

7 Angle 44

Angle as turning; identifying acute, obtuse, reflex and right angles; measuring angles; calculating angles on a straight line

8 Oral questions: calendar 53 **FM: all**

For teacher-led work on getting information from a calendar including calculating and using time intervals in days

9 Growing patterns 54

Investigating sequences that arise from patterns of countable objects

10 Two-piece tangrams 59

Opportunities to use mathematical language for plane shapes and their properties

11 Fractions 60

Fractions of a shape; understanding halves, quarters, eighths and thirds; writing fractions in order of size

Review 1 67

12 Coordinates 70

Recording information from an archaeological dig using positive whole numbers and halves

13 Area and perimeter 75 **FM: CDEF**

Working out the perimeter of a simple shape and its area in cm^2 or m^2 (wholes and halves); costs based on area; splitting a shape into rectangles to work out its area

Pupils' book ISBN 978-0-521-53797-1

Teacher's guide ISBN 978-0-521-53798-8

Resource sheets for Books 7C, 7S and 7T ISBN 978-0-521-53796-4

Practice for Book 7T ISBN 978-0-521-53799-5

Order from educustserve@cambridge.org +44 (0)1223 325588

An assessment pack for books 7T, 7S and 7C is available from the SMP office: go to www.smpmaths.org.uk for details or email office@smpmaths.org.uk

14 Rounding 86

Place value; rounding to the nearest 10, 100, 1000

15 Mostly multiplication 91 FM: BE

Multiplying by 10, 100, 1000; converting between mm and cm, cm and m, g and kg; dividing by 10, 100, 1000; multiplying by 20, 30, ...; multiplying by a single-digit number; multiplying a two-digit number by a two-digit number using a two-by-two table

16 Balancing 100

Using balancing scales to introduce the idea of doing the same thing to both sides of an equation

17 Oral questions: money 1 104 FM: all

Picture of a market stall with priced items, for teacher-led question and answer

18 Gravestones 106 FM: all

Reading from a table of data, grouping and tallying, various styles of frequency chart

19 Brackets 111

Brackets to show which part of a calculation is to be done first

Review 2 115**20 Lines at right angles 118**

Finding and drawing right angles; perpendicular lines

21 Division 122 FM: CDEFG

Division as sharing and as grouping; remainders; 'chunking' for division by a single digit number

22 Parallel lines 132

Finding and drawing parallel lines

23 Time 137 FM: all

Time of the day; time line; calculating time intervals; the 24-hour clock

24 Work to rule 142

Finding and using the rule (linear relationship) for the number of white tiles from the number of red tiles in a certain type of tile pattern

25 One decimal place 150 FM: ABC

Tenths of a centimetre; reading scales to one decimal place; ordering decimals given to one decimal place

Review 3 157**26 Number patterns 160**

Investigations, magic squares, prime numbers, square numbers, sequences

27 Rectangles 167

Properties of a rectangle; coordinates; translating a shape on a coordinate grid

28 Oral questions: measures 169 FM: all

Finding information from a table of data about the balls used in different sports

29 Calculating with decimals 170 FM: BE

Without a calculator: adding and subtracting numbers with one decimal place, multiplying them by a whole number, rounding them to a whole number and using this to estimate the answer to a calculation, multiplying and dividing them by 10

30 Chance 179 FM: AB

Deciding whether a game involves skill or chance and whether a game of chance is fair; probability scale; writing a probability as a fraction

31 Negative numbers 185 FM: all

Using and comparing positive and negative temperatures, calculating temperature changes; temperature tables and graphs

32 Action and result puzzles 194

Logical thinking using mental addition, subtraction, multiplication and division

Review 4 195**33 Two decimal places 198 FM: BDEF**

Reading decimals given to two places from a scale; equivalence of, for example, 0.3 and 0.30; decimals of a metre; ordering decimals given to one or two places

34 Practical problems 208 FM: all

Tasks that require simple equipment and involve measuring, estimation and practical calculation skills

35 Amazing but true! 211

Coordinates and four compass directions to describe a route through a maze

36 Is it an add? 212 FM: all

Deciding whether a problem requires addition, subtraction, multiplication or division; ways of checking

37 Graphs and charts 220 FM: all

Interpreting graphs and charts from real-life sources; filling in grouped frequency tables; drawing frequency bar charts and line graphs

38 Oral questions: money 2 227 FM: all

Catalogue page with priced items, for teacher-led question and answer

39 Working with fractions 228

Finding a fraction of a number; improper fractions and mixed numbers

40 3-D shapes 233 FM: B

Pentominoes, nets of an open cube, interpreting drawings of shapes made from cubes

41 Ratio 238 FM: all

Scaling of recipes

Review 5 241

Index 246