

Addition and Subtraction using Expanded Written Methods

A Photocopiable Activity Book by:
Helen Maden and Jane Lambert

Introduction

The four rules of number are the foundation of numeracy work in the Primary School. Curriculum 2000 for Mathematics details how emphasis should be placed on developing the knowledge and understanding of mental calculations, then progressing to more formal written calculations.

The National Numeracy Strategy's Framework for teaching mathematics outlines how expanded versions of more formal written methods should be taught so that children fully understand their methods rather than carrying them out 'by rote'.

This book will take your children 'Step by Step' through these expanded methods in Addition and Subtraction leading them to a greater understanding of more formal vertical layouts.

Other books in this series include:
Multiplication & Division (using Expanded Written Methods)
4 Rules of Number (for compact calculation practice)
Facts at Your Fingertips 1 (for addition and subtraction within 20)
Facts at Your Fingertips 2 (for multiplication and division facts)

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Exercise 1 Addition - Basic Mental Methods

- | | | | | | |
|----|-----------|--------------------------------|----|-------------|---------------------------------|
| 1 | $7 + 2 =$ | <input type="text" value="9"/> | so | $70 + 20 =$ | <input type="text" value="90"/> |
| 2 | $6 + 2 =$ | <input type="text"/> | so | $60 + 20 =$ | <input type="text"/> |
| 3 | $4 + 3 =$ | <input type="text"/> | so | $40 + 30 =$ | <input type="text"/> |
| 4 | $2 + 4 =$ | <input type="text"/> | so | $20 + 40 =$ | <input type="text"/> |
| 5 | $8 + 1 =$ | <input type="text"/> | so | $80 + 10 =$ | <input type="text"/> |
| 6 | $2 + 5 =$ | <input type="text"/> | so | $20 + 50 =$ | <input type="text"/> |
| 7 | $5 + 4 =$ | <input type="text"/> | so | $50 + 40 =$ | <input type="text"/> |
| 8 | $3 + 6 =$ | <input type="text"/> | so | $30 + 60 =$ | <input type="text"/> |
| 9 | $4 + 5 =$ | <input type="text"/> | so | $40 + 50 =$ | <input type="text"/> |
| 10 | $2 + 6 =$ | <input type="text"/> | so | $20 + 60 =$ | <input type="text"/> |

Exercise 2 Addition - Basic Mental Methods

- | | | | | | |
|----|-----------|---------------------------------|----|-------------|----------------------------------|
| 1 | $6 + 8 =$ | <input type="text" value="14"/> | so | $60 + 80 =$ | <input type="text" value="140"/> |
| 2 | $7 + 6 =$ | <input type="text"/> | so | $70 + 60 =$ | <input type="text"/> |
| 3 | $4 + 9 =$ | <input type="text"/> | so | $40 + 90 =$ | <input type="text"/> |
| 4 | $8 + 8 =$ | <input type="text"/> | so | $80 + 80 =$ | <input type="text"/> |
| 5 | $5 + 8 =$ | <input type="text"/> | so | $50 + 80 =$ | <input type="text"/> |
| 6 | $9 + 4 =$ | <input type="text"/> | so | $90 + 40 =$ | <input type="text"/> |
| 7 | $7 + 7 =$ | <input type="text"/> | so | $70 + 70 =$ | <input type="text"/> |
| 8 | $3 + 8 =$ | <input type="text"/> | so | $30 + 80 =$ | <input type="text"/> |
| 9 | $6 + 6 =$ | <input type="text"/> | so | $60 + 60 =$ | <input type="text"/> |
| 10 | $3 + 7 =$ | <input type="text"/> | so | $30 + 70 =$ | <input type="text"/> |

Name: _____ Date: _____

Exercise 7 Addition - Mental Methods Using Jottings

$$\begin{array}{rcccccccc} \textcircled{1} & 62 + 75 & = & (5 + 2) & + & (60 + 70) & = & \\ & & & 7 & + & 130 & = & \boxed{137} \end{array}$$

$$\begin{array}{rcccccccc} \textcircled{2} & 86 + 42 & = & (&) & + & (&) & = \\ & & & & & + & & & = \boxed{} \end{array}$$

$$\begin{array}{rcccccccc} \textcircled{3} & 94 + 83 & = & (&) & + & (&) & = \\ & & & & & + & & & = \boxed{} \end{array}$$

$$\begin{array}{rcccccccc} \textcircled{4} & 74 + 94 & = & (&) & + & (&) & = \\ & & & & & + & & & = \boxed{} \end{array}$$

$$\begin{array}{rcccccccc} \textcircled{5} & 73 + 50 & = & (&) & + & (&) & = \\ & & & & & + & & & = \boxed{} \end{array}$$

$$\begin{array}{rcccccccc} \textcircled{6} & 64 + 75 & = & (&) & + & (&) & = \\ & & & & & + & & & = \boxed{} \end{array}$$

$$\begin{array}{rcccccccc} \textcircled{7} & 82 + 41 & = & (&) & + & (&) & = \\ & & & & & + & & & = \boxed{} \end{array}$$

Name: _____ Date: _____

Exercise 21 Addition - Expanded Version

1

$$\begin{array}{r} 741 \\ + 622 \\ \hline 3 \\ 60 \\ 1300 \\ \hline 1363 \end{array}$$

2

$$\begin{array}{r} 452 \\ + 734 \\ \hline \\ \hline \end{array}$$

3

$$\begin{array}{r} 815 \\ + 654 \\ \hline \\ \hline \end{array}$$

4

$$\begin{array}{r} 514 \\ + 632 \\ \hline \\ \hline \end{array}$$

5

$$\begin{array}{r} 463 \\ + 732 \\ \hline \\ \hline \end{array}$$

6

$$\begin{array}{r} 748 \\ + 520 \\ \hline \\ \hline \end{array}$$

7

$$\begin{array}{r} 644 \\ + 423 \\ \hline \\ \hline \end{array}$$

8

$$\begin{array}{r} 348 \\ + 831 \\ \hline \\ \hline \end{array}$$

9

$$\begin{array}{r} 764 \\ + 823 \\ \hline \\ \hline \end{array}$$

10

$$\begin{array}{r} 573 \\ + 725 \\ \hline \\ \hline \end{array}$$

11

$$\begin{array}{r} 641 \\ + 807 \\ \hline \\ \hline \end{array}$$

12

$$\begin{array}{r} 247 \\ + 922 \\ \hline \\ \hline \end{array}$$

Name: _____ Date: _____

Exercise 38 Subtraction - Jumping Method

1 $408 - 297 = \boxed{111}$

297 $\xrightarrow{+3}$ 300 $\xrightarrow{+100}$ 400 $\xrightarrow{+8}$ 408

2 $606 - 498 = \boxed{}$ _____

3 $405 - 326 = \boxed{}$ _____

4 $508 - 392 = \boxed{}$ _____

5 $307 - 194 = \boxed{}$ _____

6 $603 - 487 = \boxed{}$ _____

7 $508 - 436 = \boxed{}$ _____