

# AfterMaths

## TEACHER GUIDE

YEAR

# 4

Dear teacher,

Welcome to *AfterMaths*<sup>™</sup>. This program is designed to engage students in using a variety of maths skills that will be important to them as developmental learners and as thinkers in the years ahead. Students will use critical thinking, problem solving and computation skills as they complete the 36 activities in the student book.

The activities in the *AfterMaths* student book are based on seven concepts. These concepts are numeration, number theory, measurement, geometry, pre-algebra, data interpretation and logical reasoning. A list of activities and the skills covered appears on the following page.

The activities in the *AfterMaths* student book may be applied in various ways. They may be used to supplement and reinforce classroom lessons. They may be used to extend or enrich daily lessons. Or, they may be used to provide challenges to students who enjoy experimenting with maths. The activities are designed for students to work on their own, in pairs or in small groups at their own pace.

The activities provide a variety of experiences for students, including writing, computing, experimenting, completing small projects, conducting research and playing games. A light globe icon (💡) marks challenging creative-thinking items. Students will become aware that mathematics is not just reserved for the classroom; it is a vital part of the world around them.

Try to preview all 36 activities in the student book before assigning particular activities. Students may complete the activities in any order that fits your needs. Note that some maths experiments require the use of basic hands-on materials such as calculators, number cubes, playing cards, dominoes and rulers.

*AfterMaths, Year 4* is designed specifically for students in Year 4. But, the activities can be used with advanced mathematics students in Year 3, as well as with students who require mathematics skills reinforcement in Year 5.

Enjoy the activities. Encourage students to do as many as possible. Galileo once said that mathematics is the alphabet in which the universe was created. So, let's begin to learn that alphabet.

**Author:** Christopher Forest

**Editor:** Dale Lyle

**Designer:** Jamie Ruh

| <b>Activity</b>                             | <b>Page</b> |
|---|-------------|
| <i>Pick a Number</i> .....                  | 3           |
| Exploring place value (N)                   |             |
| Performing multiple operations (NT)         |             |
| <i>The Winning Number</i> .....             | 3           |
| Exploring place value (N)                   |             |
| <i>Skill Builders 1</i> .....               | 3           |
| Comparing whole numbers (N)                 |             |
| Using number systems (N)                    |             |
| Performing multiple operations (NT)         |             |
| <i>Evens or Odds</i> .....                  | 3           |
| Finding consecutive odd numbers (N)         |             |
| Understanding numerical terms (N)           |             |
| Comparing whole numbers (N)                 |             |
| <i>Invent a Number</i> .....                | 3           |
| Developing a number system (N)              |             |
| <i>Number Roll</i> .....                    | 3           |
| Finding inequalities (PA)                   |             |
| <i>Simple Squares</i> .....                 | 3           |
| Solving magic squares (LR)                  |             |
| <i>The Numbers Talk</i> .....               | 3           |
| Using a calculator to solve problems (NT)   |             |
| <i>Skill Builders 2</i> .....               | 4           |
| Performing multiple operations (NT)         |             |
| Finding a pattern (PA)                      |             |
| Determining missing numbers (PA)            |             |
| <i>Two-Digit "Arithmagic"</i> .....         | 4           |
| Performing multiple operations (NT)         |             |
| Solving a word problem (PA)                 |             |
| <i>Thinking Cap</i> .....                   | 4           |
| Solving number patterns (NT)                |             |
| Solving a word problem (LR)                 |             |
| <i>Set 'Em Up</i> .....                     | 4           |
| Finding addition and subtraction facts (NT) |             |
| <i>Money, Money, Money</i> .....            | 4           |
| Finding the value of coins (M)              |             |
| <i>At the Tone</i> ... ..                   | 4           |
| Ordering units of time (M)                  |             |
| Solving a word problem (LR)                 |             |
| <i>Skill Builders 3</i> .....               | 4           |
| Matching units of capacity (M)              |             |
| Solving a word problem (LR)                 |             |
| Matching units of temperature (M)           |             |
| <i>Mapping It Out</i> .....                 | 4           |
| Finding locations on a map (M)              |             |
| Measuring a scale drawing (M)               |             |
| <i>"Perty" Fast</i> .....                   | 5           |
| Ordering units of time (M)                  |             |
| <i>Highs and Lows</i> .....                 | 5           |
| Measuring Units (M)                         |             |

| <b>Activity</b>   | <b>Page</b> |
|---|-------------|
| <i>That's the Point</i> .....                                   | 5           |
| Identifying parallel lines (G)                                  |             |
| Measuring line segments (M)                                     |             |
| <i>Tricky Tangram</i> .....                                     | 5           |
| Constructing plane figures (G)                                  |             |
| <i>Skill Builders 4</i> .....                                   | 5           |
| Identifying rectangles (G)                                      |             |
| Identifying plane figures on a number line (G)                  |             |
| Identifying angles (G)  |             |
| <i>Sphere Me</i> .....  | 6           |
| Solving a puzzle (LR)   |             |
| Matching objects to spheres (G)                                 |             |
| Making a list of sphere-like objects (G)                        |             |
| <i>There It Is</i> .....  | 6           |
| Solving optical illusions (LR)                                  |             |
| <i>On Edge</i> .....  | 6           |
| Determining the numbers of edges and faces on solid figures (G) |             |
| Listing examples of solid figures (G)                           |             |
| <i>Teeter-Tottering</i> .....                                   | 6           |
| Visualising equations (PA)                                      |             |
| <i>Checkout</i> .....   | 6           |
| Determining unknown quantities (PA)                             |             |
| <i>Skill Builders 5</i> .....                                   | 6           |
| Determining operations (PA)                                     |             |
| Identifying patterns (PA)                                       |             |
| <i>Just Desserts</i> .....                                      | 7           |
| Matching number sentences with word problems (PA)               |             |
| <i>Ins and Outs</i> .....                                       | 7           |
| Solving open sentences (PA)                                     |             |
| <i>Treasure Hunt</i> .....                                      | 7           |
| Determining points on a number line (PA)                        |             |
| <i>Putting It in Order</i> .....                                | 7           |
| Ordering data on a table (DI)                                   |             |
| Constructing a column graph (DI)                                |             |
| <i>The Time Machine</i> .....                                   | 7           |
| Interpreting data on a chart (DI)                               |             |
| <i>Skill Builders 6</i> .....                                   | 7           |
| Ordering units of time (M)                                      |             |
| Interpreting data on a column graph (DI)                        |             |
| <i>Tracking Data</i> .....                                      | 7           |
| Recording data (DI)   |             |
| Constructing a column graph (DI)                                |             |
| <i>When in Egypt</i> .....                                      | 8           |
| Using number systems (N)  |             |
| <i>Favourite Time of Year</i> .....                             | 8           |
| Gathering data (DI)   |             |
| Constructing a column graph (DI)                                |             |
| Creating word problems from a graph (DI)                        |             |

N: Numeration  
 NT: Number Theory  
 M: Measurement

G: Geometry  
 PA: Prealgebra  
 DI: Data Interpretation

LR: Logical Reasoning