

YEAR

5

AfterMaths

Workbook

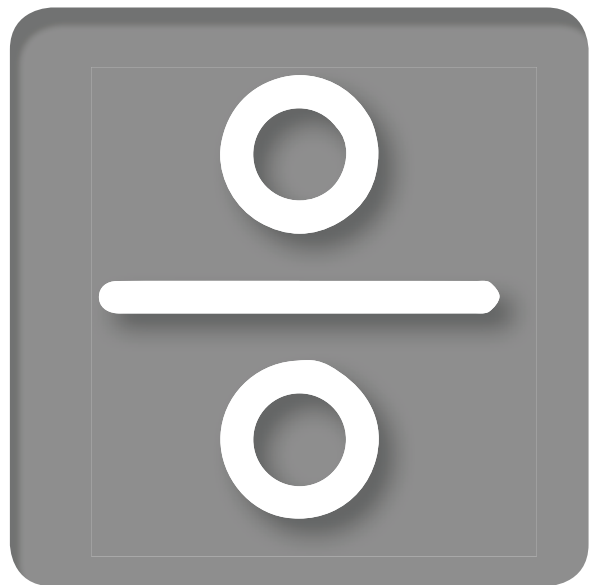
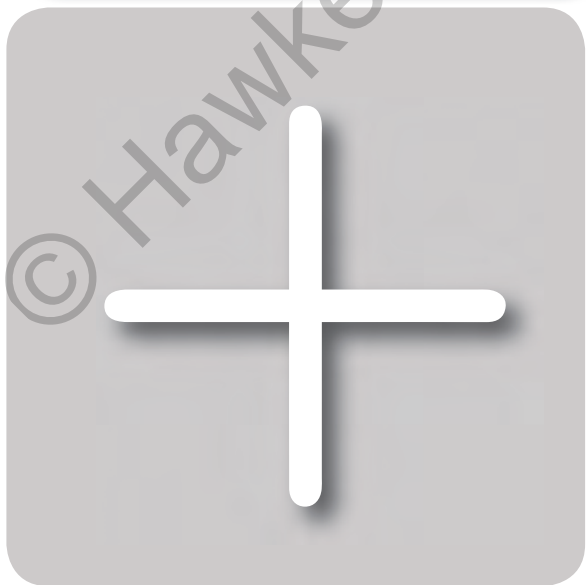
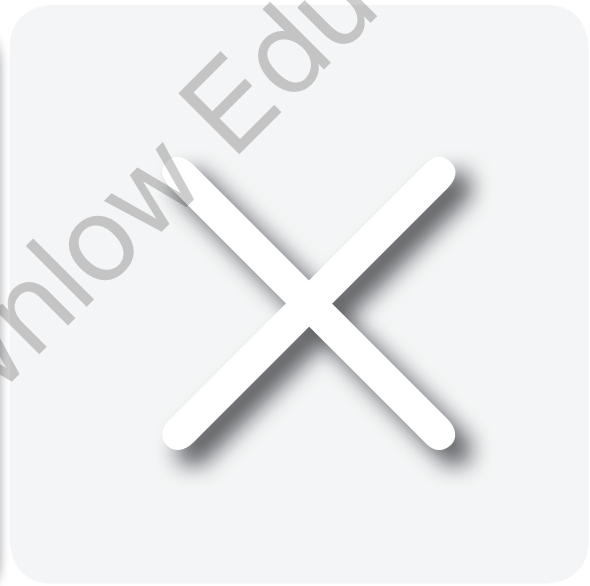
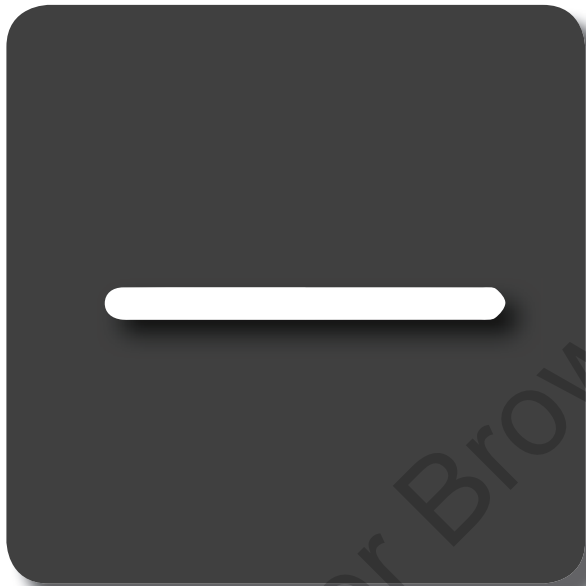


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Dear Student,

Welcome to *AfterMaths*[™], a program that allows you to explore mathematics. Inside this book are 36 activities. In these activities, you will play maths games, conduct experiments, solve problems and perform "maths magic".

AfterMaths is designed to allow you to work alone, with a partner or in a small group. You will try a variety of activities. By doing these activities, you will develop your maths skills and look at maths in new ways. You also will find that maths is part of your everyday life.

Some activities use skills that you already know. Other activities add to known skills. Still other activities provide challenges. The goal is always to have fun and to learn at the same time.

A famous man named Galileo once said that mathematics is the alphabet in which the universe was created. So, enjoy the activities and begin learning that "alphabet".

You may want to have materials such as the following on hand: pencils and erasers, scrap paper, a calculator and a ruler.

This *AfterMaths* book was prepared for students by Christopher Forest.

Designed by Jamie Ruh.

PICK A NUMBER

Nine balls were put into a box. The balls were numbered from 1–9. Students picked the balls out and formed three different three-digit numbers with the balls. Read the clues. Then write each digit on the correct ball.

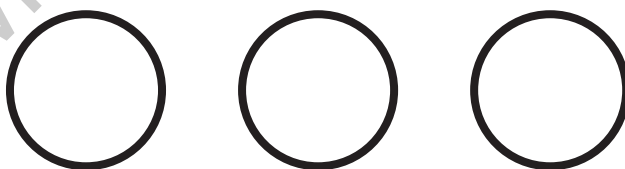
CLUES

NUMBERS

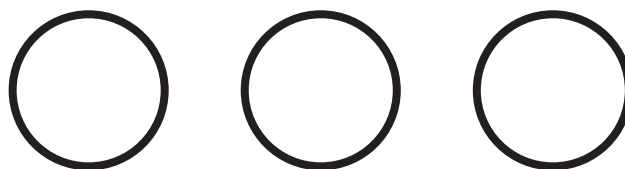
1. The hundreds digit in this number is the largest one-digit number that is divisible by 9.
2. The tens digit is equal to the number 1 multiplied by itself.
3. The ones digit is equal to the sum of $7 + 3$ divided by 2.



4. The tens digit in this number is equal to twice the smallest even number.
5. The hundreds digit is the number, when added to itself, equals 6.
6. The ones digit is equal to the sum of $6 + 9 + 9$ divided by 3.



7. The tens digit in this number is a number that, when added to itself or multiplied by itself, is equal to the same number.
8. The ones digit is equal to $24 - 12$ divided by 2.
9. The hundreds digit is the largest one-digit prime number.



NAME THAT DIGIT!

Missing Digit

Play this game with a partner. Try it three times to see if you can always figure out the missing digit. Fill in the chart as you go.

| STEPS | First Try | Second Try | Third Try |
|---|-----------|------------|-----------|
| 1. Have your partner write a four-digit number. Make sure you don't look at it. | | | |
| 2. Ask your partner to add the four digits together and write down the sum. | | | |
| 3. Have your partner subtract the sum in step 2 from the number in step 1. | | | |
| 4. Ask your partner to circle one digit (not a 0) in the number. This will be the "missing digit". Say that you will soon be able to identify this missing digit. | | | |
| 5. Have your partner slowly read the digits that have not been circled. | | | |
| 6. Add the digits that your partner reads. If they equal a two-digit number, add those two digits together to get a one-digit number. | | | |
| 7. If the digits equal a number from 1 to 8, subtract the number from 9. This will be the missing digit. If the digits add up to 9, then the missing digit is 9. | | | |

Figure Me Out



I am a one-digit number that is greater than most one-digit numbers. I am related to a musical scale. I am also the past tense of what you probably did to a good meal. What number am I?

AfterMaths

TEACHER GUIDE

YEAR

5

Dear Teacher,

Welcome to *AfterMaths*[™]. 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 5 is designed specifically for students in Year 5. But, the activities can be used with advanced mathematics students in Year 4, as well as with students who require mathematics skills reinforcement in Year 6.

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

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N: Numeration
NT: Number Theory
M: Measurement

G: Geometry
PA: Prealgebra
DI: Data Interpretation

LR: Logical Reasoning