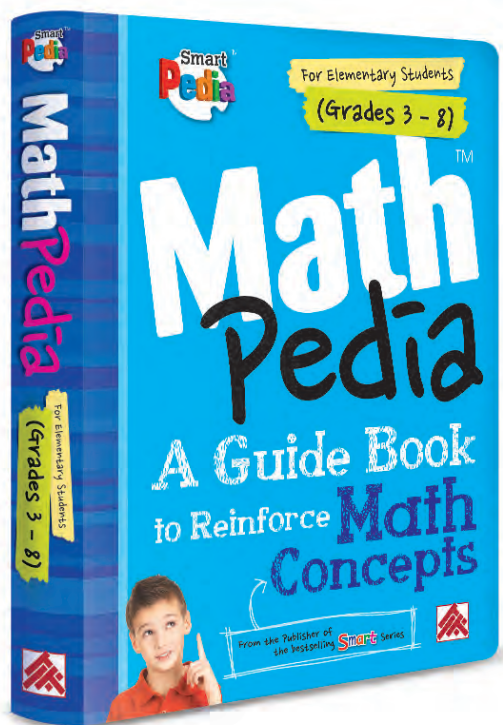




## Smart Pedia Series

# MathPedia Grades 3 – 8

Available in May 2018



**MathPedia** is an invaluable Canadian curriculum-based tool to help elementary students build strong foundational math skills. This guide book covers topics from all five math strands including basic operations, fractions and decimals, rate and ratio, unit conversion, geometry, and probability. It provides simple tricks to teach students how to grasp mathematical skills, clear diagrams and pictures to illustrate key areas, step-by-step instructions to explain math concepts, and innovative strategies to solve real-life problems.

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Grades 3 – 8 978-1-77149-282-9

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### Features:

- an all-in-one reference book to reinforce math concepts for Canadian elementary students
- new and traditional teaching strategies included to help guide children through math homework
- simple tricks for mastering math skills that have been taught in school
- customizable flag stickers included for marking important information

**Chapter 1**  
**Whole Numbers to 1000**

**1.1 Writing Whole Numbers to 1000**

Use base-ten materials (such as \$100 bills, \$10 bills, and coins) or drawings to help yourself have a better understanding of writing three-digit numbers. You should know how to write two-digit numbers in words.

**Place value:** the value of a digit in a number is based on its position; for example, in the number 365, the digit 3 in the hundreds place means 300.

**Place Value Chart**

Hundreds	Tens	Ones
3	6	5

Base-ten Blocks

- 1 hundred = 100
- 1 ten = 10
- 1 one = 1

**Writing Numbers in Words**

Identifying the spelling pattern in each group of numbers can help write numbers in words.

From 11 to 19: eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen.

Multiples of 10: twenty, thirty, forty, fifty, sixty, seventy, eighty, ninety.

Don't forget the hyphen! Forty-five cookies.

**1.2 Counting Forward by 1's, 2's, 5's, 10's, 25's, and 100's**

When you skip count, start at 0. Once you understand the concept of skip counting, start at various numbers to develop competencies.

Here are 3 tools to skip count:

- A hundreds chart**  
Count by 2's from 64.

64	66	68	70	72
65	67	69	71	73
66	68	70	72	74
67	69	71	73	75
68	70	72	74	76
69	71	73	75	77
70	72	74	76	78
71	73	75	77	79
72	74	76	78	80

64, 66, 68, 70, 72...

The coloured numbers run in columns on the hundreds chart.

- A number line**  
Count by 5's from 15.

15, 20, 25, 30, 35

Add 5 each time to get the next number.

- Coins**  
Count by 10's.

4 dimes make 40¢.

**Counting by 2's**

Start at:  
• an even number: the digit in the ones place must be 0, 2, 4, 6, or 8.  
e.g. 14, 16, 18, 20, 22...  
• an odd number: the digit in the ones place must be 1, 3, 5, 7, or 9.  
e.g. 241, 243, 251, 253, 255...

**Counting by 5's**

Start at:  
• a multiple of 5: the digit in the ones place must be 0 or 5.  
e.g. 45, 50, 55, 60...  
• any number: the digit in the ones place repeats alternately.  
e.g. 135, 137, 143, 147...

**Counting by 10's**

• e.g. 214, 224, 234, 244... — The digit in the tens place goes up by 1 each time.

**Counting by 100's**

• e.g. 214, 314, 414, 514... — The digit in the hundreds place goes up by 1 each time.

**Counting by 25's**

• e.g. 15¢, 175¢, 200¢, 225¢... — The coin pattern is 25¢, 50¢, 75¢, and 100¢.

clear definition

simple trick

helpful reminder

a variety of strategies

**5.2 Finding Money Amounts**

In this unit, you will learn to find the value of a collection of different bills and coins by skip counting. Implement this concept in real-life scenarios and with real coins can help yourself understand why it is important to learn this concept and how it applies to everyday situations.

**Find the total**

**Steps**

- Group the bills and coins of the same kind.
- Count the money in dollars first. Start with the bill or coin of the highest value.
- Count the money in cents. Start with the coin of the highest value.
- Add the dollars and cents.

There are 100 cents in every dollar.

100 cents = 1 dollar

5 dollars + 1 dollar 5 cents = 6 dollars 5 cents

**5.3 Using Bills and Coins**

The unit focuses on using bills and coins to pay for items. You will learn different ways to make a money amount and how to use the fewest bills and coins to pay for an item.

**Showing Money Amounts**

There are different ways to show a money amount. Use real bills and coins to help yourself relate the concept to real-life situations.

**Show 9 dollars 45 cents**

After you grasp the concept, you can try to show the same money amount using the fewest bills and coins.

**Make 95¢ Start with the bill or coin of the highest value.**

**Make 45¢ Start with the coin of the highest value.**

step-by-step instructions

real-life problem

simple and clear examples

**5.4 Adding Money Amounts to \$10**

Start with the concept of adding using real money in dollars. Then move on to include cents. You should do some simple addition while shopping to consolidate your understanding of the concept.

**Drawing and Counting Money**

**Add 6 dollars 20 cents and 1 dollar 85 cents.**

Draw the fewest bills and coins for each amount.

Group the bills and coins of the same kind. Then count to find the total.

1 dollar 85 cents

Total: 8 dollars 5 cents

**Using Vertical Addition**

**Add 2 dollars 65 cents and 2 dollars 45 cents.**

dollars	cents
2	65
+ 2	45
4	10
6	10

Trade 100 cents for 1 dollar.

Total: 6 dollars 10 cents

**5.5 Subtracting Money Amounts**

Before learning this unit, ensure that you have a solid understanding of trading coins and adding money amounts. Doing subtraction can be more challenging since it requires breaking bills and coins, as well as understanding the concept of borrowing dollars to make cents.

**Counting Out Coins**

This method is the most direct way to introduce subtraction of money.

**Take away 2 dollars 5 cents. How much is left?**

**Steps**

- Cross out the coins.
- Count the remaining coins.

Answer: 2 dollars 20 cents

There are times when coins need to be broken first.

**Take away 2 dollars 5 cents. How much is left?**

**Steps**

- Break the money into smaller values.
- Cross out the coins.
- Count the remaining.

Answer: 3 dollars 20 cents

clear diagram and pictures

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