Teacher's Resource Book

Maths Insight 5

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Introduction

Welcome to Maths Insight 5: Teacher's Resource Book!

This Teacher's Resource Book serves as a guide to making maths education an engaging and impactful experience for young learners. It is designed to complement the Maths Insight 5: Teacher's Resources Book, offering essential tools for effective teaching.

This **Maths Insight 5: Teacher's Resource Book** contains all the essentials for delivering engaging maths lessons. It includes lesson overviews that summarise each chapter, offering a clear structure for planning and reviewing lessons with ease. Detailed plans are included to achieve learning objectives and ensure that maths concepts are well understood by students. Answer keys for coursebook exercises are also provided to save preparation time and maintain consistency in evaluations. These resources work together to support the delivery of meaningful and enjoyable maths lessons.

We hope this Teacher's Resource Book becomes an essential companion throughout the teaching journey, offering the necessary support to create meaningful and enjoyable maths lessons. Suggestions and constructive feedback are always welcome to help us improve and make this series even better for educators and students.

— The Publishers

Contents

1 Numbers up to 100,000

Background Knowledge/Review

In the previous class, students have learnt:

a. numbers up to 10,000.
b. reading and writing numbers up to 4-digit.
c. consecutive numbers.
d. expanded and short form of a number.
e. successor and predecessor of a number.
f. comparing numbers.
g. building numbers.

Objectives

After teaching this chapter, students will be able to:

a. understand numbers up to 100,000.
b. understand 5-digit numbers.
c. read and write large numbers.
d. write expanded and short form of numbers.
e. compare large numbers.
f. build numbers.
g. understand rounding numbers.
h. know about Roman numerals.

Overview of the Chapter

a. 5-digit and 6-digit numbers.
b. Reading and writing large numbers.
c. Expanded and short forms of numbers.
d. How to compare large numbers.
e. Ascending and descending order of numbers.
f. Rounding (estimating) numbers.
g. Roman numerals.

Teaching/Learning Materials

Abacus, place value chart, etc.

Teaching/Learning Strategies/Activities

When teaching large numbers, it is important to begin by revising what students have already learnt. Review 1-digit, 2-digit, 3-digit, and 4-digit numbers using clear examples. Next, guide them through the transition from a 4-digit to a 5-digit number. Emphasise how students should read and write 5-digit numbers correctly. This skill is explained clearly in the early pages of the chapter and should be extended to cover 6-digit numbers as well.

Introduce the concept of periods using commas in large numbers, which helps in reading and writing numbers with ease. By taking suitable examples, discuss how to write a number in words.

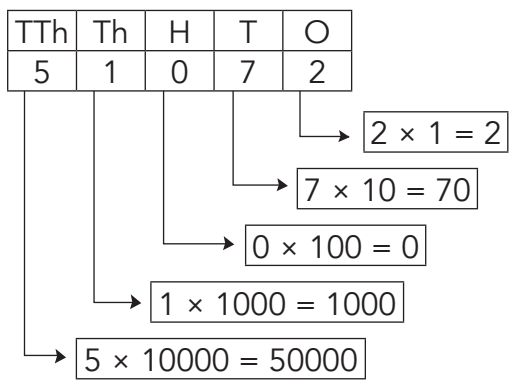
Consider: Write 836,591 in words as.

Similarly, we write 271,025 as.

Explain these names by writing the numbers in the place value chart as below:

Thousands			Ones		
Hundred-Thousands (H-Th)	Ten-Thousands (T-Th)	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
	3	6	5	9	1
1	0	0	0	0	0

Reinforce the concept of place value and face value, which students have encountered in previous years. Demonstrate expanded and standard forms of numbers to solidify understanding. Take a number such as 51,072 and explain the place value of each digit using a place value chart. Ask students to calculate each place value and write the expanded form together on the board.



Reading and comparing numbers should also be practised. Remind students that numbers with fewer digits are smaller than those with more digits. When comparing numbers with the same number of digits, students must compare digit by digit from left to right.

Review the concepts of successor and predecessor. These were introduced in earlier years and can be reinforced through simple problems. Include special cases, such as finding the successor of 99; 999; or 9,999; or the predecessor of 5,000; 11,300; or 19,500.

Teach how to build numbers using given digits, and stress that a digit placed in the leftmost position must not be zero. Help students practise creating the smallest and greatest possible numbers using a given set of digits.

Rounding numbers is another practical skill covered in this chapter. Teach both types of rounding: rounding up and rounding down. Use real-life examples and demonstrate how to round numbers like 3,997 to the nearest ten or 5,019 to the nearest ten. Provide multiple examples to ensure the children grasp the concept fully.

Finally, introduce Roman numerals. This is new content for the students, so it must be taught carefully. Explain the seven Roman numeral symbols: I, V, X, L, C, D, and M. Help students memorise their values and understand that there is no symbol for zero in Roman numerals. Give plenty of examples and encourage students to write Roman numerals up to 40. Assign this as homework if needed. Reinforce the following Roman numeral rules:
rite large numbers.

a. I can be subtracted from V and X only.
b. X is subtracted from L and C only.
c. V, L, and D are never subtracted.
d. No Roman numeral symbol is repeated more than three times in a row.

Evaluation and Assessment

A wide variety of questions can be set from this chapter to assess students' understanding of naming and working with large numbers. Since students have previously learnt to name numbers, more advanced questions may now be introduced. For example, students can be asked to name numbers that contain zeros in certain places, such as 70,023. To name this number correctly, students must understand the concept of periods. The digits to the left of the comma (70) represent seventy thousand, and those to the right (023) represent twenty-three. Therefore, the number is read as "seventy thousand, twenty-three."

Another example: Name 43,005.

Using the periods, this would be read as "forty-three thousand, five."

Questions that require students to perform the reverse task, i.e., writing numbers from their word form, should also be included. For instance:

Write in digits: Thirty-eight thousand, sixty-five.

a. 3,865 b. 38,065 c. 30,865 d. 38,605

Here, the number comprises two parts: "thirty-eight thousand" (38) and "sixty-five" (065). When combined, the answer is 38,065.

The general process of comparing numbers has been learnt in previous class. Such examples can be extended for larger numbers here.

In the topic regarding building numbers, a rather simple example would be a set of digits with no zero. For example: 2, 1, 3, 7, 9. The largest and the smallest numbers from these digits are easy to find. However, in the presence of a zero (0), the problem gets tougher. So, such questions may be asked.

Questions on Roman numerals should also be included, as these may present a challenge. Make sure students apply the rules they have learnt and write numbers correctly using the Roman system.

Hints to Some Selected Problems

Exercise 1A

1. a. Twenty-nine thousand, five hundred and two
b. Sixty-five thousand, nine
2. a. 15,512
b. 50,202
3. a. The face value of 1 in 25,103 is 1
b. The face value of 4 in 59,436 is 4

Exercise 1B

4. 517; 1,025; 2,091; 3,610; 61,935
5. 62,519; 25,009; 9,165; 6,501; 653

Exercise 1C

3. a. 6,000
b. 8,000
c. 42,000

Exercise 1D

1. a. 4 **b.** 9 **c.** 16 **d.** 24

Brainy Maths

1. The place value of 2 in 52,693 is 2,000.
2. The predecessor of the smallest 5-digit number is 9,999.
3. The greatest 5-digit number using three different digits: 99,987.
4. There are 900 three-digit numbers in total.
5. No, you cannot. The number 10 is already represented by X and we cannot repeat V, L, and D.

Skill Builders:

1. b. 68,052
2. c. Fifty-three thousand, seven hundred and ninety-six

Real-World Problem Solving:

1. b. 23,589
2. c. 8,000