

## Chapter 1: Knowing Our Numbers - Class 6 Mathematics Notes

### Introduction

Numbers help us count, compare, and perform calculations in daily life. This chapter introduces the concepts of large numbers, place value, estimation, and Roman numerals.

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#### 1. Comparing Numbers

- Bigger numbers have more digits. Example: **786 is greater than 78**.
  - To compare numbers:
    - Count the number of digits.
    - If digits are the same, compare the leftmost digits.
    - Example: **8,456 > 7,999** (since 8 is greater than 7).
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#### 2. Large Numbers & Place Value

- **Indian System of Numeration**
  - Places: **Ones, Tens, Hundreds, Thousands, Ten Thousands, Lakhs, Ten Lakhs, Crores**
  - Example: **53,24,678** (Fifty-three lakh, twenty-four thousand, six hundred seventy-eight)
- **International System of Numeration**
  - Places: **Ones, Tens, Hundreds, Thousands, Ten Thousands, Hundred Thousands, Millions, Billions**
  - Example: **5,324,678** (Five million, three hundred twenty-four thousand, six hundred seventy-eight)

*Tip:* Commas are placed differently in the Indian and International systems.

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#### 3. Estimation & Rounding Off

- **Estimation** helps in quick calculations by rounding numbers.
  - **Rounding Rules:**
    - **Less than 5** → Round **down** (e.g., 73 → 70).
    - **5 or more** → Round **up** (e.g., 78 → 80).
  - Used in real life for budgeting, distance estimation, and grocery calculations.
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#### 4. Roman Numerals

- Symbols:
    - **I = 1, V = 5, X = 10, L = 50, C = 100, D = 500, M = 1000**
  - Rules:
    - **Smaller before larger → Subtract** (IV = 4, IX = 9).
    - **Smaller after larger → Add** (VI = 6, XI = 11).
    - **No symbol repeats more than 3 times** (XXX = 30 but 40 = XL, not XXXX).
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#### 5. Use of Brackets (BODMAS Rule)

- **Order of operations: BODMAS**
    - **Brackets → Orders (exponents) → Division → Multiplication → Addition → Subtraction**
    - Example:  $(5 + 3) \times 2 = 8 \times 2 = 16$
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#### 6. Word Problems on Large Numbers

- Used in population count, distances, business transactions, and data analysis.
  - Example:
    - The population of a city is **27,34,865**. Round it to the nearest lakh.
    - **Answer:** 27,00,000 (Nearest lakh).
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### Summary

✓ Compare numbers based on digits. ✓ Learn place values in the Indian & International system.  
✓ Use estimation for quick calculations. ✓ Understand Roman numerals and their rules. ✓  
Apply the BODMAS rule for correct operations.