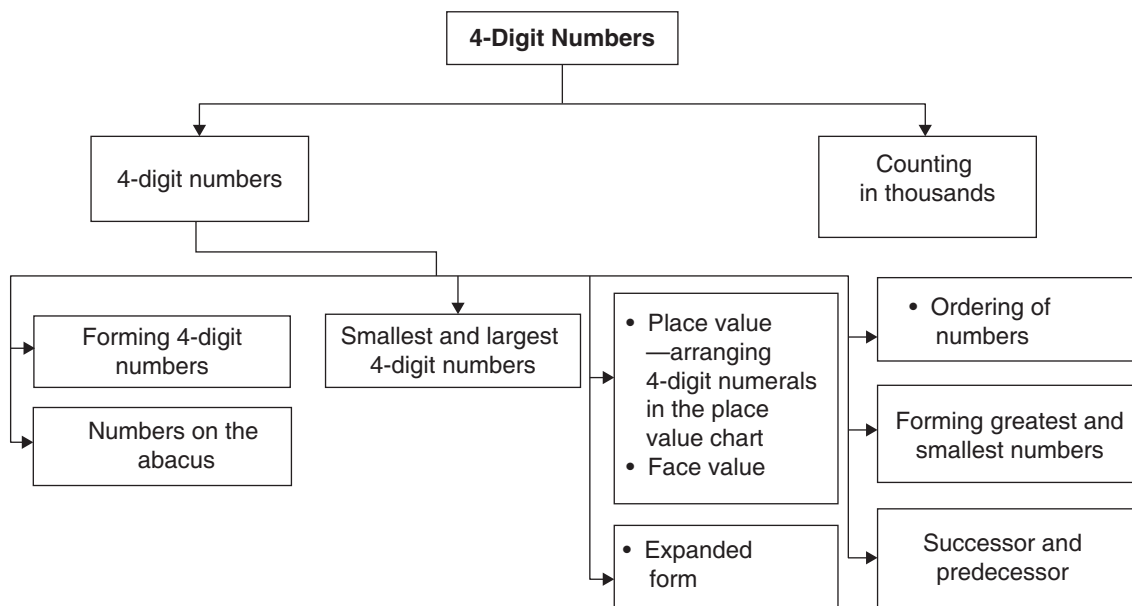# 4-DIGIT NUMBERS

## Learning objectives

Students will be able:

- to read and write 4-digit numbers using place values.

- to express 4-digit numbers in expanded form.

- to compare two 4-digit numbers and say which is greater/smaller.

- to form greatest and smallest numbers with given digits, with and without repetition.

## Prior knowledge

- 3-digit numbers

- place value—ones, tens, hundreds



## Guidelines to teach

### Rewind:
- Use the Rewind exercise in the course book to review 3-digit numbers and the concepts related to them.

### Warm Up:
- Use the context in the Warm Up section to introduce 4-digit numbers.

### 4-digit numbers:

- Ask students to count in hundreds starting from 100. When they reach 900, ask them the number they will get by adding 100 to 900. Tell them that this number is one thousand written as 1000. (If students say 10 hundred, tell them that we have a name for 10 hundred, which is thousand.)

- Tell them that 1000 is the smallest 4-digit number.
- Instruct them to count in hundreds starting from 100 again. This time, let them count the hundreds on their fingers as they move from 100 to 1000. So, they will have counted 10 hundreds when they reach thousand. Tell students that 10 hundreds make 1 thousand.

## Counting in thousands

- Represent 1 thousand as ▨, 2 thousands as ▨▨, 3 thousands as ▨▨▨ and so on.

## Forming 4-digit numbers:

- Represent 4-digit numbers using ▨, □, ▭ and □.
- Give students adequate practice in representing 4-digit numbers using ▨, □, ▭ and □. Refer the activity given in the course book.
- To teach the number names of 4-digit numbers:
  - Give a 3-digit number for students to read. For example, 375—three hundred seventy-five
  - Add a digit to this number. For example, 6375
  - Ask students to read the new number. (six thousand three hundred seventy-five)
- You may follow the same procedure to make them read different 4-digit numbers. Ask students to practise writing the number names for the numbers given and numbers for the number names given.
- Ask students to complete the Tryout on numbers and number names.

## Numbers on the abacus:

- Show a few 4-digit numbers on an actual abacus.
- Ask students to show a few 4-digit numbers on the abacus before attempting the Tryout on paper. Refer the activity in the course book.

### *Smallest and largest 4-digit numbers:*

- Review the smallest and the largest 1-, 2- and 3-digit numbers. Help students to study the pattern of these numbers and form the smallest and largest 4-digit numbers.
- Ask students to complete the Tryout given in the course book.

## Place value:

- Introduce the place value chart for 4-digit numbers.
- Use the course book to explain how the place value of a digit varies in different places.
- Explain how the same set of 4 digits can be used to form different 4-digit numbers.

1. **Extension activity to show the formation of different 4-digit numbers using the same set of 4 digits:**

   - Divide the class into four groups.

   - Write four different digits on the board. For example, 6, 8, 9 and 5.

   - Draw four boxes on the board for each of the four digits.

   - Assign one digit to each group and ask them to make 4-digit numbers with that digit in the thousands place.

   - Ask them to use the three remaining digits in the hundreds, tens and ones place in different ways or combinations to form different numbers. For example, the group that has been assigned the number 6 will form the numbers 6895, 6859, 6985, 6958, 6598 and 6589.

   - Ask the groups that have been assigned the numbers 8, 9 and 5 to follow this method to form their numbers.

   - Ask one student from each group to write the numbers in the respective boxes on the board.

   - Help students conclude that four digits can be used in different combinations to form different 4-digit numbers.

## Face value:

- Explain the meaning of the term face value.

- Explain how place value and face value are different from each other. (*Place value of a digit is the value a digit gets from its place in the place value chart and its face value is the value of the digit itself.*)

- Write a 4-digit number on the board. Ask students to say both the face value and the place value of all the digits in the number.

## Expanded form:

- Review the expanded form of 2- and 3-digit numbers (*write the place value of all the digits with the plus sign between two digits*)

- Extend the concept to write 4-digit numbers in the expanded form.

- Give a set of four digits to students and ask them to form different numbers using them. Ask them to write these numbers in the expanded form and compare them.

- Guide students to do the Activity to form numbers using place value cards.

- Give them adequate practice in writing the expanded form and the short form of 4-digit numbers before attempting the Tryout.

## Ordering of numbers:

- To teach comparison of two numbers to identify the greater number, use numbers that have

- different digits in the thousands place, the hundreds place, the tens place and the ones place.
  For example, 4678 and 3521

- the same digits in the thousands place, but different digits in the hundreds place, the tens place and the ones place. For example, 4678 and 4521

- the same digits in the thousands place and hundreds place, but different digits in the tens and the ones place. For example, 4678 and 4621

- the same digits in the thousands place, the hundreds place and the tens place but different digits
  in the ones place. For example, 4678 and 4671

- Explain the solved examples in the Guided Learning section on comparing 4-digit numbers.

- Give students adequate practice to compare numbers using the '>' and '<' symbols and to arrange the numbers in decreasing/descending and increasing/ascending order and ask them to complete the Tryout.

### Forming the greatest and the smallest numbers:

- Use the activities given in the course book to explain the formation of the greatest and the smallest numbers with a set of four or less than four digits.

- Explain the solved examples in the Guided Learning section to form the greatest and the smallest 4-digit number.

### Successor and predecessor:

- Use the course book to explain the concept of successor and predecessor.

- Ask students to attempt the Tryout on successor and predecessor of a number.

- Do the Activity on number game given in the course book before attempting the Tryout on real-life applications.

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**2. Extension activity for successor and predecessor:**

- Divide the class into groups of three.

- Call one group to the front of the class and make the students stand one after the other in a single row.

- Ask the student standing in the middle to say a number. Ask the student standing before this student to say the number's predecessor and the student standing after, to say the number's successor.

- Repeat the activity for all the groups using different numbers.

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### More suggestions for extension activities:

- Discuss where we are likely to come across 4-digit numbers and ask students to make a list of such instances. (Hint: Shopping bills, apartment numbers, the admission register of your school and so on.)

- Ask each student to choose a 4-digit number and make a poster to show the number in as many different ways as they can – for example, as numerals and in words, using the place value kit, on an abacus, in another language and so on.

- **3. Activity:**
  - Let a student say a 4-digit number aloud.
  - Ask 3 students to say the next 5 numbers by counting forward in tens, hundreds and thousands respectively.

- **4. Activity (*Forming 4-digit numbers*):**
  - Use objects that are available in the class for this game. For example, mathematics course books, school diaries, pencils of the same colour and size and pieces of white chalk of the same size.
  - Place a few of each of the above items on a table. The number of items of each type should not exceed nine.
  - Assign each type of item a value. For example, mathematics course books—thousands, school diaries—hundreds, pencils —tens, pieces of white chalk—ones.
  - Ask each student to make one 4-digit number by choosing any number of course books, diaries, pencils and pieces of white chalk from the table.
  - Instruct the student to say the number aloud. Ask the rest of the class to say whether the student is right or wrong.

## Question Bank

### Answer the given questions.

**(I) THOUSAND, BUILDING NUMBERS BEYOND 1000**

(1) Write the number names

(a) 2671

(b) 9028

(c) 7802

(d) 4589

(e) 1123

(f) 7896

(2) Write the numbers

(a) Five thousand six hundred forty-nine

(b) Three thousand four hundred twenty

(c) Three thousand sixty-two

(d) One thousand seven hundred

(e) Two thousand two hundred twenty-two

(f) Eight thousand two

**(II) FACE VALUE AND PLACE VALUE**

(3) Write the place value and face value of the underlined digit.

|  | Face value | Place value |
|---|---|---|

(a) 4$\underline{3}$97

(b) 911$\underline{0}$

(c) $\underline{1}$328

(d) 72$\underline{6}$7

(e) $\underline{2}$805

(f) 685$\underline{9}$

**(III) EXPANDED FORM**

(4) Write in the expanded form
(in figures).

(a) 4381 =

(b) 1768 =

(c) 7015 =

(d) 9356 =

(e) 3612 =

(f) 5945 =

(5) Write the number.

(a) 8000 + 400 + 20 + 1 =

(b) 1000 + 200 + 90 + 9 =

(c) 6000 + 600 + 60 + 6 =

(d) 5000 + 900 + 10 =

(e) 7000 + 0 + 40 + 2 =

(f) 3000 + 100 + 50 + 7 =

**(IV) COMPARING NUMBERS**

(6) Arrange in ascending order.

(a) 3789    5210    1349    9257

............ ............ ............ ............

(b) 7270    4983    6800    2198

............ ............ ............ ............

(c) 5108    5563    5201    5749

............ ............ ............ ............

(7) Arrange in descending order.

(a) 7010    4291    6002    9327

............ ............ ............ ............

(b) 2187    8320    5536    4264

............ ............ ............ ............

(c) 6789    6301    6565    6882

............ ............ ............ ............

(8) Fill in the blanks with $<$, $>$ or $=$

(a) 4529 $\bigcirc$ 9254

(b) 807 $\bigcirc$ 807

(c) 5278 $\bigcirc$ 5086

(d) 7238 $\bigcirc$ 3329

(e) 6891 $\bigcirc$ 6981

(f) 9898 $\bigcirc$ 9898

**(V) FORMING GREATEST AND SMALLEST NUMBERS**

(9) Use the given digits to make the smallest and the greatest 4-digit numbers.

(a) 2, 9, 8, 4

(b) 1, 0, 9, 5

(c) 3, 6, 5, 8

(d) 7, 4, 6, 5

(e) 3, 8, 1, 0

(f) 6, 2, 3, 5

(10) Fill in the blanks.

| Predecessor | Number Between | Successor |
|---|---|---|
| (a) 5390 | _____ | 5392 |
| (b) _____ | 1234 | _____ |
| (c) 9500 | _____ | _____ |
| (d) _____ | 7957 | _____ |
| (e) 6743 | 6744 | _____ |
| (f) 2020 | _____ | 2022 |

## Answer Key to the Question Bank

(I) (1) (a) two thousand six hundred seventy-one    (b) nine thousand twenty-eight    (c) seven thousand eight hundred two    (d) four thousand five hundred eighty-nine    (e) one thousand one hundred twenty-three    (f) seven thousand eight hundred ninety-six
(2) (a) 5649    (b) 3420    (c) 3062    (d) 1700    (e) 2222    (f) 8002

(II) (3) (a) 3, 300    (b) 0, 0    (c) 1, 1000    (d) 6, 60    (e) 2, 2000    (f) 9, 9

(III) (4) (a) $4000 + 300 + 80 + 1$    (b) $1000 + 700 + 60 + 8$    (c) $7000 + 0 + 10 + 5$
(d) $9000 + 300 + 50 + 6$    (e) $3000 + 600 + 10 + 2$    (f) $5000 + 900 + 40 + 5$
(5) (a) 8421    (b) 1299    (c) 6666    (d) 5910    (e) 7042    (f) 3157

(IV) (6) (a) 1349, 3789, 5210, 9257    (b) 2198, 4983, 6800, 7270    (c) 5108, 5201, 5563, 5749
(7) (a) 9327, 7010, 6002, 4291    (b) 8320, 5536, 4264, 2187    (c) 6882, 6789, 6565, 6301
(8) (a) $<$    (b) $=$    (c) $>$    (d) $>$    (e) $<$    (f) $=$

(V) (9) (a) 9842, 2489    (b) 9510, 1059    (c) 8653, 3568    (d) 7654, 4567    (e) 8310, 1038
(f) 6532, 2356
(10) (a) 5391    (b) 1233, 1235    (c) 9501, 9502    (d) 7956, 7958    (e) 6745    (f) 2021

## Answer Key—4-Digit Numbers    Worksheet 1

**A.** 1. 2689    2. 5011    **B.** 1. Place value: 5 tens or 50 Face value is 5    2. $2789 > 1890$

3. 3104; Three thousand one hundred four    4. 4 thousands + 8 hundreds + 9 tens + 1 one
5. Ascending order: 4176–4764–4783–5768–5936    Descending order: 5936–5768–4783–
4764–4176    6. ₹1419    7. Damu's rice field

## Answer Key—4-Digit Numbers    Worksheet 2

**A.** 1. $667 < 676$    2. 9566    **B.** 1. $8976 = 8000 + 900 + 70 + 6$; 8 thousands + 9 hundreds +
7 tens + 6 ones    2. $7039 = 7000 + 30 + 9$; 7 thousands + 0 hundreds + 3 tens + 9 ones
3. $2009 = 2000 + 9$; 2 thousands + 0 hundreds + 0 tens + 9 ones
**C.** 1. 9872–9287–8297–2897    2. 8560–8506–8056–5680    3. 9281–9218— 8219–1289
**D.** 1. Smallest: 3069    Greatest: 9630    2. Smallest: 1246    Greatest: 6421
3. Smallest: 3059    Greatest: 9530    **E.** 1. ₹3500; No    2. Veena

# 4-DIGIT NUMBERS

**Worksheet 1**

**A.** **Fill in the blanks.**

1. The smallest four digit number formed from the digits 6, 2, 8 and 9 is _____ .

2. 1 less than 5012 is _____ .

**B.** **Answer the questions.**
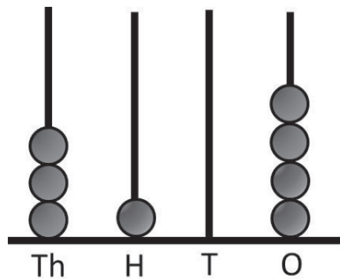
1. Write the place value and the face value of the underlined digit.

   36**5**4      Place value _____      Face value _____

2. Compare the numbers. Put the symbols $=$, $>$ or $<$ in the box.

   2789 ☐ 1890

3. Write the number and the number name.

   Th   H   T   O   ☐ _____

4. Write in the expanded form.

   4891 = ☐ Th + ☐ H + ☐ T + ☐ O = _____

5. Arrange in ascending and descending order.

   4783        5768        4176        5936        4764

   Ascending order _____

   Descending order _____

6. Rakesh buys a watch for ₹1420. Manoj buys a watch that is ₹1 less than Rakesh's watch. What is the cost of Rakesh's watch? _____

7. Damu's rice field yields 2345 kg of rice. Jayanth's rice field yields 2145 kg of rice. Whose rice field yields more rice?

# 4-DIGIT NUMBERS

## Worksheet 2

**A.** **Choose the correct answers from the brackets and fill in the blanks.**

1. 667 _____ 676 ($<$, $>$)

2. The number for nine thousand five hundred sixty-six is _____ (9056, 9566)

**B.** **Write the expanded form in words and figures.**

1. 8976 _____

_____

2. 7039 _____

_____

3. 2009 _____

_____

**C.** **Arrange in descending order.**

1. 8297, 9287, 2897, 9872 _____

2. 5680, 8056, 8506, 8560 _____

3. 9281, 8219, 1289, 9218 _____

**D.** **Use the digits to make the smallest and the greatest 4-digit number.**

1. 3, 6, 0, 9 _____

2. 2, 1, 4, 6 _____

3. 3, 9, 0, 5 _____

**E.** **Solve.**

1. Zain wants to buy a hard disk that costs ₹3756. His mother gives him 3000 rupees and his father gives him 5 hundred rupees note. How much does he have in all? Does he have enough money to buy the hard disk?

2. Veena works for 1390 hours in a year. Her friend Imran works for 1300 hours in the same period. Who works more?