

# NUMBER CONCEPTS

## GRADE 3

Western and Northern Canadian Protocol  
(WNCP) Edition

# *hands-on* mathematics

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# Introduction

At the grade-three level, the focus of the number concepts module is on number manipulation and place value recognition of numbers to 1000. Lessons in this module concentrate on students' abilities to build sets of items to 1000 as well as their abilities to give meaning to these numbers by using place-value concepts.

In this module, students read, count, and write numbers to 1 000, build sets of items, and compare sets to note differences. Students are also introduced to fractions.

As with any academic subject, students must learn to recognize the relation of each math concept they study to the world around them. The lessons in this module provide students with many opportunities to recognize numbers as they occur in their own lives.

Most of the lessons found in this module involve numerous steps and should be completed over the course of several days. Lessons provide opportunities for students of all aptitudes to contribute and to be challenged.

## Mathematics Vocabulary

Continue to use your classroom mathematics word wall to display new vocabulary as it is introduced. Throughout this module, teachers should use, and encourage students to use, vocabulary such as: *place value, doubles, multiples, ones, tens, hundreds, thousands, (empty) number line, fractions, and whole*. Use, and encourage students to use, this vocabulary both orally and in writing, and continue to review all vocabulary previously introduced.

Depending on your students' writing skills, consider having them begin mathematics logbooks for recording:

- new math vocabulary
- mental-math strategies
- problem-solving strategies
- graphic organizers

# 1 Personal Numbers

## Materials

- overhead copy of Activity Sheet A (4.1.1)
- overhead projector
- nonpermanent overhead markers
- local telephone book(s)
- atlas(es)
- Internet access
- scissors
- glue
- collection of store flyers and catalogues

**Note:** Review items 6 and 10 on Activity Sheet B (4.1.2) for details on the types of store flyers and catalogues you will need.

## Activity: Part One

On the overhead copy of Activity Sheet A (4.1.1), record some of your own personal numbers (phone number, address, height, licence-plate number, date of birth, and so on). Ask students:

- What do you think each of these numbers might represent?
- What helped you to guess what this number represents? (point to one of the numbers on the overhead)
- What numbers could you put on your own list of personal numbers?
- How will your personal numbers be different from my numbers, your friends' numbers, or your grandparents' numbers?
- How will your numbers be similar to my numbers, to your friends' numbers, and to your grandparents' numbers?

Distribute Activity Sheet A, and have students record their own personal numbers.

## Activity Sheet A

### Directions to students:

Fill in the boxes on the activity sheet with your own personal numbers. Be as creative as you can be when thinking of examples (4.1.1).

Have students share their personal numbers with each other in one of two ways:

- Divide the class into pairs or small groups of students, and have students take turns sharing their personal numbers with each other.
- Each day, as a math warm up, have one student present his/her personal numbers to the rest of the class.

**Note:** Take this opportunity to remind students that although it is appropriate to share personal numbers like addresses, phone numbers, and birthdates with friends and to record them for a school activity, they should never share these numbers with strangers, even online, without parental consent. There are special circumstances when it might be necessary to share these numbers with strangers (for example, when ordering a magazine subscription) but students should always check with a parent or guardian first.

## Activity: Part Two

Explain that students will now take part in a number scavenger hunt. Divide the class into pairs of students, and give each pair a copy of Activity Sheet B (4.1.2) as well as a pair of scissors and some glue. Have students review their activity sheets, and ask:

- Where could you look to find the information you need to complete the activity sheet? (online, store flyers/catalogues, phone book, atlas, and so on)
- How could you work effectively with your partner to complete this task?

# 1

Have the pairs of students work together to complete their activity sheets. Then, have students share their strategies and successes with each other.

## Activity Sheet B

**Note:** This is a two-page activity sheet.

### Directions to students:

Work with your partner to find all the required information, and record it on the activity sheet (4.1.2).

### Problem Solving

Add together the digits in each of your personal numbers from Activity Sheet A (4.1.1). (For example, if your street address was 1422 Smith Street, you would record “ $1 + 4 + 2 + 2 = 9$ .”) Then, sequence these sums from the lowest number to the highest number.

### Activity Centre

Place a large selection of fairytales at an activity centre along with scrap paper and pencils. Ask students to choose a fairytale character and then record personal number(s) for that character. For example, Snow White had 7 dwarf friends, Goldilocks tasted 3 bowls of porridge, and so on.

Later, ask students to take turns presenting their characters’ personal number(s) to the rest of the class without revealing who the character is. Have the rest of the class try to guess what the fairytale is, who the character is, and what the numbers represent in the story. Once several students have presented their characters’ personal numbers, the class may begin to see a pattern in the numbers often used in fairytales: 3 is a recurring number in these types of stories (for example, *Three Little Pigs*; *Goldilocks and the Three Bears*; *Three Billy Goats Gruff*; the three golden apples in *Golden Bird*, and so on).

### Extensions

- Have students enter their largest personal numbers on calculators. Then, tell students to add 10 to that number twelve times. Discuss with students the number patterns that emerge.
- Have students enter their lowest personal numbers on calculators. Then, tell students to predict what the number will be if they add 5 to this number eight times. Have students use their calculators to check their answers.

Date: \_\_\_\_\_

Name: \_\_\_\_\_

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# My Personal Numbers

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# Number Scavenger Hunt

1. Find the mailing address, the telephone number, and the fax number for the Prime Minister of Canada.

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2. Find out how many interlocking cubes you have if you gather together three “bakers-dozens”-worth of cubes.

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3. Find the copyright date for *Rakkety Tam*, a book by Brian Jacques.

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4. Find the distance between Winnipeg, Manitoba, and Toronto, Ontario.

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5. Find the phone number for your favourite video store.

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6. From a store flyer or catalogue, cut out three items with prices whose total equals between \$100 and \$125. Glue each item onto the back of this sheet, record the price of each item underneath it, and record the total of the three prices here:

---

Date: \_\_\_\_\_

Name: \_\_\_\_\_

7. Find out how many words there are in your favourite poem from the book *Where the Sidewalk Ends*, by Shel Silverstein.

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8. Find the date of birth of one of your favourite authors (record the author's name too!)

---

9. Find out how many steps it takes you to walk from your classroom to the gymnasium.

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10. Find a nutritious snack in a grocery-store flyer that is between \$3 and \$4. Cut out the picture of the snack, glue it below, and record the price of the snack beside it.