

## Grade 3 Lesson Summary

### Overall Objectives

This lesson will help students to:

- Represent two- and three-digit numbers;
- Count by 100's, 10's, and 1's;
- Trade 10 ones for a ten and 10 tens for a hundred;
- Compare numbers.

### Learning Expectations

Students will:

- Represent whole numbers using concrete materials, drawings, numerals, and number words; 3m1
- Compare and order whole numbers using concrete materials, drawings, and ordinals; 3m2
- Read and print numerals from 0 to 1000; 3m11
- Count by 1's, 2's, 5's, 10's, and 100's to 1000 using various starting points and by 25's to 1000 using multiples of 25 as starting points; 3m13
- Model numbers grouped in 100's, 10's, and 1's and use zero as a place holder. 3m18

The code that follows each learning expectation comes from the Ontario Curriculum Unit Planner. See [www.ocup.org](http://www.ocup.org) for further details.

### Materials

- Base-ten blocks (hundreds, tens, and ones)
- Place-value mat for each pair of students
- Number cube for each pair of students
- Roll and Risk Recording Sheet for each pair of students
- Home Connections – Make 800! (one per student)

### Approach

#### *Get Started*

In a guided learning session:

- Write “34” on the board, and ask students to represent the number using base-ten blocks on a place-value mat.
- Roll a number cube and announce the number. If you announce “3”, for example, students add 3 ones cubes to their set of base-ten blocks.
- Roll the number cubes a few more times, and have students add the amount to their collection of base-ten blocks. Remind students to trade 10 ones cubes for a tens rod whenever they have 10 or more ones.
- When the number represented by the base-ten blocks is close to 50, ask the students:
  - What number do I need to roll to get us over 50?
  - What number would we have if we added your number to \_\_\_?

### *Work On It – Model the Activity*

In a guided learning session, explain how the students will be playing Roll and Risk with a partner.

- Choose two students from the class to demonstrate the game.
- To begin, the students roll a number cube three times to determine the digits of a three-digit target number. The first roll will determine the number of hundreds, the second roll the number of tens, and the third roll the number of ones. The students record the number on a copy of the Roll and Risk Recording Sheet and represent the number using base-ten blocks on a place-value mat.
- The students take turns rolling the number cube. With each number rolled, they decide whether to add that many hundreds, tens, or ones to their total, keeping in mind the goal of the game – to get as close to the target number as they can without going over it. When the students believe they are as close to the target number as they can get, they quit the game and record their results on their recording sheet.
- After playing the game 5 times, the students look at the results on their recording sheet and circle the number that came closest to the target number without going over it.
- Now the whole class plays the game.

### *Work On It – Observe and Assist Students*

In a shared learning session:

- Observe how well students represent numbers using base-ten blocks, how well they trade 10 tens for a hundred and 10 ones for a ten, how well they explain and apply strategies for getting close to a target number without going over, and how well they count by 100's, 10's, and 1's.
- Probe students' thinking by asking questions such as:
  - Have you been able to get close to the target number? How close were you able to get?
  - Have you ever gone over it?
  - How do you decide whether to choose hundreds, tens, or ones?
  - What strategies do you have for getting close to the target number without going over it?
  - How do you use counting in this activity?

### *Reflect and Connect*

In a guided learning session:

- Help students reflect on the activity and their learning by asking questions such as:
  - Why is Roll and Risk a good name for this activity?
  - What strategies did you use to get close to the target number without going over it?
  - How did you decide whether to choose hundreds, tens, or ones after you rolled the number cube?
  - How did you use counting in this activity?
  - What did you need to do if you counted 10 or more cubes in the ones column?
  - What did you need to do if you counted 10 or more rods in the tens column?
  - What did you learn about numbers from this game?

## Assessment

Observe how well students:

- Represent numbers using base-ten blocks;
- Trade 10 ones for a ten and 10 tens for a hundred;
- Explain and apply strategies for getting close to their target number without going over it;
- Count by 100's, 10's, and 1's.

## Adaptations/Extensions

Simplify the game for students who are experiencing difficulty with the game or with place-value concepts. Allow them to roll the number cube and place that number of cubes in the ones column, trading 10 ones for a ten when appropriate. The game finishes when a player acquires a hundreds flat.

Students requiring an extra challenge can play Take Away with a partner. Each player begins with a thousands cube. Players take turns rolling a number cube and taking away that many hundreds, tens, or ones. The player trades the hundreds flat for 10 tens and a ten for 10 ones when appropriate. A player can no longer play when the player rolls the number cube and cannot remove the corresponding number of pieces. The goal of the game is to be the player who gets closest to 0.

## Home Connections

Encourage students to play **Make 800!** with someone at home. Play the game in class to familiarize students with the activity.