## Playing with Numbers



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Use with Place Value and Representing Numbers Card 2: Representing and Describing Numbers to 20 and Place Value and Representing Numbers Card 3: Representing Whole Numbers to 50.

## MATH BACKGROUND FOR REPRESENTING WHOLE NUMBERS CONCRETELY, PICTORIALLY, SYMBOLICALLY

Numbers can be represented concretely, pictorially, and symbolically. Students need many opportunities to represent numbers in different ways, by using concrete materials, drawing pictures, writing numerals, and using models such as 10 -frames, place-value mats, and number lines. They need opportunities to explore and engage, to see and recognize numerals and number representations in the world around them. Representing numbers in different ways helps students to understand the meaning of numbers.

## WHAT TO DO

MATERIALS projectable Math Talks Card 3: Playing with Numbers, BLM 29: Representing Numbers, pencils, crayons, dice, chart paper, 10-frames, number line, 5-frames, graph paper, rekenrek, base 10 blocks

Before: Where do we see numbers in our room? When do we use numbers? What do you know about numbers? Invite students to share where they see numbers in their classroom. Is there a number on our door? Does the clock have numbers? What is on the calendar? Are there any numbers in the classroom that are printed in words?

During: Project the visual of Math Talks Card 3: Playing with Numbers from the Online Teaching Centre. Have students look at the pictures and describe what they see. Have them find representations of numbers in the photos. What numbers do you see? (e.g., I see numbers in money, on the football field, and in the address.) What is the purpose of the number? Encourage students to look for groups of items. Where do you see 13 that looks like a 10-frame? (e.g., the stuffed animals) How do you know? (e.g., They are lined up in 2 groups with 5 in each row and then 3 by themselves.) Can you check? Have students count the 2 groups of 5 to make 10 and the individual ones by themselves. Where do you see 16 that looks like a place-value mat? (e.g., the cereal bowl) How do you know? (e.g., They are lined up in 1 group of 10 and then 6 by themselves.) Can you check? Have students count the 1 group of 10 and the individual ones. Continue to ask students to point out the numbers in the photo and describe what each number represents.

After: Have students locate one of the numbers in the pictures on the front of the card. (e.g., the bus number) Provide BLM 29: Representing Numbers. Can you print the number on the mat? Have students print the numerals 1 and 8 under the My Number Is section of the mat. Can you draw 18 objects? Have students draw a picture to represent the number 18 under the Pictures section of the mat. (e.g., 18 stars) Can you represent the number 18 on 10 -frames? Have students colour in 18 squares on the 10 -frames. Can you tell me how many tens and how many ones? Have students print the numerals on the place-value mat or draw the base 10 blocks. Have students choose a different number from 1 to 20 or 21 to 50 and complete all sections of BLM 29: Representing Numbers.

Have students choose a number. (e.g., 25) What do you know about this number? (e.g., date on a calendar, number of days at school, time, someone's age) Place the number in the middle of a chart paper. Have students represent the number using dice, 10 -frames, a number line, drawings, 5 -frames, coloured squares on graph paper, rekenrek, or base 10 blocks.

