

BIG IDEAS

- A number can be represented concretely, pictorially, and symbolically.
- A number can be represented in various equivalent ways.
- Our number system is based on 10.



Suggested provocation setup

WHAT TO DO

- Ask students to choose a number card.
- Have students represent the number in as many ways as they can and explain their representations orally.
- Ask students to record their answers in different ways. For example, they can draw the number of objects, print the number, group the number of craft sticks, or link the number of linking cubes.
- Refer to **Math Talks Card 3: Playing with Numbers** for the many different ways to represent whole numbers concretely, pictorially, and symbolically.

LEARNING GOAL

The student represents and describes numbers to 20 concretely, pictorially, and symbolically.

MATH PROCESSES/COMPETENCIES

Communicating and Representing, Selecting Tools and Strategies

MATERIALS **BLM 24: Number Cards** (from 1 to 20), linking cubes, 10-frames, **BLM 22: 100 Chart**, number path from 1 to 20, paper, crayons, craft sticks, place-value chart, **Math Talks Card 3: Playing with Numbers**

Alternative Materials: number line, dot cards, number cards from 1 to 20

OBSERVING AND SUPPORTING

| If you see/hear this ... | Say/do this ... |
|--|---|
| <p>● The student does not yet represent the chosen number.</p> | <ul style="list-style-type: none"> • Check whether the student can read numerals to 20. • Check that the student counts to 20 using 1-to-1 correspondence and cardinality. Refer to <i>Counting Card 1: Counting to 20</i>. • Start with numbers from 1 to 10. Have the student place linking cubes to match a number in a 10-frame. Then have the student represent the number in another way, such as drawing it or showing it on a number line. • For deeper intervention, go to <i>Leaps and Bounds 1/2</i>, pages 30–31. |
| <p>● The student only represents a number using concrete materials.</p> | <ul style="list-style-type: none"> • Have the student join linking cubes to represent a number. Can you link 12 cubes? How do you know you have 12 cubes? Draw a picture of the 12 cubes. Have the student take the train of linking cubes and transfer them onto 10-frames. Have the student locate the number on a 100 chart. Have the student write the numeral. Repeat using other numbers to 20. • Flash a 10-frame representing a number. Have the student select the number card represented on the 10-frame. This can also be reversed. Flash a number card and have the student represent the number on the 10-frame. |
| <p>● The student represents a number but does not yet describe the number.</p> | <ul style="list-style-type: none"> • Have the student represent a number concretely using linking cubes and a 10-frame. Ask the student to represent the number on a 100 chart or a number line. Which number is shown? How do you know? Which number is 1 more than this? Which number is 1 less than this? • Present the student with a set of dot cards representing a particular number. Have the student select a card and describe it by focusing on the part-part representation shown and then describe it as the whole. |
| <p>● The student represents and describes numbers to 20 concretely, pictorially, and symbolically.</p> | <ul style="list-style-type: none"> • Ask the student to select a number from 1 to 20. Have the student represent their number concretely, pictorially, and symbolically using the manipulatives provided. • Ask the student to tell a story about a number they select from 1 to 20. • Hold up a number card. What number comes after this number card? What number comes before this number card? • Go to <i>Place Value and Representing Numbers Card 3: Representing Whole Numbers to 50</i>. |