



Core Focus

- Reading, writing, comparing, and ordering two-digit numbers
- Defining and identifying odd and even numbers
- Sorting data in different ways
- Interpreting and constructing one-to-one picture graphs

Numbers in Base-10

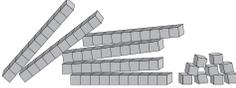
- Manipulatives and visual aids help students develop a firm understanding of the base-10 number system (i.e. two-digit numbers are made up of tens and ones).

I.1 Writing Tens and Ones, and Number Names

Look at this picture.
What number does it show?



How could you use tens and ones blocks to show the same number?



How would you show the number on this expander?
How do you know?



How would you write the number name?

What do you know about these numbers?

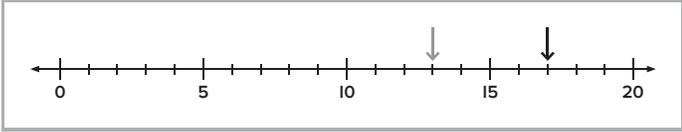
fifty-one twenty-six seventy-three

In this lesson, students write two-digit number names and relate the names to the number of tens and ones.

- The number line is introduced as another model that helps students see how numbers can be compared. E.g. 21 is farther from zero than 15, and so 21 is greater than 15.

I.7 Comparing Two-Digit Numbers on a Number Line

Look at this number line.



What number should be marked at the position of each arrow? How do you know?

Which number is the greater distance from zero?
Which number is greater?

What numbers are **greater than** 13 but **less than** 17? How do you know?

Which symbols do we write for **greater than** and **less than**? How do you know?

In this lesson, students use their place value understanding of tens and ones to locate numbers on a number line and then compare the numbers by thinking of their distance from zero.

Ideas for Home

- Talk informally with your child about two-digit numbers during everyday activities such as grocery shopping (comparing prices), watching sports (comparing teams' scores), and tracking the weather (finding the temperature in the morning and seeing how it changes during the day).
- Take turns with your child to give clues about two-digit numbers. E.g. say, "I'm thinking of a number between 21 and 24. It's an odd number. What could it be? How do you know?"
- Look for sharing opportunities at home. E.g. ask, "If you and your friend share these 7 cookies, will you each get the same amount or will there be leftovers? How do you know?"
- When shopping, ask your child to point out if items are packaged in even or odd amounts. (E.g. hamburger buns and eggs are typically sold in packages of even numbers.) Also ask, "Can you find items sold in odd amounts, like three or five?"

- Students define odd and even numbers. They explore what happens when two even numbers are added, when two odd numbers are added, and when an even number and an odd number are added.

I.9 Exploring Properties of Odd and Even Numbers

These number mats have been sorted into two groups.
How would you describe the sorting?

What types of numbers are in each group?
What are some other numbers you could show in each group? How do you know?

Even numbers can be shown with a "groups of two" arrangement where every part has a partner. For **odd** numbers, there is always one left over.

In this lesson, students investigate and identify odd and even numbers.

Sorting and Graphing

- Students build on learning from Grade 1 to review different representations for data — e.g. picture graphs (as shown below), bar graphs, and tally charts.
- Students consider different categories for sorting everyday objects. E.g. shoes might be sorted by type (with laces, with Velcro, or slip-on), or they might be sorted by color (white, black, brown, or multicolor).
- Once items are sorted into categories, students make comparisons among the groups. They might observe that more students wear shoes with laces than slip-ons, or that there are five more students wearing black shoes than white shoes.

I.12 Interpreting and Constructing One-to-One Picture Graphs

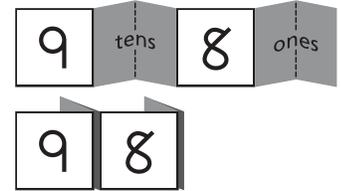
Lily asked some students to vote for their favorite type of movie. She showed the results with this picture graph.

Favorite Movies means I vote

Type of movie	Comedy																	
	Cartoon																	
	Action																	
	Scary																	
		Number of votes																

In this lesson, students collect data and display the results in a one-to-one picture graph.

- This is called a **numeral expander**. Your child will fold and write on one in class.



Numeral expanders help students read and write numbers because they can see the value of each place when it is unfolded.

Ideas for Home

- Support your child while they collect data on everyday subjects — e.g. pets in the neighborhood (are they black and white, grey, or tabby) cars in the parking lot (by color), or the types of books friends and family like to read. Ask your child to decide which type of graph would be best to display the data.
- Does your child have a favorite collection of items such as trading cards, seashells, or small toys? Ask your child to sort their collection one way and then ask if there is another way the items could be sorted.