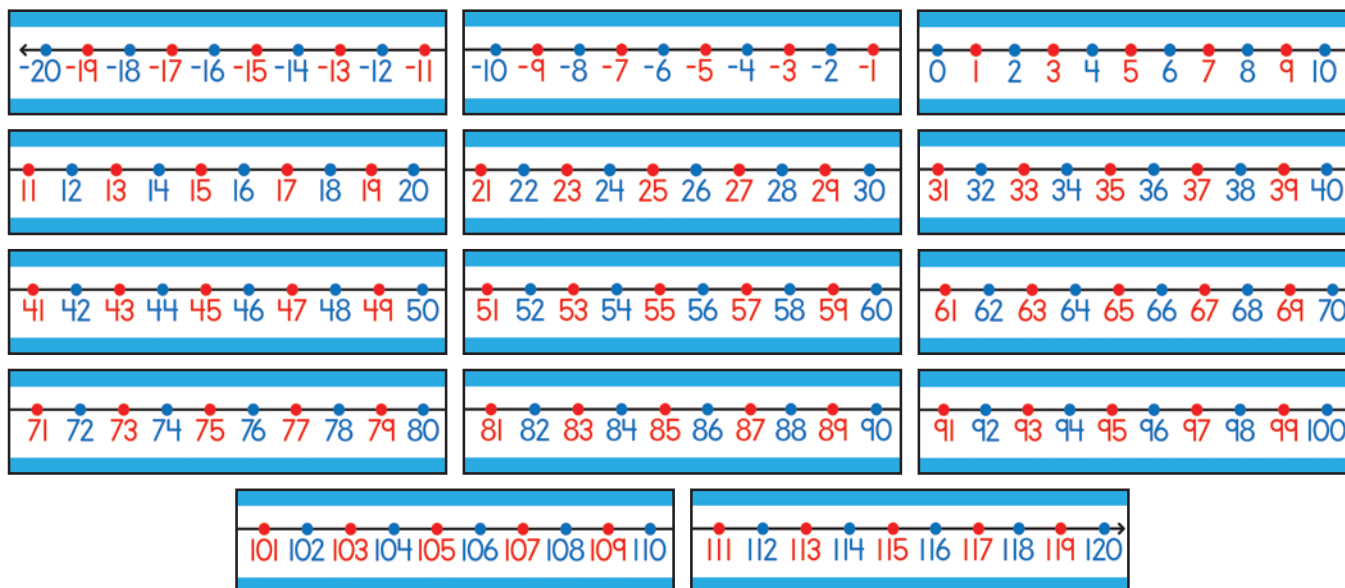


# Number Line Bulletin Board

## RESOURCE GUIDE



## Putting It Together

- Laminate the Number Line Bulletin Board for durability.
- Display the Number Line Bulletin Board on a wall or a bulletin board.
- Refer to the diagram above for a picture of the Number Line Bulletin Board.

## Use the Number Line to Teach

- Number Concepts
- Addition
- Column Addition
- Subtraction
- Fact Groups
- Mixed Operations
- Odd and Even Numbers
- Multiplication
- Division

# Number Line Activities

**Number Sequencing** For younger students, begin at 0 and have them count aloud as you point on the Number Line. Start by counting to 10 and then progress to 20, 30, etc., up to 100. Point out that students should move to the right when counting forward. Demonstrate counting backward by starting at 1 and moving one space to the left until you reach 0. As students learn the concept, count backward from 10, 50, or 100. Ask students to name missing numbers in a sequence. (For example, write 5, 6, \_\_, 8 on the board. Begin at 5 and move one space right to 6. Move another space right to 7 and then one space right to 8.)

**Number Words and Numerals** On index cards, write the number words *zero* through *twenty*. Post the cards under the corresponding numerals on the Number Line. Beginning at 0, have the class count to 20 using the index cards as references. Remove the cards after students have learned the number words. Reinforce the skill by posting the cards on a wall or a bulletin board. Then, have students point to the numbers on the Number Line.

**Greater Than/Less Than** Create a pointer to use with the Number Line. Attach  $<$  and  $>$  symbols to the end of a yardstick. Point to a number on the Number Line. Explain that all of the numbers to the left are less than this number and that all of the numbers to the right are greater than this number. Point to other numbers and have students use the Number Line to determine which numbers are greater than or less than the first number. Write problems using the  $<$  and  $>$  symbols.

**Number Line Game** Copy and cut apart the number card patterns (page 4). Shuffle the number cards and place them facedown in a stack. Have the first player choose the first card. Have her look at the card and ask her to name the number that comes before it. Next, have her name the number that comes after it. Allow the student to use the Number Line to check to see if she has named the numbers correctly. If the numbers are correct, she gets to keep the card, and play moves to the next player. The player with the most cards at the end of the game wins. To extend the activity, create other number cards with index cards.

**Skip Counting** Beginning at 0, instruct students to count every other number. Explain that these are called *even numbers* and that they are shown in blue on the Number Line. Then, begin at 1 and count every other number. Explain that these are called *odd numbers* and that they are shown in red on the Number Line. Reinforce other number patterns by having students count every third, fifth, 10th, and 20th number. Use the Number Line to help children visualize different counting patterns.

**Addition** Introduce addition with a story problem such as *John had three pencils. Dante gave him five more pencils. How many pencils did John have altogether?* Provide counters for students to use to model each problem as you demonstrate it on the Number Line. Begin at 0 (but don't count it) and move three spaces right to 3. From 3, move five spaces right to 8. Explain that 3 and 5 is 8. As students understand the concept of addition, introduce the  $+$  and  $=$  symbols. Tell students that the numbers being added (3 and 5) are called *addends*, and the answer (8) is called the *sum*. Point out that when adding, students should move to the right on the Number Line.

**Number Line Addition Game** This game requires a die or a number cube and counters for each player. Each player places her counter on the Number Line at 0. Players take turns rolling the die or number cube and moving their counters forward along the Number Line by the number rolled on the die or number cube. If a player lands on the same number as another player, the other player goes back to 0. The first player to land on the last number of the Number Line wins. However, if the player goes past the end of the Number Line, he must go back to 0.

# Number Line Activities (cont.)

**Subtraction** Demonstrate subtraction with a story problem such as *Fiona had nine marbles. She gave four marbles to Irene. How many marbles did Fiona have left?* Provide counters for students to model the problem as you illustrate it on the Number Line. Begin at 0 (but don't count it) and move nine spaces right to 9. From 9, move four spaces left to 5. Tell students that 9 minus 4 is 5. Introduce subtraction vocabulary by explaining that the first number (9) is called the *minuend*, and the second number (4) is called the *subtrahend*. The answer (5) is called the *difference*. Point out that when subtracting, students should move to the left on the Number Line.

**Fact Groups** As students learn basic addition and subtraction facts, review the problems in each fact group (1s facts, 2 facts, 3s facts, etc.) up to 10. On the Number Line, model for students how to add 0, 1, 2, 3 etc., to each number. When reviewing subtraction, subtract 0, 1, 2, 3, etc., from each number. As you complete each fact group, have students write the problems solved with the Number Line.

**Mixed Operations** When students have mastered addition and subtraction, challenge them with problems that contain each operation. Using the Number Line, model how to break problems into smaller parts. Write  $6 + 2 - 3 + 4 - 2 = \underline{\quad}$ . Demonstrate how to begin at 0 (but not count it) and move six spaces right to 6. Then, move two more spaces right to 8. Move three spaces left to 5. Move four spaces right to 9. From 9, move two spaces left to 7.

**Multiplication** Use the Number Line to demonstrate that multiplication is repeated addition. Point to 6 on the Number Line. Ask students to count how many groups of two are between the numbers 6 and 1. Then, write  $2 + 2 + 2 = 6$  to show that three groups of two are in the number 6. Rewrite the problem as  $2 \times 3 = 6$  and explain that this is the same as saying *2 groups of 3 equals 6*.

**Division** Introduce division to students with the Number Line. Choose an even number such as 10 and point to it on the Number Line. Ask students how many equal groups of numbers they can make from the number 10. Explain that 10 equals 5 groups of 2. Write the answer as the division problem  $10 \div 5 = 2$ . Have students practice with other problems.

**Number Line Subtraction Game** This game requires a die or a number cube and counters for each player. Each player places his counter at the end of the Number Line. Players take turns rolling the die or number cube and moving their counters backward along the Number Line by the number rolled on the die or number cube. If a player lands on the same number as another player, the other player goes back to end of the Number Line. The first player to land on 0 wins. However, if the player goes past 0, she must go back to the end of the Number Line.

**Adding and Subtracting with Positive and Negative Numbers** Use the Number Line to explain that positive numbers are to the right of 0, and negative numbers are to the left of 0. Demonstrate subtraction with a negative and a positive number using the example  $(-2) - 3$ . Begin at -2 and move left three spaces to -5. Write the equation  $(-2) - 3 = -5$ . Allow students to practice this concept by providing similar problems. Demonstrate addition with a positive and a negative number using the example  $8 + (-3)$ . Begin at 8 and move three spaces left to 5. Write the equation  $8 + (-3) = 5$ . Provide more problems for more practice.

# Reproducible Patterns

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