

Lesson 8-5 • Group 2

Reinforce Understanding

8.5 Small Group • Group 2

I can graph the solutions of an inequality on a number line, explain what each part stands for, and build one for a situation I have not seen before.

Worked model

A delivery van is safe when its load is at most 900 pounds. Graph the loads that are safe.

1. Write the inequality: let L = the pounds loaded, so $L \leq 900$.
2. Mark the boundary point at 900 with a CLOSED dot, because 900 is allowed.
3. Solutions are 900 and everything smaller, so draw the arrow pointing left.
4. Test a point under the arrow: 875 is allowed, which confirms the direction.

Answer: $L \leq 900$: a closed dot at 900 with an arrow pointing left.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Read the graph description and write the inequality it represents. Then graph it.

Mark and label each value on the number line.

Show your thinking

2. Complete the table comparing how different symbols affect the graph.

Complete the table. Show how you found each value.

Inequality	Circle Type	Shade Direction	Is $x =$ boundary a solution?
$x > 6$			
$x \geq 6$			
$x \leq 6$			

Show your work

3. Clue: the witness ran more than 15 feet, so $d > 15$. On the number line, what do you draw?

Circle the letter of the best answer. Show how you know.

- A. Open circle at 15, shade right
- B. Closed circle at 15, shade right
- C. Open circle at 15, shade left
- D. Closed circle at 15, shade left

Show your work
