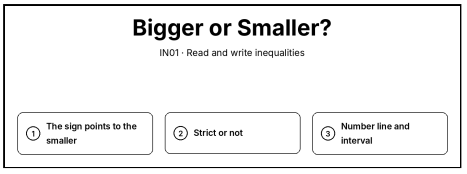
Bigger or Smaller?: teacher script

IN01-V1 · IN01 Read and write inequalities · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 92 seconds as a video.

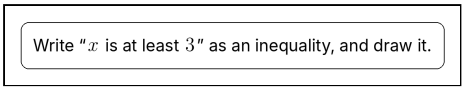
01



Say. Inequalities. The sign always points to the smaller number. A strict sign leaves the end out; or equal to keeps it in. And every inequality can be drawn on a number line, or written as an interval.

Draw. Write the title “Bigger or Smaller?” and the steps: 1. The sign points to the smaller; 2. Strict or not; 3. Number line and interval.

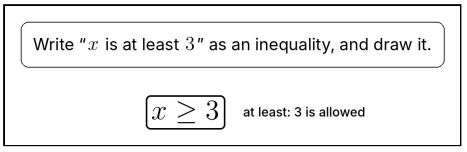
02



Say. Write x is at least 3 as an inequality, and draw it.

Draw. Clear the board. Write “Write “x is at least 3” as an inequality, and draw it.” in a box at the top.

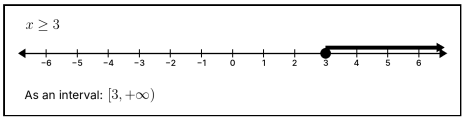
03



Say. At least 3 means 3 or more, so 3 itself is allowed: x is greater than or equal to 3.

Draw. Write x \ge 3 and box it on the next line. Beside it, write “at least: 3 is allowed”.

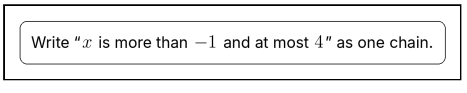
04



Say. On the number line, put a closed circle at 3, because 3 is included, and shade to the right. As an interval, that is a square bracket at 3, and a round bracket at infinity.

Draw. Clear the board. Draw a number line from -6 to 6 and write “x \ge 3” above it. Draw a closed circle at 3 and shade to the right, with an arrow. Below, write “As an interval: [3, +\infty)”.

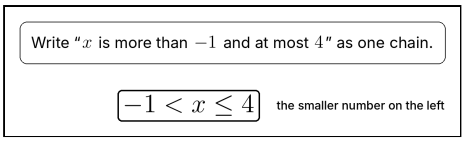
05



Say. Now two conditions at once: x is more than negative 1, and at most 4.

Draw. Clear the board. Write “Write “x is more than −1 and at most 4” as one chain.” in a box at the top.

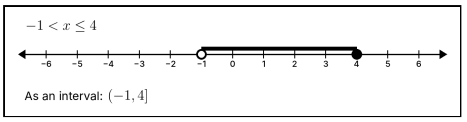
06



Say. Write it as one chain, with the smaller number on the left: negative 1 is less than x, which is less than or equal to 4.

Draw. Write −1 < x \le 4 and box it on the next line. Beside it, write “the smaller number on the left”.

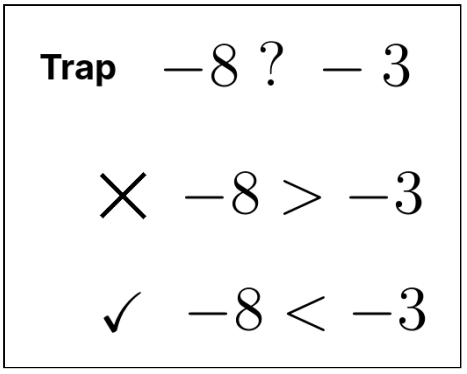
07



Say. An open circle at negative 1, a closed circle at 4, and shade between them. As an interval: a round bracket at negative 1, and a square bracket at 4.

Draw. Clear the board. Draw a number line from -6 to 6 and write “−1 < x \le 4” above it. Draw a open circle at −1 and a closed circle at 4, and shade between them. Below, write “As an interval: (−1, 4]”.

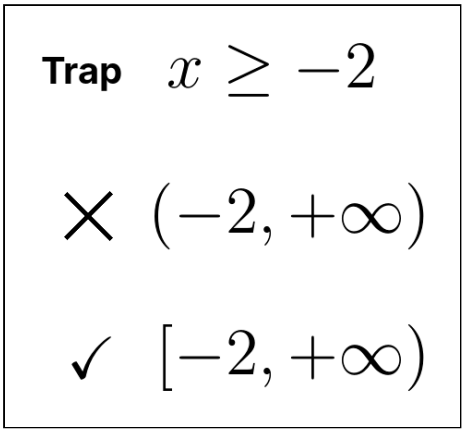
08



Say. Watch for the trap: negative 8 is not bigger than negative 3. On the number line it is further left, so it is smaller: negative 8 is less than negative 3.

Draw. Clear the board. Write “Trap” and −8 ? −3. Below, write −8 > −3 and cross it out ×. Then write −8 < −3 with a tick ✓.

09



Say. Another trap: x at least negative 2 includes negative 2, so it needs a square bracket there. Infinity always gets a round bracket.

Draw. Clear the board. Write “Trap” and x \ge −2. Below, write (−2, +\infty) and cross it out ×. Then write [−2, +\infty) with a tick ✓.

10

Your turn

The sign points to the smaller number.
Closed circle, square bracket: the end is included.

Say. Now it is your turn. The sign points to the smaller number. A closed circle, or a square bracket, means the end is included.

Draw. Point to today’s activity: The sign points to the smaller number. Closed circle, square bracket: the end is included.