

The Golden Bus

Grade: 1-3

Competency Goals: Addition from 0-100, place value, number sense from 0 –100. Also cartography (map reading).

Enhanced Goals: Subtraction from 0-100.

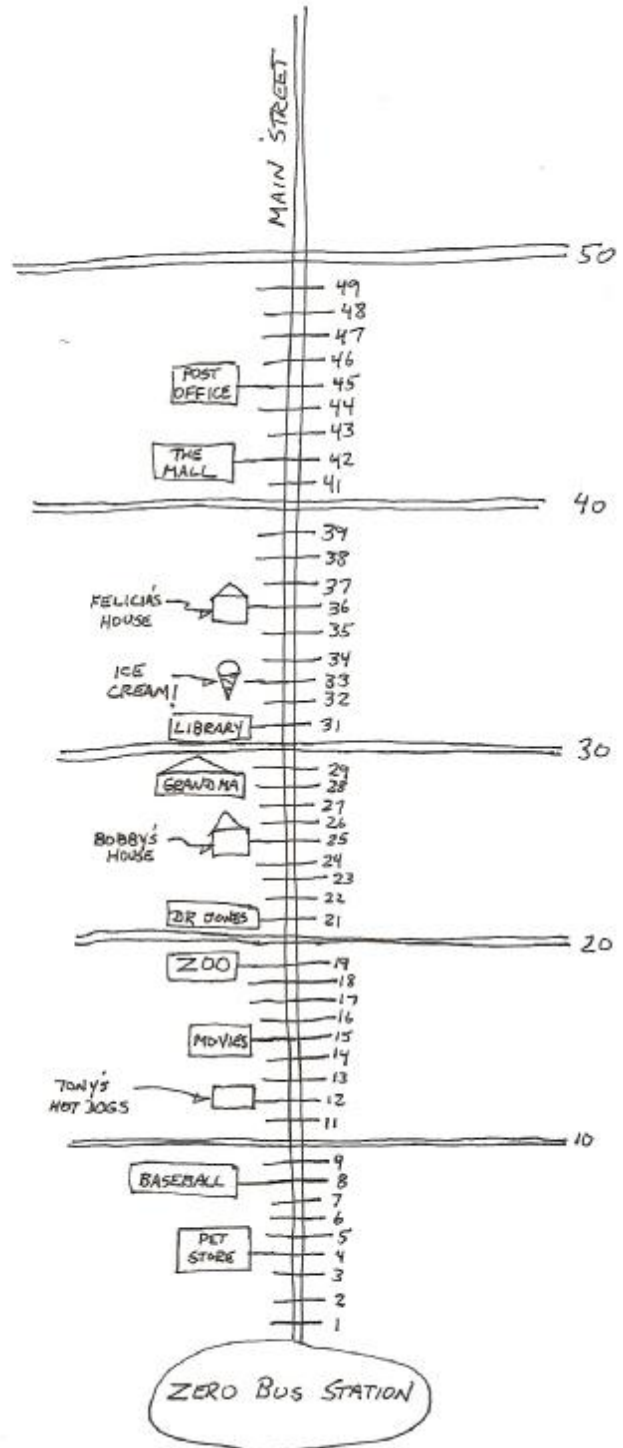
Items Needed: A marker for 10 (gold), materials for drawing a large map (sidewalk chalk or paper and crayons), a rolling chair (optional).

Working with the students, draw a big map of a fictitious city. As shown, draw the city with a large central street. In a sense, the number line and the map are different representations of the same thing.

ALTERNATIVE: If the lesson takes place outside, consider drawing the town on the ground with sidewalk chalk. You could even draw the various locations alongside the Runway, turning it into a giant “map.”

Now draw the cross streets, starting with 1st Street, then 2nd Street, and so on. Draw lines to represent all the streets, but it is not necessary to label every street. Do draw and label all the multiples of ten: 10th Street, 20th Street, and so on up to, say, 50th Street, and make these streets bigger than the rest.

Have the students name the city. The big central street can just be Main Street (as we’ll continue to refer to it in this lesson), or the students can come up with a creative name for it. Also ask the students for some places they might find in the town, and draw them in at various places along Main Street. Suggest places like schools, stores, gas stations, etc. if they have trouble coming up with places. There could also be houses where the students themselves live. As they come up with places, draw boxes to represent the places on the map along with labels. Position all the boxes right along Main Street, drawing at least as many places as there are students in the class.



Down below 1st Street, make a big circle. This is called the Zero Bus Station. From the Zero Station you can take a bus anywhere along Main Street. Tell them that the buses are painted gold, and ask them what that might mean. Remind them of the colors on the Runway, and tell them that the Golden buses only stop at the big streets: 10th, 20th, 30th, 40th and 50th. It zooms through the city ten blocks at a time.

Now make the transition between the map and the Runway, showing them how the big number line is like Main Street, and how all the rows are like cross streets. Tell them that each child is going on a trip to somewhere in the city. First choose a student and have her walk to a certain destination on the map, stepping along the red shapes in the first column. Have another child point out the position on the map.

Now tell the students that it is time for a bus ride. Choose one of the students to be the bus driver and have him put on the gold #10 jersey. Choose another student and ask her where on the map she'd like to go. If, for instance, she wants to go to the ice cream store at 33rd Street, ask her where she'll get off the bus.

There are various ways to "ride the bus," but the simplest is just to have the bus rider hold onto the shirttail of the #10 jersey. The bus driver must stop at each gold dot and announce the number to the passengers ("10th Street! 20th Street!"). When our example student reaches 30th Street, she must get off the bus, walk along 30th Street to the red shapes of the first column, and take those three steps to 33rd Street to find the ice cream shop.

ENHANCEMENT: The bus ride can instead be a wagon, a custodian's rolling bucket, a rolling desk chair, or a ride on #10's back. Be careful!

As the student arrives at her destination, review the mathematical route by writing " $30 + 3 = 33$ " on the board or on the pavement. Tell the children that numbers like 33 and 45 have a "middle name," and that name is "Plus." So fifty-six is really "50 plus 6," and so on.

Continue with the other students finding their way to their destinations, always having them go to the multiple of ten lower than their number, then walking up to the higher number.

Follow On: Once the children get accustomed to this exercise, have a student go to a position like 29th Street. Let him get off the "bus" at 20, then walk the 9 steps to 29. Then ask the class: "Was there another way to get to 29th Street that wouldn't require so much walking? Point out that by taking the bus to 30th Street, the person would only have to walk one block. Talk about how figuring out the best bus stop is called estimating the number. Use the exercise to demonstrate subtraction problems like $30 - 1 = 29$. Also show the similarity between $30 - 1 = 29$, and the simpler $10 - 1 = 9$.