3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker on a measurement scale) to represent the problem.

**Below is a couple of “scenarios” to engage your students in measuring liquid volumes using liter bottles. These lessons can be modified as whole group, cooperative grouping, or pairs. Make these ideas work for your students and your classroom.**

* School Field Day:
  + Pose this scenario to your students. “This year Coach has asked us to help him prepare for field day. He wants every student to be able to have some Gatorade while they are participating in the field day games. He needs to know how many liters of Gatorade will fill the water cooler. He also needs to know how many liters of Gatorade he would need to buy to fill 5 water coolers? Let’s help him and figure this out.”
    - Teacher Notes:
      * Have students take 1 liter Gatorade bottles and fill a water cooler. Have them count how many bottles it took. You could begin by having them estimate how many 1 liter Gatorade bottles they think it would take. (You don’t have to actually use Gatorade, you can use water as a substitute.)
      * Follow up with this one-step word problem: The Arkansas Razorback football players drink lots of Gatorade during their football games. Typically in one game they will go through 96 liters of Gatorade. If they split that amount evenly for each of the 4 quarters of the game; how many liters of Gatorade will they drink each quarter?

* Hard Boiled Eggs:
  + Pose this scenario to your students, “This year the pre-k teachers will hard boil eggs for their egg hunt. They will need to fill 4 pots with water to boil all of the eggs they need. How many liters of water will it take to fill 4 pots of water?”
    - Teacher Notes:
      * Have students take 1 liter water bottles and fill a large pot. Have them count how many bottles it took. You could begin by having them estimate how many 1 liter water bottles they think it would take
      * Follow up with this one-step word problem: During the summer, Jose’s mom fills up his little sister’s plastic pool for his sister to swim. She is very careful not to put the water all the way to the top of the pool. One day it took about 285 liters of water and another day it took 316 liters of water. How many liters of water did she use altogether?