Each group will do the tests below in the order shown. Students should arrive with the proper data sheets for this lab already printed out. The completed data sheets must be handed in before you leave the lab. I will average the results from all of the groups and post the “official” results on the course website later this week. Everyone will use the “official” results for completing the homework.

You have been given a 1/3-ft³ metal container (called a unit weight measure) for this test. Don’t forget to weigh it before starting. You will use a portable (battery-powered) electronic balance for this experiment. The material you will use depends on which group you’re in.

**Groups 1, 2 & 3**

You have been given a bucket of crushed limestone. Determine its unit weight (bulk density) using the “rodding” procedure in ASTM C-29. Place your sample in the container provided and add enough concrete sand (see note below) to obtain a blend of 75% stone and 25% sand by weight, then repeat the unit weight test. Place your sample back in the container provided and add enough additional sand to obtain a blend of 65% stone and 35% sand by weight, then repeat the unit weight test. Place your sample back in the container provided and add enough additional sand to obtain a blend of 55% stone and 45% sand by weight, then repeat the unit weight test one last time. When you are done, dispose of the aggregate in the dumpster in the parking lot.

**Groups 4, 5, & 6**

You have been given a bucket of concrete sand. Determine its unit weight (bulk density) using the “rodding” procedure in ASTM C-29. Place your sample in the container provided and add enough crushed stone (see note below) to obtain a blend of 75% sand and 25% stone by weight, then repeat the unit weight test. Place your sample back in the container provided and add enough additional stone to obtain a blend of 65% sand and 35% stone by weight, then repeat the unit weight test. Place your sample back in the container provided and add enough additional stone to obtain a blend of 55% sand and 45% stone by weight, then repeat the unit weight test one last time. When you are done, dispose of the aggregate in the dumpster in the parking lot.

**NOTE: Calculating required aggregate amounts**

Let’s assume you’ve weighed up 90 lb of Material A and you want to add enough Material B to get a 60:40 blend. If 60% of your blended sample is Material A, then your blended sample will weigh 90/0.6 = 150 lb, which means you need to add 150 – 90 = 60 lb of Material B.