

Metric Mania Lesson Plans

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Lesson #1 - Length

[Length Presentation \(PPT\)](#) - I use this presentation to review the basic units of length and how to measure distances.

[Length Worksheet \(pdf\)](#) - Student worksheet that goes along with the presentation.

[Length Lab \(pdf\)](#) - Students are challenged to find the length of various objects in millimeters, centimeters, and meters.

[Units of Measure - Length \(pdf\)](#) - Thanks to Christina Bryant for sharing this worksheet.

Lesson #2 - Mass

[Mass Presentation \(PPT\)](#) - I use this presentation to review the basic units of mass and how to measure mass using a triple-beam balance.

[Mass Worksheet \(pdf\)](#) - Student worksheet that goes along with the presentation.

[Mass Lab \(pdf\)](#) - For the mass lab, students first estimate the mass of various objects, then find the actual mass using triple-beam balances or other scales. To prepare for the activity you will need to organize various items (coins, paper clips, marbles, rocks, large washers/s-hooks, etc.) and triple-beam balances or scales for each group. They may group items together to reach a targeted mass, such as three pennies for 5 grams, or just use a single item. This lab is always a hit and the students get much needed estimation practice.

NOTE: Estimates should be checked before any measuring is allowed! Some students will skip the estimation step and advance to using the scales!

Extension Ideas: Use film canisters, a triple-beam balance, and a variety of materials to create a set of masses. The students may use the masses during lab activities or challenge them to take them home and find items with like masses. Another twist is to fill pairs of canisters with various objects (pennies, popcorn, seeds, screws, washers, M&Ms). Give each student one canister and allow time for them to search for their "partner" - without looking into the canister. Once the groups have found their match, the students can check their results by opening the canisters.

Lesson #3 - Volume

[Volume Presentation \(PPT\)](#) - I use this presentation to review the basic units of volume and how to measure volume of regular and irregular objects.

[Volume Worksheet \(pdf\)](#) - Student worksheet that goes along with the presentation.

[Volume Lab \(pdf\)](#) - This lab consists of measuring the volume of liquids and regular solids as well as using graduated cylinders and overflow cans to find the volume of irregular objects (rocks).