

Subject: Mathematics

Grade: Third

Standard: #7 Measurement and Estimation

Key Concept: Students estimate measurement characteristics of objects.

Generalization: Using appropriate units, students estimate and measure the length, area, weight, or capacity of objects.

Background:

Students should be familiar with all types of units of measurement, in both the American and the metric systems. This lesson would be completed after students have been exposed to estimating length, area, weight, and capacity.

A collection of 10 to 20 objects for which students should be able to estimate the various characteristics. Some items you might consider including are a pencil, a box, a picture of a garden, a bucket, and a book. The collection should include some items which are very familiar to the students and perhaps some that are not. All the characteristics need not be measurable for every item.

Students select a characteristic they are interested in estimating and measuring for a subset of the collection. These subsets could be selected by each interest group which adds the dimension of the students selecting items appropriate for measuring their characteristics. Another option would be subsets selected by the teacher prior to the lesson where you may choose to include items for which the characteristic is not appropriate.

This lesson is tiered in *process* according to *interest*.

Tier I: *Length*

Tier II: *Area*

Tier III: *Weight*

Tier IV: *Capacity*

Each tier will complete the following activities with respect to their subset.

Students create a table for recording their estimates and measurements.

Students first estimate the characteristic for each item. Students should make estimates in both the American and metric systems and record the estimates on their table.

Next students measure, in both systems, the characteristic for each item using an appropriate device and record the measurement.

Have each tier share their results with the class.

Assessment:

After sharing the results of the estimates and measurements, have students work with members of their tier to answer in writing a series of questions about the relationships among the estimates and measurements and/or about the relationship between the American and metric systems.