

Seminole County Water Atlas Learning Kit

Dimensional Analysis *Teacher's Guide*

Students gather data, select appropriate units of measure and convert from one system to another.

Water Atlas Curriculum Lesson 8

Grade Level: 7th-8th

Subject Area/Course: Algebra I

Performance Objectives:

References are to the Next Generation Sunshine State Standards (2007).

Math

MA.8.G.5.1 Compare, contrast, and convert units of measure between different measurement systems (US customary or metric (SI)) and dimensions including temperature, area, volume, and derived units to solve problems.

Academic Outcomes/Lesson Objectives:

- Students will convert units between standard and metric systems.
- Students will use ratios to compare units.
- Students will gather data and extrapolate information.
- Students will determine units best suited to represent data.

Materials Needed:

- Internet access with www.Seminole.WaterAtlas.org bookmarked
- Scientific calculator

Safety: N/A

Vocabulary:

Metric prefix – Basic units of measurement in the metric system are multiplied or divided by factors of ten to form larger or smaller units of measure, as needed. A metric prefix is added to the front of the major unit to indicate what multiple is being used. For example, a “gram” is the basic unit of mass; a “kilogram” is 1000 grams while a “milligram” is 1/1000th of a gram.

Conversion – The process of changing a measurement from one unit to another. Conversion may be needed because a different measurement system is to be used (for example, from meters to feet) or because a different scale is desired (feet, instead of inches). It is important to note that the units of conversion must be compatible. That is, they must be dimensionally compatible. You cannot, for example convert gallons (a measure of volume) to acres (a measure of area).

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