

Teaching the Metric System for America's Future

A Position of the National Council of Teachers of Mathematics

Question

Why should schools teach the metric and customary systems of measurement?

NCTM Position

To equip students to deal with diverse situations in science and other subject areas, and to prepare them for life in a global society, schools should provide students with rich experiences in working with both the metric and the customary systems of measurement while developing their ability to solve problems in either system.

Teaching Measurement

Making measurements and using them effectively are essential life skills. Measuring with standard units in one, two, or three dimensions helps quantify the world. Students need to understand how to assign numbers to attributes such as length, area, volume, weight, and temperature and know how to determine accurate measurements in units appropriate to the context and attribute. The best way to teach measurement is to have students estimate and then measure particular attributes, beginning with everyday items and personal points of reference.

Estimating and measuring are only part of what students need to understand and be able to do in measurement. They must develop fluencies in translating among related measurements within a system and in using proportional relationships. They also must understand that although precision is important, all measurements are approximations. Students need to be able to solve problems that involve measurement.

The Metric and Customary Systems of Measurement

In today's global environment, metric measurements are prominent in workplaces, consumer products, and news reports. Almost every other country in the world uses the metric system of measurement. The European Union, Japan, and Korea have passed legislation limiting international commerce to products measured in metric units. If the United States is to continue to play a leading role in international business, using metric measurement is imperative and U.S. workers at all levels must be knowledgeable about the *Système Internationale (SI)*, the international name for the metric system. In the United States, many products using metric units are part of everyday work. Instruction can relate the metric system directly to our number system. Units are based on powers of ten, providing instructional opportunities for students to use decimals in applied settings.

The United States continues to make progress in implementing metric measurement in more goods and services. The National Council of Teachers of Mathematics supports efforts by the U.S. government to make a transition to the metric system (*SI*) as the nation's primary measurement system and to reestablish the U.S. Metric Board to support and encourage the use of the metric system. However, the Council recognizes the leadership responsibility of schools to ensure that all students have experiences that enable them to measure in both the metric and the customary systems as well as to solve problems related to measurement in either system.