

AND THE YOUNGSTERS SHALL LEAD THEM . . .

Eastchester NY school students notify companies when incorrect labeling is used on products

Evidence that students can play a significant part in promoting the correct use of metric system symbols on product labels was recently brought to the attention of USMA when 8th grade Science teacher, Julie Ann Hugick, reported that her students had participated in an exercise she called *Metric Patrol*. She said that she got the idea for this teaching-metric exercise from the article, *A suggestion to teachers (a painless way to teach one facet of SI)*, which is part of the USMA Web site. Hugick, an instructor at the Eastchester (NY) Middle School, informed USMA's Webmaster, Don Hillger:

"I found your U.S. Metric Association site very useful. In September, I used an idea from your site as a new project for some of my 8th grade Earth Science students. I have enclosed copies of the responses that have been returned to me. The students truly enjoyed the experience, especially as they received letters or free products." Hugick devised special forms for the *Metric Patrol* exercise. One form stated that the objective is to find incorrect use of SI, and indicated the steps to be followed: (1) Checking package labels at home and in stores to find errors in using SI, (2) identifying the problem, (3) determining how to correct the error, and (4) writing a tactful letter to the company, explaining the problem and suggesting the correction.

Also included was an example of a letter, to provide ideas on how letters should be formatted and worded. In addition, a *Metric Patrol* worksheet was supplied to the students. They were told that, if the complete mailing address of the company was not given on the package, it would be necessary to do some research to determine the correct address. An alternative plan was available, if students could not find any errors on packages: These students were to find 30 correctly labeled products and to list (on a special *Metric Patrol* form) the name of each product, its company, the metric unit, and the type of measurement being made (mass, volume, etc.).

Some of the companies the students contacted wrote to thank the student for pointing out the error and indicated that the error will be corrected when labels are next printed. A few companies even sent the students complimentary packages of their products. One company, which used GR as the symbol for gram, replied to student Christopher Orth's letter by stating that ANSI Standard X12 showed the GR as correct. Orth reported this comment to USMA Webmaster Don Hillger, who notified the company that ANSI X12 contains special codes used only in data transmission, and its rules do not apply to packaging labels. The company representative informed Hillger that the labels will be changed. Orth received a pack of the company's pencils by way of thanks. The president of one international company sent a personal reply to Noelle Ruggiero's letter which indicated that a capital G is not correct as the symbol for gram. He responded: "You are correct; our packets should be labeled 1 g instead of 1 G. We are now in the process of correcting this printing error." And he stated that a company t-shirt is being sent to Noelle in appreciation.

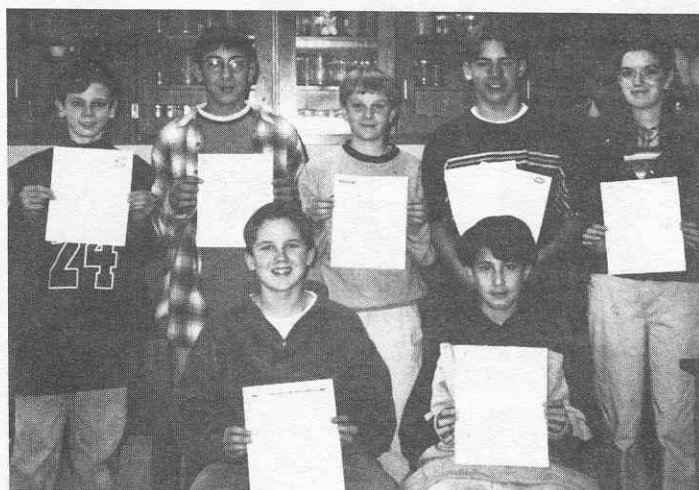
Student Michael B. Pierorazio received a letter from the president of another company, who wrote: "Thanks very much for your alert to the usage convention for milliliters. We appreciate your taking the time to bring this to our attention." The president noted that he is sending complimentary bottles of the company product to Pierorazio. Matt Scovotti's letter to the same company must have arrived after they were aware of the error because his reply informed him that the label was recently changed.

A representative of a vehicle company informed student Michael Goon that using the symbol, cc, for cubic centimeter was an "accepted standard notation." USMA provided Michael with information that explained why the cc is not a valid SI symbol, noting that it comes from an obsolete version of the metric system. It was recommended

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LEFT PHOTO: Chris Orth, who contacted USMA Webmaster Don Hillger regarding the *Metric Patrol* project, with teacher, Julie Ann Hugick. RIGHT PHOTO: Eastchester (NY) Middle School students holding the responses they received from com-



panies they contacted: 1st row: Jeff Kauth, Patrick Darby. 2nd row: Ed Caughlan, Michael Guccione, Chris Orth, Mike Pierorazio, Noelle Ruggiero. Science teacher Hugick states that the exercise was helpful in teaching SI.

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 that Michael Guoon forward this information to the company's representative. One company disputed student Michael Guccione's statement, in his letter, which noted that Mg or MG were *not* the correct symbols for milligram. The company's customer relations manager replied: "Milligram could be stated in any format: Mg., MG, or mg. It is standard initials utilized by manufacturers . . ." The manager also informed Michael that, when labels are printed in capital letters, it is correct to give the symbols in all-capital letters.

When this letter was forwarded to USMA for comment, Guccione was sent excerpts from the U.S. metric standard, SI 10, which gives the SI-based definitions for the letters M and G and which indicates the only times when capital letters may be used in symbols. SI 10's guidance, which is used by the U.S. packaging industry, states that symbols should retain the same form (capitals or lowercase letters) regardless of the surrounding text. USMA suggested that Guccione write the company, again, enclosing copies of those SI 10 excerpts and calling attention to the prescribed usage of SI.

A company that sells hair coloring products thanked Matthew Levy for calling attention to incorrect symbols on their packages and stated his suggestion will be shared with company personnel and will be evaluated. It was interesting that this company [in contrast to other companies that responded to the other students] made no mention that the company representative who wrote the letter had bothered to determine how valid Matthew's suggestion was. It is hoped that this student's recommendation won't be ignored.

Educator Hugick reports that this exercise proved to be an excellent way to teach one area of SI in a manner that was thoroughly enjoyed by the students. It also gave students good experience in performing research and sharpened their letter-writing skills. The USMA Web site giving the instructions used by Hugick (*A suggestion to teachers*) is: <http://lamar.colostate.edu/~hillger/teaching.htm>.



Shown are some of the members of the 8th grade class who participated in the *Metric Patrol* project: *1st row:* Sara Feiman, Jena Salomone, Jeff Kauth, Patrick Darby, William O'Connell. *2nd row:* Elizabeth Pollice, Maria Carapella, Ed Caughlan, Michael Guccione, Chris Orth, Mike Pierorazio, Noelle Ruggiero, Scott Napolitano, Mike Rinaldi. *3rd row:* Alyssa Porco, Mark Tarby, Jeremy Gross, Dan Khayutovsky.

VIRGINIA MATH STANDARDS INCLUDE TEACHING SI AS WELL AS INCH-POUND MEASUREMENTS

by Dr William Hooper

Summary. The *Virginia Standards of Learning in Math* spend a great deal of time teaching the students to work in the old English (inch-pound) set of units. Work in metric units parallels that in inch-pound units, but no preference is stated for one set of units over the other. The time devoted to fractions is considerably greater than the time spent on decimals. If metric were emphasized instead of inch-pound, decimals would be more useful, and most of what is taught about fractions could be eliminated entirely.

Organization of Standards. The standards are arranged by grade level from kindergarten to eighth grade and by course name in high school. The introduction states, as a goal, that students must gain an understanding of the fundamental ideas on six topics, one of which is measurement. Where any reference is made to measurement units, it almost invariably indicates that both inch-pound and metric should be taught. Where the set of units is identified by name, it uses "metric;" for inch-pound units, it uses "U.S. Customary." The term, SI, is not mentioned. Following is a resume of the contents for kindergarten through third grade.

Kindergarten: Little formal measurement is considered at the kindergarten level except to identify which instruments (rulers, scales, clocks, thermometers) measure which kinds of things, and to identify relative sizes (bigger or smaller), by direct comparison.

Grade One: The only measurement in grade one is the informal type done with nonstandard measures (comparisons with common objects) to find length and weight.

Grade Two: The student will *begin* to estimate and make measurements, using actual measuring devices (cups, pints, liters, etc.) for liquid volume and rulers for linear measurements. The purpose is to determine which units are bigger and smaller than others and not to actually measure any amounts.

Grade Three: The student will estimate and then use actual measuring devices with metric and inch-pound units to measure length, liquid volume, and weight/mass. Temperature, using both a Celsius and Fahrenheit thermometer, also is to be taught.

Included in this standard are details for measurement and measurement units to be taught in 4th grade through high school.

Ed Note: For a complete copy of Dr Hooper's 6-page review, which gives details on the Standard's guidelines for each grade, send a large, self-addressed envelope with 79 cents in stamps on it to: USMA, 10245 Andasol Ave, Northridge Ca 91325-1504.

SECRETARY OF COMMERCE PREPARING A REPORT TO CONGRESS REGARDING THE FQA

The Fastener Quality Act (FQA), passed by Congress last August as HR 3824, PL 105-234, mandated a study and report from the Secretary of Commerce to determine whether all the contents of that act are currently valid. Deadline for submittal of this report is 1 Feb 99. Currently, implementation of the directives in the FQA is set for 1 Jun 99, but it appears that some congressmen want to rewrite the Act before that date, changing it to delete some now-obsolete requirements in the current FQA legislation.