



Education Spotlight

Please submit news of your local public or chapter events and outreach programs. Include photos if possible. Mail your news to: NAWCC *Bulletin*, 514 Poplar St., Columbia, PA, 17512-2130. Send email to Assoc. Ed. Freda Conner, fconner@nawcc.org.

NAWCC Member Bob Frishman (MA) Reports on the Massachusetts Science Olympiad

From 1990 to 1997, members of the NAWCC helped the Science Olympiad run a popular "It's About Time" event. The Science Olympiad brought this topic back in 2009 and has continued the event this year as well. Last year NAWCC members from around the country got involved in helping teams from their local area or by judging at regional and state competitions. This year many of our members continued to assist with this program, which is a perfect opportunity for the NAWCC to reach out to a younger generation to spark the same enthusiasm and interest in horology that all our members share.

Katie Knaub, NAWCC Director of Education

For the past two years, I have assisted Jeff Stout, event runner for the "It About Time" section of the Massachusetts Science Olympiad, to prepare test questions. A Ph.D. history student at Boston University, Jeff enjoyed participating in the Olympiad when he was in high school, and when I saw Katie Knaub's MART notice last year about the new time-keeping portion of this nationwide competition, I was directed to him.

In 2009 he first visited my shop and was fascinated by my many antique clocks, movements, and reference books. Following a long introductory tour, we got to work developing 31 questions for the 20-minute written exam. While there needed to be theoretical questions about leap years, pendulum lengths, and sidereal hours, Jeff focused questions on my standard two-train Connecticut kitchen clock movement he photographed and illustrated in the exam.



A boy-girl team carefully watched salt flowing between their two plastic bottles.

Students needed to choose from multiple-choice answers about mainsprings, count wheels, fans, pinion wear, gear ratios, and tooth counts. He also included a picture of my Eureka clock with its large visible balance wheel so he could pose questions about that alternative to a pendulum. He told me that he had not anticipated these kinds of questions, but after his shop visit he wanted to spark in the students the same fascination that he had just experienced.

This February, Jeff returned to my shop to work up some new questions, which included photos of Henry Warren's Telechron electrics and a Jefferson Golden Hour. And this year, I was able to attend the day-long event on Saturday, March 20, at Framingham State College. Of the 40 high schools that fielded teams (most teams had as many girls as boys, and one large team was identically outfitted in white lab coats), 28 delivered homemade time-measuring devices to our classroom as they signed up for exam and time trial sessions. I brought along my kitchen clock movement on its Lucite stand, and test takers watched it tick and strike.

Their relatively simple devices included pendulums, water and sand containers, and one with a weight bouncing on a coiled spring. In five trials, varying from a few seconds to a few hundred seconds, students usually worked in pairs and calculated their device's measurements compared to the actual periods gen-



These girls overflowed their receiving container during the 300-second trial, but their water clock did okay on shorter runs.

erated by a laptop's audible start-and-stop tones. Some teams achieved good results after carefully observing swings or drips or lines on clear containers; others suffered spillages, overflows, and malfunctions that provided poorer data. All seemed to have learned the important concepts involved.

I was sad that my own town's high school, the one I attended in the 1960s, did not have a team represented in any of the 23 categories. I intend to encourage its science department to put one together and compete next year when I hope to be involved again, and perhaps help coach my own school's students. To any interested NAWCC members, I would be happy to send more details and refer them to www.soinc.org.

Katie Knaub, kknaub@nawcc.org or 717-684-8261, ext. 237, can also provide information.

About the Author

Bob Frishman, past-president of New England Chapter 8, restores and sells antique clocks as Bell-Time Clocks in Andover, MA. Author of several *Bulletin* articles, he can be reached via www.bell-time.com.