

Annual Rhode Island High School Chemistry Contest

Contest Philosophy

The chemistry contest should be seen in the context of a game or sport, in the sense "sport" had before athletics became a business. True, it is a competition and a test, but there are considerations which must be taken into account before attaching excessive significance to the outcome.

First, it is a multiple choice test. This means that there must be enough questions simple enough for the smartest student to do significantly better than someone who is randomly guessing. On the other hand, since the test must discriminate (A tie, especially a multiple tie, is undesirable.), there must be questions that present novel juxtapositions of material requiring insight and synthesis on the part of the student. This means that some of the questions have to be too hard for all of the students. To further complicate this paradox, the same test must fulfill these criteria for a group in which some people have had one year of chemistry and others have had two years of chemistry. (A student's incorrect designation of their division is easier to correct than their having taken the wrong exam. It happens.) Also, because the test is multiple choice, the incorrect answers (distractors) to mathematical problems should not provide checks or clues for the students.

Second, there is a severe time limit on the test. Whereas real-world chemistry often allows time to meditate and try inspired guesses, this test does not. In this respect the test represents a highly artificial situation which cannot accurately measure the individual's true ability. Test results will depend more on quick recall than on absolute knowledge. In a short test, not all topics can be covered thoroughly or some even included. The under-representation of a topic in which a particular student excels would seem inevitable.

Third, scores will vary with test-taking ability. While it should be impossible to study for an aptitude test, Stanley Kaplan is doing a land office business improving scores on SATs. I will not claim ability superior to the SATs, nor should I be asked to produce a superior product. To extend the notion further, the test is given to students for whom English may be a second language.

Fourth, "the race is not always to the swift nor the battle to the strong." (Of course, that's where the smart money is. [Nelson Algren]) Ask numerous fans of, say, the Chicago Cubs. This contest cannot be accountable if someone has a bad day, as we all do occasionally or for Divine intercession, which seems somewhat rarer.