

## Letters to the Editor

- Brief letters—one or two pages—are more likely to be printed than are long ones, which may be cut.

### USGS WORK CREDITED

May I take this opportunity to apologize to Bruce Lium and the staff of the U.S. Geological Survey for having been remiss in citing their work in my article "The Biotic Index as a Measure of Organic Pollution in Streams" (*ABT* 34 [2]: 79-83). Stream stations referred to in fig. 1 were established by Lium in a pioneering study in Chester County, Pennsylvania. These stations were used with his permission.

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### SUPPORT FOR "RELEVANCE" VIEW

- The following comment was received by Maurice Bleifeld in response to his letter "The Fourth R: Relevance" (*ABT* 34 [1]: 33).

How wonderful to see your letter in *American Biology Teacher*. BSCS was, I think, the best and worst thing that could happen in the field of biology. There was no doubt biology needed upgrading, but why do we always go to extremes? Chem Study led to the same extreme.

Maybe a few more teachers and administrators will see the light and we can develop relevant courses to which you refer—that is, until the pedulum swings back again.

In the meantime I am trying to keep my courses modern and relevant; but it's awfully hard to swim against the tide.

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### DEPT. OF FRUSTRATION

The following was written by one of my sophomore biology students, obviously frustrated in performing research on her family's genetics. I would like to share it with you and your readers.

"Dear Mr. Postiglione:

"I realize this lab is late, but a few of my relatives were away and I just recently finished compiling the results. I was interested in the results of this lab, and I would rather have waited than to make up part of it. I even dittoed up questionnaires with PTC paper attached to them, and mailed them off to all of my living relatives along with self-addressed, stamped

envelopes. This, I thought, would ensure a quick return of questionnaires.

"Just to give you an example of the kind of a family I have: when I asked the question 'Are your earlobes attached to the side of your head?' I got one reply of 'No, they're attached to my elbow.' One of my aunts (elderly) had replied that the PTC paper tasted like balloon rubber. When I saw the PTC paper still in the plastic bag, attached to the questionnaire, I realized she had tried tasting the plastic bag!"

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### "BETTER WAY" THAN A.P.

In his letter "Opinion on Advanced Placement" (*ABT* 34[1]: 33) Harold Kiehm questioned the restraints of the standard advanced-placement course. In reply to his query, "Isn't there a better way?" I should like to describe an advanced-biology course that I taught at the Dalton School, New York City.

The students who took this course had studied both BSCS and Chem Study previously. I assumed that the most valuable learning would occur if I taught topics that interested me and if the students pursued self-chosen inquiries. I selected several concepts in molecular biology and presented them through assigned readings and a weekly discussion period. The students, however, lacked the organizational skills needed to carry out long-term studies. In an attempt to correct this I prepared and distributed a booklet of 20 experiments with bacteria, molds, and phages, and I directed the students to work on them in any order. No one was expected to do all 20; careful, efficient work was stressed. Class attendance was voluntary and the lab was open for work all day. Students were responsible for the preparation of their own media, cultures, and equipment. Detailed accounts of the experiments, some of which were of several weeks' duration, were kept in a notebook.

A few frustrating experiences, like being unable to do an experiment because the autoclaving of materials the day before had been neglected or having to repeat an experiment because crucial data had not been recorded in the confusion of doing three experiments simultaneously, soon taught the lessons of careful planning and recording. Motivation was seldom a problem; it was typical for students to work on experiments during class time and free periods. By the ninth week each student had completed about 12 experiments and could carry out, independently and efficiently, long-term experiments using sterile techniques.

Each student then formulated a research problem based on the reading and submitted a proposal for a six-week project. Procedures were proposed for comparing the effects of two chemical mutagens, studying recombination in *Neurospora*, inducing abnormal