

Safety Tips

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A Laboratory Safety Trivia Game

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At the start of each semester, our department begins our chemistry seminar series with a presentation on laboratory safety. All chemistry faculty, staff, graduate students, undergraduate research students, and student laboratory assistants are required to attend. Many of these individuals have sat through these seminars for several years; they feel the seminars are boring and repetitive. In order to enliven these safety presentations, I have created a cooperative online trivia game featuring questions about lab safety. I believe this method of instruction provides a fun and challenging learning environment. In the past, our department has tried direct instruction (1), slide presentations, videos, and skits (2). It has been my experience that this lab safety trivia game is a great alternative method for teaching lab safety.

The game board was created using Microsoft Front Page and then posted on a Web site. This format allowed easy access from the computer in our smart classroom for presentation. (The trivia game can be accessed free of charge at <http://chem.oswego.edu/mcneill> [accessed Jan 2003].) For the particular game board used in the session described below I chose these categories: Warning Signs and Labels, Protective Apparel and Equipment, Material Safety Data Sheets, Handling Chemicals, and Miscellaneous.

Some of the lab safety questions used in the game have included these:

- What does the symbol for a corrosive chemical represent? Give an example.
- Name five types of information found on a MSDS.
- What does each color stand for on the National Fire Protection Association (NFPA) diamond?
- What is the hazard associated with old ether?
- What is the rule to follow when diluting acids?

The Rules

A group begins its turn by selecting a question with a certain point value from one of the categories listed on the board. The team then works cooperatively to determine an answer. Points are awarded for correct answers and deducted for incorrect answers. If a team is not sure of an answer it may elect to pass on a question, preferring to forego control of the board rather than to risk losing points. A team remains in control of the board until it provides a wrong answer or passes. The next group then has control of the board and play continues in this fashion until only a final question re-

mains. In this part of the game teams may wager all or part of the points accrued when providing an answer. The team that accrues the most points by the end of the game wins.

Playing the Game

In the example I describe here, twenty participants were grouped into teams of four. Each group decided on a team name and play began. The first team was given control of the board and answered questions until providing a wrong answer. The next group then got control of the board and play continued in this fashion until only the final question was left.

A student volunteer using a chalk board recorded a running tally of the teams' scores. The game concluded with a "Final Jeopardy" question for which each team indicated the amount of points wagered and the team's answer. The members of the winning team received a prize supplied by our ACS Student Affiliate.

The trivia game provided an opportunity for students and faculty to interact at a personal level to discuss important safety issues. The trivia questions often sparked many other concerns from the players and various interesting conversations took place. The exercise took approximately 45 minutes to complete. Most of the players left the presentation with a positive attitude toward lab safety. Many of the students looked forward to the event in order to challenge their classmates and faculty members. The game board can be reused from year to year by setting up different categories and then changing the questions. The university's Environmental Health and Safety Office provided many books and resources from which the questions were developed. If a suitable room with Web access is not available, this sort of activity can also be done by setting up a game board with large index cards. Two index cards taped on top of one another per question would be necessary. The top card would state the value, the second card would state the question on the front and the answer on the back. Overall, I found this trivia activity to be worthwhile when a little adjustment is needed in a lab safety training program.

Literature Cited

1. Richardson, M. D.; Gentry, L. R.; Lane, K. E.; Vanberkum, D. W. *J. Chem Educ.* **1994**, *71*, 689–690.
2. Hill, P. S.; Greco, T. G. *J. Chem. Educ.* **1995**, *72*, 1126–1127.