Number 5 September 2007



SCI eTIPS for Teachers

Tips for Teaching IPS and FM&E

A Publication of Science Curriculum Inc. 200 Union Blvd., Suite G-18 Lakewood, CO 80228 888-501-0957 www.sci-ips.com

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Each year, as teachers change schools or schools change email systems, email addresses change. To ensure that you continue to receive *eTips for Teachers*, please update your email address whenever a change takes place. To do so, simply register your new address by visiting

http://www.sci-ips.com/newsletter.html.

If you know of other teachers or administrators who might ben-

efit from *eTips*, please share this issue with them, and let them know that they too can receive future issues by signing up at the same web address – <u>http://www.sci-ips.com/newsletter.html</u>!

Lab Notebook Quizzes Provide Useful Feedback - In Less Time!

Gery Morey

To grade lab notebooks or not grade lab notebooks, that is the question!

Since lab notebooks are a basic component of *Introductory Physical Science (IPS)* and *Force, Motion, and Energy (FM&E)*, it is essential that students learn how to record data so anyone could read the entry and clearly understand what the experiment was about.

One way teachers can help students write comprehensive lab reports is to collect and grade lab notebooks. However, reading over lab reports and writing useful comments on each one is a daunting task. The sheer number of lab notebooks, and the fast turn-around time needed, make grading every lab report a seemingly impossible task. What then can be done to properly guide students to write accurate, complete lab reports?

Open lab notebook quizzes can be used to evaluate lab notebooks without grading every lab report. Students have access to their lab notebooks during the quiz. In general, two quizzes are given during each chapter with questions answered directly from students' entries in their lab notebooks.

Lab notebook quizzes assess some things indirectly. For example, since each question refers to a specific experiment, the student must have accurately titled each lab report in order to identify the relevant information. And, of course, they must have written their reports legibly so that they can make sense of their own handwriting.

Most lab notebook quiz questions assess student knowledge and lab reports more directly. Four useful types of quiz questions are listed below.

- 1. Have students *explain the purpose* of one of the experiments.
- 2. Have students *state a specific piece of data* from an experiment. One example of such a question is, "In Experiment 2.4, The Mass of Ice and Water, what was the mass of the container, its cover, and the ice?" Of course, answers to this type of question

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will vary to some extent since student data will vary. Credit should be given for any answers within an acceptable range for the particular measurement.

- 3. Have students *answer bulleted questions*. This ensures that students are either copying the bulleted questions into their lab notebooks before answering them, or are answering them with complete sentences so that it is clear what the question was. This also indirectly assesses whether or not the students have corrected and completed their answers after in-class, post-lab discussions.
- 4. Have students explain the conclusion they drew from the lab.

Open notebook quizzes can be an authentic way to grade lab notebooks without having to collect them. This approach encourages students to take responsibility for their own work and, over time, guides them to write complete, legible lab reports.

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For a listing of additional resource articles, visit www.sci-ips.com/articles.html.

For more information on Introductory Physical Science or Force, Motion, and Energy, visit www.sci-ips.com.

Lab Reports and the Internet

The Internet poses a constant challenge to teachers trying to determine whether students are submitting original lab reports. Please be aware that a "Sludge Test" write-up was posted on a non-US website in 2003. The full text is only available through a paid subscription, but you can read a portion of it – perhaps enough to recognize it if your students make use of it – at:

http://www.coursework.info/GCSE/Biology/Sludge_Test_Lab_Report_L35595.html

Equipment Suppliers

Here at Science Curriculum Inc., we sometimes receive calls about lab equipment, and we have even received a few purchase orders for equipment! While we do not sell equipment and supplies, we do have agreements with equipment suppliers to make the items needed to teach *IPS* and *FM&E* available. Our primary suppliers and their contact information are:

CHEM SCIENTIFIC, LLC 1250 Washington Street Norwood, MA 02062 Phone: 888-527-5827 Fax: 781-440-0088 Email: info@chemscientific.com Website: www.chemscientific.com SCIENCE KIT & BOREAL LABORATORIES 777 E Park Drive PO Box 5003 Tonawanda, NY 14150 Phone: 800-828-7777 Fax: 800-828-3299 Website: http://sciencekit.com/

If you have any concerns about the quality of *IPS* and/or *FM&E* equipment that you receive, first contact the supplier. But please also email us (sales@sci-ips.com) to let us know so that we can be aware of possible problems and collaborate with our suppliers to find solutions.

EARN REWARDS FOR YOU OR YOUR SCHOOL!

One of the most successful marketing strategies for our textbooks is "word-of-mouth" advertising by our customers. Now you or your school can profit by publicizing our programs! We are now offering incentives for "spreading the word."

If you know of a school that does not currently use *Introductory Physical Science* or *Force, Motion, and Energy*, talk to them about our programs! Then email us the following information:

- 1. the date you spoke to them about IPS and/or FM&E;
- 2. the name of the teacher(s) and/or administrator(s) with whom you spoke ;
- 3. email addresses (if available);
- 4. the name of the school;
- 5. the address of the school;
- 6. the phone number of the school.

We will add this information to our database. If the school then purchases a class quantity of our textbooks within three years of when you spoke with them, you will receive a reward certificate.^{*} This certificate can be exchanged for any one of the following:

- A \$100 credit for you or your school toward the purchase of any of the products we sell textbooks, software, or video.
- A \$100 credit for you toward the tuition cost of one of our summer workshops.
- A \$50 cash payment to you!

The choice is yours! So start spreading the word and earning your rewards! The number of reward certificates you can receive is limited only by the number of "non-user" schools that you talk to and that subsequently purchase a class quantity of one of our textbooks.

* A certificate will be awarded when the school makes its initial purchase only. Certificates will not be awarded for subsequent purchases within the three-year period.

Do You Have an Article in You?

eTips is intended to provide teachers with hints and strategies for teaching *IPS*, *FM&E*, and science in general. Who better to provide and share those hints and strategies than the experienced teachers who are using *IPS* and *FM&E* in their daily practice? Gery Morey's article on lab notebook quizzes is an excellent example of this.

If you have a tip or strategy that works particularly well and you would like to share it, let us know by emailing Bob Stair at <u>rstair@sci-ips.com</u>. The article can have to do with a specific experiment or a reading section in the textbook; it can have to do with equipment or it may have broader implications, dealing with a specific teaching strategy or classroom management technique. Whatever it is, share it with your peers by submitting it to be published in *eTips*. Authors will be credited in the published article.