

Managing Lab Activities

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Classroom management is integral to everything else that goes on in a classroom. It is one of six standards for the teaching profession (CSTP) and is generally the area that most teachers must control before they can accomplish anything related to teaching. Safety concerns in a science classroom make the classroom management plan even more important.

According to the *Science Safety Handbook for California Public Schools*, there are three main elements to control for safety. The first is to ensure that safety instruction occurs, the second is continual supervision and the third is equipment and facility maintenance. Each of these elements is related to teacher liability should an accident take place. By planning ahead and organizing the management of students and equipment, the likelihood that an accident occurs is greatly reduced.

The availability of materials in a science laboratory usually necessitates the grouping of students during lab activities. The number of pieces of equipment necessary to the lab will determine the number of students per lab group. Thus, cooperative grouping is essential in lab science courses. Merely placing students in a group or team is not sufficient in forming cooperative learning groups. Students must know the tasks and responsibilities for each member of the team and must be willing to follow the guidelines and rules for a safe and effective activity.

One way to accomplish the establishment of lab teams and rules is to use job descriptions for team members. Simple names such as leader, getter, starter and recorder can be employed for younger students. More business-like terms for secondary students make the tasks more intriguing such as CEO, Executive Secretary, Laboratory Technician, Materials Manager and Sanitation Engineer. It is important to clarify the job descriptions of each team member and not just give them special names. Following are five job descriptions that I employed for several years.

CEO—Chief Executive Officer:

May ask questions of teacher for the group;
guides and organizes team;
helps keep team focused;
serves as safety manager.

Executive Secretary:

Writes team report with assistance of team;
records data;
provides record of team and job responsibilities.

Laboratory Technician:

responsible for lab set up;
safety officer for group.

Materials Manager:

responsible for obtaining equipment;
checks that equipment is in good repair
and placement.

Sanitation Engineer:

in charge of group's clean up;
responsible for group lab area and
assigned sink;
replaces consumables as directed by
teacher.

Jobs must be assigned and signed off on each lab report, and jobs must be exchanged daily or weekly as assigned by the teacher in charge. Establishing the rule that only CEOs ask questions of the teacher reduces the number of students to address and makes a lab classroom much calmer. Depending on the number of students versus lab stations, jobs may be combined. In three member teams, the essential tasks are CEO, Executive Secretary and Sanitation Engineer. The CEO can handle the tasks of the Lab Tech, and the Sanitation Engineer can also be the Materials Manager.

Once you have established the size and tasks of groups, you must maintain your own rules. Have a plan for students who try to join groups that are over the size limit. I used "move sticks." These were sticks I kept in a drawer that had the word "MOVE" written on one (or more) sticks as needed. If too many students went to a lab station, I got the move sticks out. Each student selected a stick and the person with the "move stick" had to move to another team. It prevents pleading and arguing. Usually a teacher only has to use move sticks one time per class period. After that, you will generally get a "volunteer" to move just by mentioning "move sticks."

Specifying where groups may work will also assist in managing groups and maintaining a safe classroom. If materials or classroom areas such as sinks and hot plates must be shared or perhaps not located at each lab station, it is helpful to assign groups to particular sinks or hotplates. Keep in mind the traffic patterns in your classroom to reduce the chance for students crisscrossing the room or each other. You can do this by creating a classroom map and noting where equipment is placed or stored. Consider the path students must take to get to the equipment or materials, then assign teams to particular materials or areas.

Finally, if you have not attended a safety workshop in the past five years you should ask your school or district to organize one. Proof of participation in an on-going safety management professional development is useful and can serve as a reminder to follow guidelines for safe science laboratories. Safety workshops may also be offered at the annual CSTA conference. Check it out.

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