

HOW TO TEACH CHEMISTRY: TIPS FOR THE NON-CHEMISTRY TEACHER

Even if you don't have a background in chemistry, leading a chemistry experiment in your class can be done! Below are suggestions to help you prepare and present a chemistry activity to students.

PLAN IN ADVANCE

- **Read through the experiment very carefully.** Thoroughly reading the experiment will enhance your comfort level with the terms and process. It will also prepare you to answer questions from students.
- **Note any questions you may have so that you can research them before you teach the lesson.** Many of your questions may be answered in the Observation & Background section of the lesson plan.
- **Procure the necessary materials.** All of the materials used in the Activity Guide can easily be found at a grocery or all-purpose store (Wal-Mart, Target, etc.). For a complete list of materials needed for all lessons in the Activity Guide and where you can purchase them, please visit the CEF Web site at www.chemed.org.
- **Conduct a dry run of the experiment to test the materials.** Having done the experiment beforehand, you will have a better idea of what to expect and ensure that you have ironed out any potential issues (demagnetized magnets, dried-up markers, etc.).
- **Become well versed in the concepts and specific topics that you want the students to learn.** Creating a list of key points and concepts that you want to convey to students will help you present the activity in a fun, educational, and organized format. Preparing a list of key concepts will also help you connect the lesson to your curriculum requirements.
- **Generate a list of related topics and potential questions that your students may ask.** Preparing a list of questions that may be asked by students can help you define the scope of the lesson plan and also reinforce that you are covering the intended concepts.

Students often ask questions about topics related to the experiment but not necessarily contained within the Observation & Background. Researching potential questions and related topics will help you answer their questions and connect other interesting concepts to the lesson.

- **Determine how you would like to conduct the activity in class (groups, individually, etc.).** How you present the activity, the quantity of materials needed, and the type of classroom discussions will vary depending on how you plan to conduct the activity.

You may also choose to use these lessons as demonstrations if you do not have enough class time allotted for hands-on activities.



SAFETY DISCUSSION

- **Procure the necessary safety materials (goggles, aprons, etc.).** Your school may already have these materials. If not, ask your administration about how to obtain these materials.
- **Before beginning the activity with the class, be sure to go over the necessary safety precautions.** It is never too early to introduce students to safety practices. Even if certain information does not apply to your classroom, providing an overview and then discussing safety rules specific to your classroom is a great way to make them aware of potential risks.
- **Discuss the importance of a safety plan.** Have students create a plan for their classroom and then post it where everyone can see it.
- **Reinforce the rules by having a poster competition where you display the winners or create group activities that involve safety scenarios.** Allowing students to be creative and play games will keep them engaged while reinforcing the information.
- **Model appropriate behavior by obeying the safety rules and procedures outlined in your classroom safety plan.** Your students are looking to you to set the standard for safety! Be their best safety example.
- **Check out pages 172-175 in this guide for a more specific list of suggested classroom safety tips.** If you are not sure where to start or what safety procedures your students should understand, the Safety First section of the Resource Guide will help!

Remember, you can't be too cautious with safety in the classroom. Even if certain information does not apply to your lesson, it is always good to know.

UTILIZE RESOURCES

- Use the activity sheet that follows each lesson plan to reinforce students' understanding of concepts taught.
- The Lesson Plan Vocabulary and Famous Chemists sections of the Resource Guide are tools provided to assist in teaching these concepts.

HAVE FUN!

- Chemistry can be one of the most exciting and intriguing subjects to an inquisitive young mind – be enthusiastic and make it interesting for your students!

