

# MAKING CHEMISTRY FUN AT THE MUSEUM OF DISCOVERY AND SCIENCE

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Museum of Discovery and Science

Fort Lauderdale, FL 33312

## Introduction

The Museum of Discovery and Science (www.mods.org) in downtown Fort Lauderdale has created an exceptional space for science learning and exploration that is exciting for all ages. The Museum's mission is "to provide experiential pathways to lifelong learning in science for children and adults through exhibits, programs and films" and chemistry is definitely part of the agenda.

Visitors and students alike can enjoy science shows and presentations in the Keller Science Theater where enthusiastic staff has the ability to turn any science topic into an unforgettable experience of discovery and exploration.

## Chemistry at the Museum

The science of chemistry is depicted in a fun performance setting through the live shows at the Keller Science Theater in the Museum.

- **The Nitro Show** allows visitors to discover how cold things can get with liquid nitrogen and how their physical changes can create explosive results.
- **The KaBoom! Show** offers visitors the opportunity to witness the power of chemical changes with fiery explosions. See Figure 1.

The effect of temperature and pressure is shown to the audience through the simple act of collapsing an empty soda can. The live show also teaches adults and children the about the different temperature scales and how to relate them to everyday activities.

Within the walls of the Museum, families and community organizations have the opportunity to participate in Camp-Ins, which allow each group of 40 or more the chance to discover science through hands-on activities, exploration of the Museum exhibits, while spending the night!

- Chemical Concoctions allows participants to visit the laboratory and learn all about the science of chemical changes. In the end they can even conduct their own experiments using the scientific method.



## Abstract

*A brief outline of chemistry activities at the Museum of Discovery and Science (MODS) in Fort Lauderdale is presented. The MODS is a state of the art facility for informal science education serving Broward County, Florida school children and the general adult population for decades. Over the years chemistry activities along with activities in other branches of science have been successful in promoting public understanding of chemical sciences.*

## Key Words

*Chemistry, Museum, Discovery, Science, Field Trip.*

- Kitchen Chemistry teaches adults and children how chemistry is involved in an everyday task, like cooking.

## Field Trips

Each year approximately 90,000 school children visit the Museum as a part of a school field trip or exploration. Discovery labs and demonstrations are incorporated into each school visit as a way to further explain important concepts for specific grades.

- Soapy Solids, Liquids, and Gases is a hands-on slippery science discovery lab program that covers the states of matter and some very unique properties of water that make it one of the most interesting molecules on earth. Surface tension is demonstrated and students learn why water is such a good solvent.
- Climate in Jeopardy is a live demonstration for students in grades six through eight. Educators cover the following topics: atmosphere, land, water and earth to see how these phenomena have influenced us, and how we influence them. By further dissecting these topics, students can better understand the structure of greenhouse gases, like CO<sub>2</sub>, and how they act. Educators also discuss the mechanisms for heat transfer, radiation, conduction, convection, and how these affect land, ocean and atmosphere. Exhibits at the Museum in its Storm Center and in its Prehistoric Florida hall serve to enhance this demonstration.

## Chemistry for Birthdays!

Museum visitors further interested in the principles of chemistry can incorporate the theme into their child's upcoming birthday celebration at the Museum. The Abracadabra Chemistry themed birthday party allows for guests to discover how chemistry might look like magic, experience a thermite reaction, make water change colors and then change them back again. Parents can also opt for their child to attend the Museum's five-day themed chemistry summer camp, where campers can learn about the various principles of chemistry in a way that applies to everyday objects.

## Chemistry Outreach

The opportunity to learn about the science of chemistry is not limited to the walls of the Museum's 119,000 sq. ft. facility; rather the Museum strives to bring science to the classroom through outreach programs. Children and teachers alike have the chance to learn first-hand about the science of chemistry through the dedicated staff of the Museum's STEM Program Department.



**Figure 1. The Kaboom! Show at the Museum of Discovery and Science in Fort Lauderdale.**

Museum educators take The Crazy Chemistry outreach program directly into the school classroom. This program includes a chemistry demonstration that teaches students about energy, matter and physical change, highlighting the following concepts:

- Structure and properties of polymers
- physical and chemical changes
- acids and bases
- pH of solutions using litmus paper
- gases , liquids, solids and plasma
- buoyancy and density

## Summary

The Museum of Discovery and Science in Fort Lauderdale is actively engaged in promoting public understanding of chemistry and the sciences in general through various chemistry activities. The activities range anywhere from in-house demonstrations to birthday parties and outreach efforts in local schools. For more information on the programs listed above, please contact Joe Cytacki, VP of Programs, Life Sciences and Exhibits at the Museum of Discovery and Science at [cytackij@mods.net](mailto:cytackij@mods.net). For more information about the Museum, visitors should call 954.467.MODS (6637) or visit the web site at [www.mods.org](http://www.mods.org).

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**IMAGE ACKNOWLEDGMENT:** The logo of the museum was taken from their Web site. Figure 1 was provided by the author.