

CHEMISTRY LABS

Tuesdays, September 12-December 12

No class Oct 10 and Nov 21 (12 weeks)

9:30am-11:00am

Ages 11+

Basic chemistry principles are reinforced in the fall semester labs by building models, interpreting the periodic table of elements, and conducting lab experiments commonly required in many high school chemistry and physical science curricula. Students learn laboratory techniques and perform hands-on experiments, including collecting scientific data, conducting chemical reactions, and studying reaction rates. In the spring semester, we will continue the topic with labs exploring molarity, gas laws, polymers and redox reactions more. A brief review of relevant material starts each lab, followed by a lab period which includes lab preparation, experimentation and clean-up. Lab supplies are included in registration fee.

LAB SCHEDULE:

THE METRIC SYSTEM - Tuesday, September 12

We review the metric system and conversions of units as we practice the proper use of scientific measurement tools.

DATA ANALYSIS - Tuesday, September 19

Scientists must analyze their data to make conclusions about their results. This week, students learn to create proper tables and graphs to present scientific data.

ATOMIC STRUCTURE - Tuesday, September 26

Students study the atomic structure of elements, how electrons are arranged around the nucleus of atoms, and why valence electrons are important.

THE PERIODIC TABLE - Tuesday, October 3

This week, we learn to read the periodic table, how it is arranged and characteristics of groups of elements.

IONIC AND COVALENT BONDS - Tuesday, October 17

Students learn how some elements form bonds to create compounds, and we play Valence to practice creating proper molecules.

MOLECULAR ARRANGEMENTS - Tuesday, October 24

Students investigate molecular arrangements and conservation of matter, and learn how these molecular arrangements affect density.

PROPERTIES OF WATER - Tuesday, October 31

We study the special properties of water that allow molecules to stick together, conduct experiments to observe these properties, and learn about capillary action.

DENSITY - Tuesday, November 7

This week we use the scientific method to explore the densities of various liquids and solids, and learn to calculate density to test our hypotheses.

CHEMICAL REACTIONS - Tuesday, November 14

We conduct endothermic and exothermic reactions in lab to investigate how energy is used or transformed during some chemical reactions.

REACTION RATES - Tuesday, November 28

This week, students conduct two chemistry experiments to demonstrate how different variables affect the rate a reaction occurs.

CHEMICAL EQUATIONS - Tuesday, December 5

We create models of chemical equations to learn how matter is conserved during chemical reactions, and practice balancing simple chemical equations.

pH LAB - Tuesday, December 12

Students learn how proton concentration determines pH, test acidity using litmus paper and pH indicators, and measure the pH of household products.

Location: Discover Science Center - Peachtree City

Full semester - \$308 or \$28/lab

10% sibling discount