



Chemistry Curriculum

Reading and Writing Standards

Marking Period	Reading Assessments	Writing Assessments
1	Identify each step of the scientific method from a publication	Calculating atomic mass
2	Trends of the periodic table	Atomic structure models
3	Identify the types of chemical reactions	Predict the products and quantities of a chemical reaction
4	Titration lab	Calculate changes in a chemical reaction using hess' law

[Scoring Rubric for Written Work](#)



Chemistry Curriculum

Content Topics and Pacing

Topic	Duration	Guiding Questions	Reading and Writing Assignments
Introduction to Chemistry	~18 days	How can the scientific method be used to solve problems or answer questions?	Identify each step of the scientific method Illustrate the scientific method using an out of classroom example
Dimensional Analysis	~5 days	How is math properly used in chemistry?	Identify the number of significant figures in a number Convert numbers into base units
Atomic Structure	~11 days	How do we find the abundance of an isotope?	Define the number of subatomic particles in an element Calculate the atomic mass of molecules and compounds
Electron Configuration	~12 days	How are electrons arranged around an atom? How can we model this?	Read electron configurations to identify what element it is Write quantum numbers in order to describe an electron's position in an atom
Periodic Trends	~11 days	How is the periodic table arranged? What different trends can we identify?	Read different properties and identify if the element is a metal or nonmetal Describe the trends in the periodic table
Bonding	~14 days	What are the properties of chemical bonds? How can we model these bonds?	Identifying molecular geometry Structural formulas and dot formulas
Naming and Formula Writing	~12 days	How do we write and name chemical formulas?	Identifying the chemical formula Writing chemical names



Chemistry Curriculum

The Mole	~15 days	How do we measure substances?	Molecular vs empirical formulas Calculate molecular formulas for various compounds
Chemical Reactions	~13 days	What are the different types of chemical reactions? How can we predict if a chemical reaction will happen?	Types of chemical reactions Predicting the products of a chemical reaction
Stoichiometry	~12 days	How can I predict the products of a reaction and how much will be made?	Lab: limiting reactants Calculate the volume of a chemical reaction
Thermochemistry	~16 days	What are systems and surroundings? How do we measure the heat absorbed or released in a reaction?	Lab: Melting and freezing point of lauric acid Calculate changes of a chemical reaction using Hess' law
States of Matter	~15 days	Why are there different states of matter?	Lab: Polymer chemistry Explain the properties of liquids
Gas Laws*	~10 days	How can the same substance be a different state of matter while the same temperature?	Identify variables and gas properties using the ideal gas law Predicting weather using the ideal gas law
Acids and Bases*	~11 days	How can we use titrations to measure molarity of a given solution?	Lab: Titrations Calculate moles, liters and molarity of a given solution

*These topics can be skipped or adjusted if time does not allow for them