

Conceptual Chemistry

| Unit | Semester/Quarter | Topics | NGSS Standards |
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| Module 0 Lab Safety/Equipment | S1/Q1 | <ul style="list-style-type: none"> • Lab Safety • Lab Equipment | |
| Module 1 Measurement | S1/Q1 | <ul style="list-style-type: none"> • Chemistry • Measurement • Metric Conversions • Scientific Notation • Dimensional Analysis • Density • Temperature Conversions | |
| Module 2 Matter | S1/Q1 | <ul style="list-style-type: none"> • Properties of Matter • Chemical and Physical Changes • Elements and Compounds • Mixtures | |
| Module 3 Structure of the Atom | S1/Q1-Q2 | <ul style="list-style-type: none"> • Early Ideas about Matter • Elements and Symbols • Periodic Table • Atoms • Isotopes • Ions • Radioactive Decay | HS-PS1-8 |
| Module 4-5 Electrons and the Periodic Table | S1/Q2 | <ul style="list-style-type: none"> • Light/Electromagnetic Radiation • Atomic Energy Levels • Sublevels/Orbitals • Electron Configuration • Periodic Table Trends | HS-PS1-1 HS-PS2-6 HS-PS4-1 HS-PS4-3 HS-PS4-4 HS-PS4-5. |
| Module 6-7 Ionic Compounds and Covalent Compounds | S2/Q3 | <ul style="list-style-type: none"> • Ionic Bonds and Ionic Compounds • Metallic Bonds/Properties of Metals • Covalent Bonds • Lewis Structures • Electronegativity and Bond Polarity | HS-PS1-2 HS-PS1-3 |
| Nomenclature | S2/Q3 | <ul style="list-style-type: none"> • Naming Ionic Compounds • Naming Covalent Compounds | |
| Module 8 Chemical Reactions | S2/Q4 | <ul style="list-style-type: none"> • Chemical Reactions • Balancing Chemical Equations • Types of Chemical Reactions | HS-PS1-2 HS-PS1-4 HS-PS1-7 |
| Module 9 The Mole | S2/Q4 | <ul style="list-style-type: none"> • The Mole • Molar Mass • Mass Percent • Empirical Formulas • Molecular Formulas | HS-PS1-6 HS-PS1-7 |

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| Module 11 States of Matter (If time Allows) | S2/Q4 | <ul style="list-style-type: none">• Gases• Forces of Attraction• Liquids and Solids• Phase Changes | HS-PS1-3 |
| Module 12 Gases (If time Allows) | S2/Q4 | <ul style="list-style-type: none">• The Gas Laws• The Ideal Gas Law | |
| Module 23 Nuclear Chemistry | S2/Q4 | <ul style="list-style-type: none">• Nuclear Radiation• Radioactive Decay• Nuclear Reactions• Nuclear Fission/Fusion | HS-PS1-8 |