

# WAUCONDA SCHOOL DISTRICT 118

## UNIT PLANNING ORGANIZER

**Subject:** AP Chemistry

**Unit 2: Molecular and Ionic Compound Structure and Properties**

**Pacing:** 13 class pd (75 min periods)

Please see the College Board [collegeboard.org](https://collegeboard.org). for complete details

### STAGE 1 – DESIRED RESULTS

BIG IDEA 2 Structure and Properties (SAP)

Enduring Understanding

SAP-3 Atoms or ions bond due to interactions between them, forming molecules.

2.1 Types of Chemical Bonds

2.2 Intramolecular Force and Potential Energy.

2.3 Structure of Ionic Solids

2.4 Structure of Metals and Alloys

SAP-4 Molecular compounds are arranged based on Lewis diagrams and Valence Shell Electron Pair Repulsion (VSEPR) theory

2.5 Lewis Diagrams

2.6 Resonance and Formal Charge.

2.7 VSEPR and Bond Hybridization

## STAGE 2 – EVIDENCE

| Concepts<br>Learning Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Performance Tasks<br>Skills and Practices                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
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| <p>SAP-3.A Explain the relationship between the type of bonding and the properties of the elements participating in the bond.</p> <p>SAP-3.B Represent the relationship between potential energy and distance between atoms, based on factors that influence the interaction strength.</p> <p>SAP-3.C Represent an ionic solid with a particulate model that is consistent with Coulomb's law and the properties of the constituent ions.</p> <p>SAP-3.D Represent a metallic solid and/or alloy using a model to show essential characteristics of the structure and interactions present in the substance</p> <p>SAP-4.A Represent a molecule with a Lewis diagram.</p> <p>SAP-4.B Represent a molecule with a Lewis diagram that accounts for resonance between equivalent structures or that uses formal charge to select between nonequivalent structures.</p> | <ol style="list-style-type: none"> <li>6.A Make a scientific claim.</li> <li>3.A Represent chemical phenomena using appropriate graphing techniques, including correct scale and units</li> <li>4.C Explain the connection between particulate level and macroscopic properties of a substance using models and representations.</li> <li>3.B Represent chemical substances or phenomena with appropriate diagrams or models (e.g., electron configuration).</li> <li>6.C Support a claim with evidence from representations or models at the particulate level, such as the structure of atoms and/or molecules</li> </ol> |  |